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Direct access to markets by farmers and the role of traders: insights from Kenyan and Tanzanian leafy vegetables markets

The research literature shows that agriculture has potential for development, job creation and structural change if agricultural value chains are considered in their entirety: from inputs, to farm, through processing, until marketing. This is particularly important in the case of Africa, where agriculture contributes in a major way to GDP and employment. However, this focus on value chains does not seem to have been accompanied by attention to the diversity of actors operating along value chains. Based on an extensive literature review on access to markets by farmers and on participatory research with farmers, traders, and sectoral stakeholders of leafy vegetables value chains in Kenya and Tanzania, this study argues that the role played by traders in local fresh produce markets in Africa is poorly understood and supported. It is argued that powerful narratives about the benefits of direct access to market by farmers, which are also present in academic literature, are sometimes overoptimistic, or interpreted beyond their scope and applied regardless of the specific features of actors and produce. The study shows that the leafy vegetables trade provides self-employment for many women, and that it has positive impacts on other groups, notably farmers.

Keywords: agribusiness, value chains, middlemen, Africa, farmgate, vegetables

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Introduction

After decades of economic stagnation, African economies have more recently been growing rapidly. Even in per capita terms, GDP grew by more than 2% per year between 2000 and 2017 and natural resources and agriculture have contributed no less than a third of Africa's growth in recent years (OECD, 2013). Agriculture represents more than half of the employment in sub-Saharan Africa, providing jobs, income and food security, and its contribution to GDP in some countries, such as Ethiopia, is above 30%. This has paved the way to a new focus on agriculture as a productive sector, with the potential to drive development and growth, and not only as a residual sector providing cheap labour (Lewis, 1955) nor even as a default sector for the poor and a target sector for poverty reduction initiatives. The African Union Comprehensive Africa Agriculture Development Programme (CAADP) and the African Union declaration of Malabo (NEPAD, 2003; African Union, 2014) represent the African policy framework for agricultural transformation. Among other measures, they set a common target of 6% average annual agricultural growth and recorded the commitment by African governments to allocate 10% of national public budgets to the agriculture sector. Despite uneven results, this has caused agriculture to rank high on the development agenda.

Increasing agricultural productivity and promoting agro-based industrialisation is also considered a main way to address the global concerns raised by African demographic growth, with ten to twelve million youth entering the labour force every year (UNDP, 2015). Opportunities for job openings should be looked for throughout the value chain (from the farm via processing until marketing), as farming alone cannot offer enough jobs. In most rich, industrialised countries, farming employs only about 3-5% of the population, but processing and trading in farm products can employ far

more than this share (Chipeta, 2013). Farming on its own is unlikely to generate large numbers of employment opportunities with the potential to transform the lives of rural people. This picture changes if the focus shifts from farm production to agri-food systems more broadly (Chipeta, 2013; Mellor and Malik, 2017). Consequently, emphasis has now shifted from crop production on its own to a broader notion of food value chains, whose development can increase agricultural productivity, add value, and, of course, improve nutrition. Entrepreneurship and job creation opportunities can be identified at each stage of the agricultural value chains and arise from the urbanisation dynamic in Africa, where towns and small towns play an important role. Tacoli and Agergaard (2017) highlight the role of processing and marketing centres for crops products from the surrounding area, as well as the role of the same centres as providers of agricultural inputs, services and technical assistance for the surrounding farmers, i.e. backward and forward linkages of agriculture, according to the Hirschman approach (1958). On the demand side there are opportunities both for export-oriented production and for import substituting processed and semi-processed products. Even the urban poor are buying processed food, which accounts for almost one third of their food budget in East and Southern Africa (Tschirley *et al.*, 2015). Moreover, the national urban middle classes have new consumption patterns: they increasingly demand non-grain food, like dairy, fish, meat, vegetables, fruit, tubers, and processed food (Reardon, 2015). Traders are important actors in food value chains.

Nonetheless, there is a lack of institutions and initiatives to promote entrepreneurship and agripreneurship by targeting food traders, and even the understanding of different markets and business models might be incomplete. Most of the available literature tends to represent traders as exploitative middlemen. A better understanding of local value chains is necessary to improve their efficiency and development

which, in turn, can be expected to improve the welfare of all the actors involved, including farmers and consumers. Supporting business development is a top priority for the transformation of African agriculture and for agro-based industrialisation, but food traders and middlemen are seldom considered. The identification of target groups for agribusiness promotion is not straightforward (Sumberg *et al.*, 2014). Income-generating activities involving processing and marketing of agricultural products or street food vending usually have low start-up capital requirements, but also low profitability (Bryceson, 2002). Moreover, some do not have much potential for scaling up. Some low-return activities serve more as coping strategies than as a way out of poverty (Bryceson, 2002; Davis *et al.*, 2010; Sumberg *et al.*, 2014; AfDB, 2016). Also, Banerjee and Duflo (2012) refer to these actors as to default or reluctant entrepreneurs.

Based on original research carried out in Kenya and Tanzania about the value chains of leafy, mostly indigenous vegetables, this study shows the importance of identifying real actors who play a role in food value chains. More particularly, it is shown that traders connecting rural and urban areas, often referred to as middlemen, play a key role and that they are a neglected, sometimes stigmatised group. This activity was found to be beneficial both for farmers and for traders who come themselves from vulnerable groups and are mostly self-employed women.

These findings are discussed with reference to the market access literature (De Janvry *et al.*, 1991; Stringfellow *et al.*, 1997; Key *et al.*, 2000; Berdegué, 2001 and 2002; Schwentesius and Gómez, 2002; Kirsten and Sartorius, 2002; Osborne, 2005; Coulter, 2007; Hazell *et al.*, 2007; Barret, 2008; Hellin *et al.*, 2009; Kyeyamwa *et al.*, 2008; Shiferaw *et al.*, 2008; Markelova *et al.*, 2009; Bernard and Spielman, 2009; Markelova and Mwangi, 2010; Balaji, 2016; Sitko *et al.*, 2018; Nuthalapati *et al.*, 2020) which associates trade intermediaries buying at farmgate with market imperfections, rent positions, and inefficiency. The findings of this study show instead that direct access by farmers to markets is not a panacea and it is necessary to distinguish between different markets and value chains, as the market access narrative might sometimes be applied beyond its realisable scope.

The next section reviews the literature on market access for farm produce, with a particular focus on leafy vegetables. The third section introduces the methodology of the field work carried out in Kenya and Tanzania and the fourth presents its findings. The last section draws some conclusions and makes recommendations.

Literature review and research questions

The literature review is divided into three parts: the first covers studies which analyse the imperfections of markets for agricultural produce in developing countries and tend to identify direct access by farmers and farmers groups as the main solution capable of addressing them. This literature, while recognising some challenges of direct market access by farmers, tends nonetheless to criticise traders. The second

part of the literature review covers studies that show instead the important role played by traders in some agricultural markets. The third part focuses on the markets and value chains for leafy vegetables in Africa in particular.

There is considerable literature about the need to provide farmers with market access, in most cases direct market access, thereby bypassing traders and middlemen (De Janvry *et al.*, 1991; Key *et al.*, 2000; Kirsten and Sartorius, 2002; Osborne, 2005; Barret, 2008; Barrett, 2008; Shiferaw *et al.*, 2008; Bernard and Spielman, 2009; Markelova *et al.*, 2009; Markelova and Mwangi, 2010; Balaji, 2016; Sitko *et al.*, 2018; Nuthalapati *et al.*, 2020). A main problem with commercial intermediaries seems to be the lack of competition at the farm gate which results in buyer power. Another problem frequently mentioned is the high number of subsequent intermediaries along the value chain, something which further erodes farmers' margins. Authors also point to imperfections that are pervasive in markets of the developing world (De Janvry *et al.*, 1991; Markelova *et al.*, 2009; Markelova and Mwangi, 2010), like market information asymmetries, scale related barriers, and access to credit.

These studies recognise that, when markets are spatially segmented and marketing costs are substantial and involve a significant fixed or sunk cost component, there is a minimum scale for arbitrage (i.e. simultaneously buying and selling something in different markets to take advantage of a price difference) to be efficient. This may create a natural oligopsony or monopsony (Barret, 2008; Osborne, 2005; Kirsten and Sartorius, 2002). However, this literature, instead of recognising the role of traders, points to their market power and concludes that direct access to markets by farmers is necessary to bypass middlemen. Some studies also recognise the challenges which can prevent individual farmers from succeeding in the market, but then conclude from this that collective farmers' action is necessary (De Janvry *et al.*, 1991; Markelova *et al.*, 2009; Markelova and Mwangi, 2010). Directly connecting smallholders' groups to markets is proposed as a solution to simplify long marketing chains by bypassing various marketing intermediaries and negotiate better terms of trade, as well as to reduce coordination costs (Barrett, 2008; Bernard and Spielman, 2009; Shiferaw *et al.*, 2008). Traders are also blamed because of the allocative inefficiencies of traditional markets resulting from multiple layers of intermediaries (Nuthalapati *et al.*, 2020; Key *et al.*, 2000) with more margins along the way (Sitko *et al.*, 2018) and even are accused of technical inefficiency, with wastage in the food chains (Balaji, 2016).

Such a "direct market access" narrative can be found in many development projects and initiatives, and it may even extend beyond purely scientific literature. However, a more careful look at the same literature shows that direct access to markets by farmers groups is not exempt from challenges. Literature points to transport and infrastructural constraints (Hazell *et al.*, 2007; Kyeyamwa *et al.*, 2008), gaps in technical and human capacity of farmers to handle the tasks, like specialised technical and marketing skills and knowledge (Stringfellow *et al.*, 1997) and to gaps in the leadership skills necessary to manage the groups involved (Schwentesius and Gómez, 2002). Some authors provide insights as to which situations and forms of farm produce may be appropriate

for direct market access by farmers groups and which may make it more difficult. Farmers have seldom benefited from participation in farmer organisations for the direct marketing of undifferentiated commodities such as potatoes or wheat that are sold on the spot or at wholesale markets (Berdegué, 2001 and 2002). Perishable food products, like the ones considered in the present study, are also a special case. They imply high risk related to post-harvest losses; moreover, the required storage and transportation facilities are often beyond the reach of individual farmers, due to lack of funds and farmers may also lack the technical expertise to successfully engage in their marketing (Coulter, 2007; Hellin *et al.*, 2009). For perishable products there is also a need to coordinate the timing of supply with the pattern of demand and vertical coordination along the value chain is of vital importance in the marketing of such products (Poulton and Lyne, 2009). These arguments, however, are used to support the need for collective organisation by farmers (Coulter, 2007; Hellin *et al.*, 2009; Markelova *et al.*, 2009) rather than to recognise a role for traders.

Meanwhile, the literature defending traders is surprisingly scant. Sitko and Jayne (2014) argue that small-scale assemblers are both the most vilified and least understood actors in food value chains in sub-Saharan Africa. Drawing on data from Kenya, Zambia, Malawi, and Mozambique, they find that assembly markets for maize are highly competitive in terms of the number of traders operating and marketing margins. Farmers' market access conditions in remote areas are particularly improved by the operation of assembly traders, defined as the private traders who assemble grain at the village-level and in rural areas, as an intermediate step to reach urban markets. While smallholder farmers face important marketing challenges, according to the authors the brightest prospects for effectively addressing them require greater support for the development of assembly markets rather than supplanting them. Similarly, Abebe *et al.* (2016) propose important insights from Ethiopia, on the role that middlemen can play by linking farmers to final markets, where market failure commonly occurs. Their paper analyses the factors affecting farmers' decision to trade through middlemen and the impact of this choice on income. They find gross profit to be higher for farmers who operate without intermediation, thanks to their having access to better quality inputs and better contract specifications and receiving higher prices for their products. Nonetheless, most farmers continue to trade via middlemen, as it links them to traders and final markets. Direct trading with wholesalers seems to be beneficial for relatively better-resource endowed farmers.

Examples of the direct market access narratives can easily be found even in the sector of indigenous vegetables. Ngugi *et al.*'s (2007) analysis of the value chain of indigenous vegetables in Kenya, aims to ensure that farmers have direct access to supermarkets, allowing them to bypass middlemen and traders. The authors report on collective action taken by the farmers with the support of an international NGO. Farmers were organised into groups to sell their products directly to retailers at a higher price, "*bypassing middlemen and merchants altogether*" (Ngugi *et al.*, 2007 p.22). They provided a larger amount of produce and maintained a continuous supply and hence were preferred over other

suppliers by supermarkets, i.e. high value markets. During low seasons when farmers did not have large quantities to offer, they pulled together the little they had and were still able to meet the orders from their supermarket clients. According to the author, the farmers made 55 per cent more margin per kilogram of indigenous vegetables sold, compared to farmers selling in the local markets. Similarly, Muhanji *et al.* (2011) describe a project in selected districts of Kenya and Tanzania to promote indigenous vegetables and their collective marketing by farmers. For this purpose, business support units were created, and the project promoted selling to formal high value outlets like supermarket by farmers directly. However, the report implicitly recognises the need for middlemen, because the project ended up using intermediaries, buying at farmgate or at collection centres, for informal, lower value, markets where margins are probably too low to cover the costs of direct access by farmers. Keller (2004) finds that almost three quarters of farmers around Arusha in Tanzania sell their vegetables at the farm gate. Most farm gate sales are to traders, but farmers can also sell directly to village consumers. According to the author such collecting middlemen can contribute to the efficiency of the marketing system, and they perform an important role in bridging a gap between isolated small-scale farmers and urban areas. According to Maro (2008) more than 80% of the farmers in his study around Arusha in Tanzania sold their leafy vegetables at the farm gate. Prices at farmgate are much lower than final markets prices. He finds that farmers receive less than 30% of final market price, while traders capture the remaining. Weinberger and Pichop (2009) find that the sum of retailers and wholesalers share of final price is 58%. Data, however, do not account for the respective costs borne by the actors, nor even for post-harvest losses. According to Maro (2008), farmers usually sell the whole plot regardless how much their plots yield, and this allows the trader to pay low prices. Moreover, more than half of the traders only pay farmers once he/she has sold the produce, and this is particularly common for wholesalers. The market fee was the major constraint experienced by 77% of farmers who brought their produce to the market. While the concentration of buyers at the farm gate is not assessed, the study finds that concentration in the markets is low, with both retailers and wholesalers pointing to "too many sellers" and "customers do not prefer leafy vegetables" as being the main constraints. Lotter (2014) confirms that producers generally sell leafy vegetables to wholesalers by plot and finds that the price varies with seasonality. Failure to sell in a timely manner is a main concern for vegetable traders, due to the perishability of the leaves. Retailers only purchase quantities which can be sold with minimum loss resulting from unsold quantities. In his survey in Dodoma, Arusha, Morogoro, and Iringa markets, Lotter finds that 62% of sellers store unsold produce and sell it the next day and calculated that the average end-of-business-day discount is around 13%. None of the sellers surveyed were registered as a business. The authors agree that leafy vegetable markets are very local (Maro, 2008), with more than 90% of the leafy vegetable supply in Dar es Salaam coming from production in the city itself (Putter *et al.*, 2007), and the average distance to market being 11.5 km (Lotter, 2014).

Table 1: Tools and sources of information and the research questions they help address.

	Degree of competition at farmgate	Prices	Value chain mapping and number of layers	Challenges faced by traders	Challenges faced by farmers
Market transect visits					
Production areas transect walking					
Key informant interviews					
Focus groups with farmers					
Costs and revenues ex post recalling by famers					
Focus group with traders					
Individual interviews with wholesalers					

Source: Own composition

Fieldwork methodology

Fieldwork activities were carried out within the SASS research project, implemented by a consortium of Italian universities. The research was carried out in two countries, Kenya and Tanzania, and in four different areas characterised by different features in terms of remoteness from main market centres and the degree of development of the retail sector and urban demand. In one area, in-between Nairobi and Nakuru in Kenya, traditional greens are available in supermarkets for middle class urban consumers. In other areas, like Iringa and Dodoma in Tanzania supermarkets are hardly available and traditional vegetables are still perceived as poor people's food. This study presents the results of participatory research including market transect visits and farm transect visits with key informants, interviews of key informants, focus groups with farmers for value chain mapping, *ex post* recollection of costs and revenues by famers, individual interviews and focus groups with traders. The work is based on fieldwork in Nakuru County (Kenya), Arusha Urban and Rural and Meru Districts (Arusha Region of Tanzania), Dodoma Urban District (Dodoma region of Tanzania) and Iringa and Kilolo Districts (Iringa Region of Tanzania) conducted between August 2018 and November 2019.¹

Based on the literature, the fieldwork tried to shed light on the possibly exploitative nature of the farmer/trader relationship, taking into account the effects of competition and buyer power, on the shares of final prices captured, and on the efficiency of the value chain managed by traders, in terms of the number of layers. The business model and problems experienced by traders and farmers respectively are also considered. Table 1 summarises the different tools and sources of information that have contributed to the study and the author's attempt to answer its research questions.

¹ Market transect visits: Gilgil and Naivasha (Nakuru County, Kenya), Kilombero, Tengeru and Samonge (Arusha), Machine Tatu, Kitionzini and Soko Kuu (Iringa), Saba Saba market Dodoma. Production areas transect walking: Dodoma, Iringa urban, Gilgil. Key informant interviews: market directors of Samonge and Kilombero markets in Arusha, market association chairman of Kilombero market Arusha, Saba Saba market Dodoma, and Kitionzini market Iringa, chamber of commerce Arusha and Iringa, Arusha and Iringa Municipal Councils officers, urban and rural districts agricultural extension officers. Five value chain mapping focus groups with farmers: Gilgil (Kenya), UsaRiver, Oldonyowas, Lulanzi, Mazombe (Tanzania). *Ex post* recollection of costs and revenues by famers in the same five areas. Six Individual interviews with traders buying at the farm gate in Gilgil and one in Dodoma, plus a few individual interviews with retailers. One focus group with 6 traders in Iringa.

The focus of the study is on farm gate buyers, and in particular wholesalers who represent the overwhelming majority of farm gate buyers who met the researchers and were involved in the fieldwork. The traders who met the researchers are mostly women in the wholesale stage of the value chain, and exclusively women in retail, as men are seldom present in the sector. Transactions and relationships between farmers and traders are explored through focus groups with farmers and individual interviews and focus groups with traders, while insights on the retail stage of the value chain are obtained from interviews and focus groups with traders, and from market visits.

Results

The fieldwork provided insights into the degree of competition at the farm gate and in the wholesale markets, the potentially exploitative nature of the farmers/traders relationship, and their respective risks and margins. The business models and the efficiency of traders were also assessed and found to be largely driven by the perishability of the produce and by the risk of post-harvest losses and to require important skills. In this sense, the short shelf life and high perishability of the produce already described in the literature (Lotter, 2014) was found to be a main determinant of the features of the value chains.

Most farmers prefer farmgate buyers because this option reduces risk. Reaching markets is also relatively costly for their volumes of produce, a finding that is in line with earlier literature (Barret, 2008). Traders have multiple suppliers who in most cases sell also to other traders. Farmers in Arusha reported there are 3 to 10 different buyers visiting each of the areas, and traders in Iringa reported that their regular suppliers have up to three alternative traders to whom they also sell from time to time. Buyers in some cases use small trucks, but mostly they collect the produce from farms by motorcycle taxi (*boda-boda*), donkeys and carrying the vegetables on their heads. Collection in Arusha is sometimes performed by *boda-boda* drivers alone, while traders wait for the motorbike with the bags at the wholesale market, providing an example of noticeable coordination effort, which implies some management and logistical skill. From the tarmac road autorickshaws,

collective minibuses and buses are used. Once the market is reached, traders must pay taxes and engage urban youth who carry the loads on their shoulders and, in bigger markets, sometimes operate as brokers for buyers.

Two slightly different patterns were found, which in both Iringa and Arusha roughly correspond respectively to the rural and peri-urban areas. In peri-urban areas traders book the produce in advance, with an unwritten contract with the farmers. Contact between the farmer and the selected trader is frequently via mobile phones, through which the traders coordinate their suppliers. Harvesting, sorting, binding, and packing are done by the buyer. Producers usually negotiate the price of the plot, without going into detail about the number of bags, kgs or bunches which will be harvested from it. However, this does not mean that the buyer bears the risk of crop failure or low yield, because the price is only negotiated at the time of harvesting, when the performance is already observable. Farmers are usually paid only an advance sum at harvesting time, while the final payment is done after the produce has been sold by the trader. This delayed payment supports findings by Maro (2008) and is justified by liquidity constraints experienced by traders. Delayed payment also allows the traders to renegotiate the price if they fail to sell. Failure to sell is something that farmers can't control, but traders explained that trust is usually there, and cheating would be easily discovered, particularly if repeated. Although farmers usually can choose alternative buyers, a kind of loyalty on the part of the farmers towards a preferred trader was found in peri-urban contexts, where the farmer is expected to offer vegetables at a better (i.e. lower) price to the reference trader than to other traders. At any time, the farmer can decide to sell to other traders who pass by the area to visit other farmers offering higher prices, but this affects mutual trust with the reference trader. Mutual trust in fact reflects the commitment by the farmer to sell to the trader and, on the part of the trader, the commitment to come at the right time for harvesting. If the trader does not come, farmers bear the risk of post-harvest losses, which is otherwise fully transferred to the trader.

In contrast, in rural districts traders just look for plots ready to be harvested. They do not book the plot in advance, and they pay the whole amount at harvesting. Another difference is that, while traders in the urban area are the ones who harvest, sort vegetables, and prepare bundles, farmers who are reached without any previous order and paid on the spot, can also be expected to perform these tasks. Farmers from rural areas also recognised their need for traders, but they did not refer to mutual trust and loyalty in the relationship with them. In these areas, buyers might change from time to time, they simply pass by and collect vegetables, paying on the spot. Lower confidence in traders might also be explained by fact that farmers situated far away from town only have a very rough idea of market prices and demand in town. This makes their capacity to assess the fairness of the deals with a trader lower, than that of peri-urban farmers who have better insights into markets. In any case, to make sure that the price proposed by the trader is fair, farmers reported that they get price information from the markets from relatives and friends through mobile phones.

Overall, it was found that there is some competition among farm gate buyers, meaning that no monopsony situation could

be detected. Direct access by farmers to markets was found to be negligible, in line with previous literature (Keller, 2004; Maro, 2008). Farmers themselves reach out to markets to sell when farm gate buyers are not available, which might happen during the season when vegetables are widely available and their price becomes too low. Farmers can also sell in retail in their respective neighbourhoods but, despite being positively rated in terms of profitability, this trade accounts for a small share of the total due to the low volume demanded.

In line with Maro (2008) and Putter *et al.* (2007), it was found that transport is limited to nearby markets. Moreover, no aggregation or assembly markets for leafy vegetables were found (i.e. markets located close to production areas where the produce is aggregated to be sent to urban markets). Virtually no leafy vegetables are sent to other counties and regions, apart from Nairobi, which is supplied from Gilgil thanks to its proximity. Consequently, traders who buy indigenous vegetables at the farm gate, bring the produce straight to the wholesale market of the area where the produce will be consumed. This arrangement, without intermediate steps, is due to the perishability of leafy indigenous vegetables, which force traders to limit the number of links in the value chain, to ensure timely delivery. In this sense, the value chain studied is short and efficient, without the high number of intermediaries, or middlemen, that is sometimes blamed for jeopardising the efficiency of African markets (Nuthalapati *et al.*, 2020; Key *et al.*, 2000; Sitko *et al.*, 2018; Balaji, 2016).

Wholesale markets for leafy vegetables, in all the areas assessed, only work before sunrise and in the early morning. In most cases leafy vegetables do not enjoy a dedicated space in the open-air market. While all urban markets in Nairobi, Nakuru, Iringa, Dodoma, and Arusha sell indigenous leafy vegetables, wholesale is only carried out in few of them. However, in these markets (*Samunge* and *Tengeru* in Arusha and *Saba Saba* in Dodoma, *Gikomba*, *Marikiti*, *Muthurwa*, and *City Park* in Nairobi, but other can be found in the peri-urban areas) there is no permanently dedicated area for leafy vegetables wholesale. The areas used in the early morning for wholesale of leafy vegetables then become a retail market for various vegetables, and even for different items. In one case, in Iringa, leafy vegetables were found to be sold at wholesale just outside the formal market premises, along a steep slope and without any shed or pavement, to avoid paying market tax.²

Other vegetables which are less perishable and more often traded by men and they enjoy a dedicated space for wholesale in the market, so that wholesaling activities can continue throughout the day. This is the case for tomatoes and cabbages in *Kilombero* market in Arusha, where a dedicated shed is available. The same happens for fruit and exotic vegetables in *Machine Tatu* market in Iringa, and *Saba Saba* market in Dodoma.³ The areas used for wholesale of leafy vegetables

² In Dodoma traders with the trader id card, an initiative of traders' regulation and formalisation by the government of President Magufuli, do not pay to sell in the market. In Arusha and Iringa instead, the card is only considered valid to sell outside markets' premises and registered traders still have to pay market taxes, per bag and per day.

³ In Dodoma, the wholesale market for greens is *Saba Saba* market. Wholesale of green vegetables used to take place in *Majengo* market, before the market was upgraded and renovated in 2013. Greens' traders were relocated in a dedicated area in *Maisha Plus* market, but, due to the remoteness of this market, they do not use it and prefer the more busy and central *Saba Saba* market. In *Saba Saba* however, they do not have a dedicated space and, from 8 a.m. the area they used is occupied by second-hand shoes traders, so that they have to leave, with their left-over vegetables.

instead must be abandoned in the morning to leave room available for retailers.

In these markets, buyers are retailers, restaurants and organisations managing canteens. The people, mostly women, who sell at wholesale, are often referred to as farmers, since they come from the countryside and look like farmers. Some of them get the produce from their neighbourhood, some from relatives, and some produce a share themselves. They should nonetheless be considered traders, as they devote most of their working time to this trade. Wholesalers bring their baskets⁴ and bags to the market before sunrise. Interviews with traders confirm that they harvest and buy at farmgate in the afternoon and travel to the markets in the night to reach there in the early morning, in line with findings by Lotter (2014). Some traders from the surroundings of Arusha and Nairobi, go to different markets in different days, following the weekly schedule of many open-air markets, or change markets depending on prices and demand. Most traders go to the market 3 or 4 times per week, implying that they devote the preceding day to procuring vegetables from the countryside, and that, overall, they devote most of their time to the business.

Most farmgate buyers are wholesalers, some are also retailers, some adopt a flexible business model changing from time to time. Some better off traders do not pass through the open-air markets, as they have direct relationships with their regular buyers, namely retailers, hotels, restaurants, private schools and, particularly in Kenya, even supermarkets. Regular outlets are better than spot markets because they reduce the risk of post-harvest losses which is a main issue for traders of leafy vegetables.

Seasonal oversupply and huge post-harvest losses are important for most leafy vegetables⁵, in line with previous studies (Maro, 2008; Lotter, 2014). The chairman of the traders' association of a market in Iringa (Tanzania) regulates the wholesale trade of greens in that market, even though the women who sell the greens are not formal members of the association. He explained that he had to introduce a system of weekly shifts among women trading green vegetables, depending on the areas they come from. This was done after experiencing oversupply and a consequent fall in prices and conflicts among women traders. Based on these considerations, low prices faced by farmers at the farm gate are at least partially explained by seasonal oversupply and by huge post-harvest losses, rather than by high traders' margins. Post-harvest losses were estimated by traders in Iringa to be above 30% of the total value of vegetables.

Farmers' shares of the final price were found to be highly variable, but slightly higher than in previous literature (Maro, 2008; Weinberger and Pichop, 2009), and much

higher when, to consider post-harvest losses, the farmer's share is recalculated with reference to the quantity that is sold by the trader, rather than with reference to the quantity she purchases. This increase in the farmers' share could be due to improved access to information on prevailing market prices on the part of farmers, or to reduced costs for traders thanks to the now popular *boda-boda*, which recently made a big difference in rural Africa accessibility generally, and in the study area as well.

Traders were found to lack any kind of collective organisation in all the locations covered by the study. They are not registered at local chambers of commerce, and they are not even members of traders' associations for open air markets. Nonetheless, market traders' associations can exert some power over small traders of vegetables as evidenced by the case of the chairman introducing the shift system in Iringa.

Most traders met in Tanzania, and all the traders in the focus group enthusiastically adhered to the initiative by President Magufuli for the regulation of informal traders.⁶ While this recent initiative of traders' regulation and formalisation was seen as a way of raising fiscal revenues by observers, traders did nonetheless adhere enthusiastically, demonstrating their commitment and readiness to engage in support programmes. Traders attending the workshop in Iringa identified and ranked their priorities to improve their businesses.

A main priority for them is to find regular buyers to reduce the risk they bear. This does not necessarily refer to formal contracts but to agreements with institutions and businesses (like schools, restaurants, etc.) which can ensure reliable and regular outlets for their produce. While some traders have this kind of regular customer, other do not. Regular buyers and bulk buyers, due to the high competition among traders in urban markets, can easily find indigenous vegetables, so that that they can take advantage of perishability of the produce to get good prices and they do not need to engage in long term relationships and agreements with traders. A second priority mentioned is training in business management, as none of the traders met has ever been targeted by any training initiative, and they are not members of any association or chamber of commerce. Despite their key role in supplying urban markets and linking farmers to final customers, the potential of traders is not developed. Traders have already developed leadership and marketing skills and they have at least a basic understanding of institutions governing urban markets and corresponding taxes. They have also mastered basic calculations of costs and revenues. While the importance of these skills is sometimes disregarded by authors and experts promoting direct access to market by farmers groups (Stringfellow *et al.*, 1997; Schwentesius and Gómez, 2002), the traders who participated in the study were aware of it and eager to get more. The two priorities mentioned respectively refer to the notions of competition, confirming that traders bear high risk, and to the issue of efficiency and skills.

Although the profits reported by traders are reasonable by local standards, and regardless of the dimensions and success of the business, in most cases they do not see the vegetables business as something with the potential to transform their lives. Traders interviewed in depth showed a limited capacity to envision the future development of their businesses.

⁴ While in Gilgil and Arusha big bags obtained from maize bags are used to transport leafy vegetables in Iringa and Dodoma region bags are seldom used to transport leafy vegetables and the traditional *tenga basket*, available in different dimensions is preferred. *Tengas* are flat, circular baskets, with very large hole between the strips. When compared to the maize bags, an advantage of *tenga* is that it allows air to flow better, but it is also more difficult to transport it with public means of transport available because of the big diameter.

⁵ Quite surprisingly the lowest prices are not always registered towards the end of the main rain season. This is due to three reasons: most of indigenous vegetables production in the area is not rainfed, but watered; the strong rains of the main season can damage IV, which are very prone to rotting; the poor accessibility of markets and worsening conditions of rural roads during the main rain seasons also contribute to keep the price quite high.

⁶ *Ibidem* 1.

Scaling up the vegetables trading in fact is very challenging, due to the lack of certain demand beyond the scale they dealt with. Even traders who are doing good business do not see many opportunities for scaling it up and rather think they could invest their profits from vegetables businesses in other types of business and sectors. This is quite in line with the idea of reluctant entrepreneurs by Banerjee and Duflo (2012) and it prevents the value chain from developing value added produce or reaching out into new markets. The absence of growth projects could even reflect a sense of shame at playing a role that is sometimes stigmatised. Traders in the focus group did not mention cultural stigma against traders as a significant challenge for their businesses, but nonetheless reported that this bias does exist. A cultural bias against traders was detected in some circumstances among public officers who represented traders as exploitative middlemen. This might be due to the attempt to explain why many African farming households experience food insecurity and vulnerability, with middlemen identified as part of the problem rather than part of the potential solution.

Conclusion

The analysis has shown that the local markets of indigenous leafy vegetables, in which the traders who buy at the farm gate play a main role, are characterised by a certain degree of competition and efficiency. Competition is ensured by the presence of alternative buyers in all the areas considered by the study and efficiency is a necessary condition, with one single trader handling the produce from the farm gate to wholesale, and even beyond when they have direct regular buyers. Moreover, traders were found to bear high risk due to perishability and the challenging conditions of roads and transports. It was also found that a coordination effort was necessary in many cases, to send motorbike taxi (*boda-boda*) or to keep in touch through mobile phone and that, while the technical skills required to perform such tasks are quite basic, still they might be beyond the reach of many farmers, while the time devoted by traders to their business was basically full-time, making it scarcely compatible with other activities. These considerations point to the complexity, and in a sense to the dignity, of the function performed by traders, who were found to be mostly women. Direct access by farmers to local urban markets of leafy indigenous vegetables is seldom found, as transferring implied risks and costs to traders is considered a better solution.

It should be noted that such findings are not necessarily in contrast with findings from the market access and farmers collective action literature, which has recognised the huge challenge of creating capacity among farmers, coping with poor transport infrastructure, and ensuring horizontal and vertical coordination. Part of this literature recognises that the scope for direct market access is limited to high value crops and outlets, like supermarkets (Berdegué, 2001; 2002) or to non-perishable crops (Coulter, 2007; Hellin *et al.*, 2009) and that the skills necessary for marketing are beyond the reach of individual farmers (Stringfellow *et al.*, 1997).

However, it must be said that sometimes the rhetoric of direct market access being the ideal solution for farmers

extends beyond what the evidence from the literature can support, and it ends up reinforcing a kind of stigma against traders and middlemen. The role played by small traders is important for sustainable food value chains, for agricultural transformation, and agro-based industrialisation, in line with the Malabo declaration. When looking for actors to be targeted and supported for agribusiness promotion, local traders buying at the farm gate should be given much more consideration, because they are already operating and they are better positioned than farmers to develop the value chain further, and thus improve the welfare of all actors involved. However, they are not targeted by business development support services or development projects. The study extends findings by Sitko and Jayne (2014) to a value chain which is very different from that of grains and where the need for specialist businesspeople to connect production and markets is further emphasised by the perishability of the produce.

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