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The expansion of supermarkets and the establishment of delivery systems and intermediaries for fresh fruit and vegetables in the Global South – the case of Kenya and Tanzania

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Abstract

In the last three decades, supermarket chains from the countries of the Global North expanded in the Global South. The regions of interest were, in particular, those countries in which new market potentials resulted from economic development. There is also the trend that domestic supermarket chains are developing in the countries of the Global South. A number of studies in the Global South analyzes the impact on agricultural producers by incorporating them into delivery systems to supermarkets. However, little evidence exists yet on how the delivery systems are organized by intermediaries between agricultural producers and the supermarket chains in the Global South. Especially for fresh produce (vegetables, fruit) special challenges occur., e.g. concerning infrastructures This article will examine the relationship between the spatial and temporal expansion of supermarket chains and the establishment of delivery systems/ intermediaries using the example of fresh produce in the countries of Kenya and Tanzania.

Zusammenfassung

In den letzten drei Jahrzehnten expandierten Supermarktketten aus dem Globalen Norden in Länder des Globalen Südens. Insbesondere Länder mit einem raschen wirtschaftlichen Wachstum und damit neuen Marktpotentialen waren dabei Expansionsziele. Zugleich zeigt sich innerhalb der Länder des Globalen Südens eine Ausbreitung von lokalen Supermarktketten. Bisher untersuchte eine Reihe von Studien die Auswirkungen der Kooperation mit den neuen Supermarktketten auf die landwirtschaftlichen Produzenten. Weniger ist dagegen bekannt, welche Liefersysteme und Intermediäre für die Verbindung zwischen landwirtschaftlichen Produzenten und Supermarktketten in Ländern des Globalen Südens bestehen und wie sie sich entwickeln. Insbesondere für leicht verderbliche Frischeprodukte (Obst und Gemüse) ist die Herausbildung dieser Intermediäre eine große Herausforderung. Der vorliegende Artikel betrachtet den Zusammenhang zwischen der räumlichen und zeitlichen Ausbreitung von Supermarktketten und der Entwicklung von Liefersystemen/Intermediären am Beispiel von Kenia und Tansania.

Keywords value chains, supermarkets, intermediaries, Kenya, Tanzania

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1. Introduction

For a long time, the production and consumption of fresh fruit and vegetables in most countries of the Global South were in close proximity to one another. These food systems were characterized by subsistence production and sale at local markets. Recently the retail system is undergoing rapid changes with the expansion of supermarkets and the establishment of regional and national commodity chains (*Franz* and *Hassler* 2011; *Altenburg* et al. 2016). Agricultural producers are shifting from subsistence to market oriented production and middlemen transport products to the new established supermarkets. The so-called 'supermarketization' is defined by the establishment and expansion of new retail formats with a diversified assortment of groceries and the self-service principle (*Reardon* 2005; *Reardon* et al. 2005; *Anand* 2009; *Crush* and *Frayne* 2018). Supermarketization does not mean that supermarkets already dominate the market in countries of the Global South; it addresses the expansion process of the new retail format. Supermarketization has been analyzed mainly on the international level and there is still limited knowledge about the spatial and temporal expansion process of supermarkets on the national/regional level and the connected development of commodity chains.

This article addresses two central research questions. On the one hand, the spatial and temporal expansion process of supermarkets in Kenya and Tanzania is analyzed (see Section 4.1). These two case studies were chosen, because the two countries have a different level of economic development, a different context-specific history and according to this a different level of expansion of supermarkets. The two countries are representing countries at the beginning of the supermarketization process (Tanzania) and during the expansion phase (Kenya). The main research question of this first part is: Which characteristic spatial and temporal patterns of the expansion process can be identified? The theoretical background is based on the Uppsala model of the international spatial expansion of service enterprises (*Johanson* and *Vahlne* 2009; *Vahlne* and *Johanson* 2017).

On the other hand, the second part of the empirical analyses deals with the development of the delivery system between agricultural production of fresh food and the supermarkets (see Section 4.2). Up to now only few studies are investigating the development and function of different systems of intermediaries connecting agricultural production and retailing in the Global South. These intermediaries are of great importance, not only for offering market connections for farms and establishing a reliable delivery of products to retailers, but for reducing post-harvest losses and securing appropriate nutrition for the population. By this, they are an important element in reaching the sustainable development goals. The main research goal of the second part is to identify different types of delivery systems. Different existing empirical studies of systems of intermediaries in the Global South and on the considerations of the development of commodity chains are the base of the general conceptual background (*Coe* et al. 2004; *Gereffi* et al. 2005).

2. Methodology

This study analyses the characteristics of the spatial and temporal expansion process of supermarkets and develops a typology of intermediaries and delivery systems in Kenya and Tanzania, based on empirical research in the two countries in the years 2017 to 2019. In Kenya, the supermarketization advances already while it has just begun in Tanzania. The comparison offers the possibility for more insight into the dynamics of the expansion process. However, what do we mean by 'delivery system' in this article? Delivery systems are supply chains or delivery networks in which various actors (here intermediaries) are integrated to deliver goods (here fresh fruit and vegetables) from the production facility (here the farm) to the sales outlet (here supermarkets). Because of the focus on intermediaries, the term delivery system is preferred to the term procurement system from the perspective of retailers.

The analysis of the spatial and temporal expansion of supermarkets is mainly based on data of the locations of the supermarkets in the time period between 2000 and 2019. A mixed methods approach was used (*Flick* 2018). First, existing literature (e.g. *Neven* and *Reardon* 2004) and databases on supermarkets/retail in Kenya and Tanzania were collected. In addition, extensive online research was used to identify the supermarkets and their locations (e.g. homepages, companies' social media appearances, and media research). Locations of the supermarket chains were also researched in various online mapping tools (e.g. Google Maps, Bing Maps, Open Street Map) and transferred to an own mapping project. These maps were used as field maps and expanded and corrected (ground truthing) within intensive observations and field inspections in

the eight case study cities, which are the four biggest cities by population of each of the two countries (Nairobi, Mombasa, Nakuru, Kisumu and Dar es Salaam, Arusha, Dodoma, Mwanza). Using a partly standardized interview survey with employees of branches of retailers (N = 126), further branches of the chains were identified and the location and year of opening of the branches were recorded. Finally, qualitative guided interviews (N = 24) with management representatives of a large number of supermarket chains and other experts (e.g. Retail Trade Association of Kenya, cf. *RETRAK* 2018) were used to gain deeper insights into the expansion strategies of retailers. The data collection covers all existing branches of retail chains with two or more branches, but also selected owner-managed supermarkets. The final data display was carried out with the open-source software QGIS and several maps were created.

The analysis of the development and typology of the intermediaries is also following a mixed method approach. In the above-mentioned partly standardized interviews with retailers (N = 126) their delivery systems for fresh fruit and vegetables were identified as a first step by using the approach of value chain mapping. That means that in these interviews the retailer was asked to name their suppliers (farmers and intermediaries). Afterwards these suppliers (with special focus on intermediaries) were contacted and interviewed. In addition to the 'actual' suppliers such as farmers, brokers (middlemen), specialized intermediaries, wholesalers, third-party logistics (3PLs), importers and exporters the data collection also included qualitative interviews with representatives from government institutions, research institutions, transport companies, and non-governmental institutions. These qualitative guided interviews with different stakeholders along the value chain (N = 67) are used to develop a typology of the delivery systems between agricultural producers and retailing of fresh fruit and vegetables. All qualitative interviews were conducted with adapted guidelines, recorded if possible and transcribed. Subsequently the data was sorted and structured with the help of the qualitative content analysis according to Mayring (*Mayring* and *Fenzl* 2019).

3. General background of the study – theoretical approaches and status of literature

Supermarkets usually belonging to large chains are an important element of the retail system in the Global North since decades. These large chains started an internationalization process about three decades ago, which is described by the Uppsala model. According to this the spatial expansion is based on an 'experiential learning process' *Johanson* and *Vahlne* 2009; *Neumair* et al. 2012). In the beginning of the expansion process locations in countries in spatial, socio-cultural, economic and institutional proximity are targets. Spatial proximity reduces the transport and transaction costs, socio-cultural and economic proximity facilitates the calculation of the market conditions and reduces the risk of failure (*Berry* et al. 2010). Institutional regulations can be a limiting factor in internationalization; some countries – like India (*Franz* 2013) – have defined restrictions for foreign investment in retailing to open a window of opportunity for the expansion of national retail chains. Based on the experiences and the knowledge gained handling the varying context conditions in foreign countries in proximity, in the further steps of the international expansion countries with lower proximity or stronger foreignness are chosen. This spatial expansion process of supermarkets, from near to far, is documented in several empirical studies (e.g. *Reardon* 2005; *Franz* 2011; *Kulke* et al. 2014; *Altenburg* et al. 2016; *Kulke* and *Suwala* 2016). In the beginning, chains from the Global North expanded to neighboring countries, then to countries with emerging markets and finally to other parts of the world. The US-American retail chain Walmart for example expanded first in North- and Central-America in the 1990s, established branches in Western Europe and East Asia after 2000 and is entering markets in South-America and Africa during the last years (*Deloitte* 2013). The expansion of chains-stores from the Global South to neighboring countries is a very young process (*Altenburg* et al. 2016). Spar from South Africa for example has branches in Botswana, Malawi, Namibia and Tanzania or Cencosud from Chile is active in Argentina, Brazil, Bolivia, Peru and Columbia.

The Uppsala model is common to explain the spatial and temporal expansion process in internationalization (*Coe* and *Hess* 2005), but it seems, that a transfer to describe the supermarketization process on the national level within countries of the Global South is feasible (*Reardon* 2005; *Dannenberg* 2013a). These countries are characterized by strong economic and social

differences between the urban agglomerations and the rural periphery and by challenges in transportation infrastructure. Both elements construct on the national level the factors proximity and foreignness. Case studies of the chain-stores Shoprite in South-Africa or Nakumatt in Kenya show that they first establish branches in the national metropolitan areas, then in larger cities in spatial proximity and later in smaller towns of the periphery (*Dannenberg* 2013b). According to these considerations the first analytical dimension of this study is to document and analyze the spatial and temporal expansion process of supermarkets in the two case study countries.

With the rise of the supermarkets, existing systems, e.g. purchasing articles at local markets or at wholesale markets, are still used in parallel. However, more often new delivery systems have to be established because supermarkets need a permanent and reliable supply of larger volumes of articles (*Weatherspoon* and *Reardon* 2003; *Campbell* 2017). In these new systems, intermediaries (e.g. broker) play an important role, as they did/do in the classical domestic system. Aspects of the establishment of intermediaries in the Global South have been analyzed in the context of export-oriented production of fresh food (e.g. *Dannenberg* 2012; *Rao* et al. 2013). Some of these studies on export horticulture identified actors, their functions and relationships in commodity chains (*Velte* and *Dannenberg* 2014). They documented the role of exporters and importers for the establishment of reliable procurement systems (*Dannenberg* and *Nduru* 2013). In the Global South these exporters are coordinating the export system. Usually they cooperate with broker (or middlemen) who have the direct contact to the farmers (*Dannenberg* 2012). Exporters store and select the articles for the export and transfer information, including standards like GlobalGAP (*Dannenberg* and *Nduru* 2013*; Dannenberg* 2012), about needed products and ways of production to the farmers. Several other studies on value chains of agricultural products in Sub-Saharan Africa address the effects of cooperation with supermarket chains on agricultural producers (*Abrahams* 2010; *Campbell* 2017). These important studies deal with the power asymmetries in access to the value chain – for example on the quasi-exclusion of many small farmers from supplying supermarkets (*Abrahams* 2010; *Campbell* 2017). However, up to now there is limited knowledge about the development of intermediaries connecting farmers and supermarkets on the national level in the Global South (*Franz* 2013; *Appel* et al. 2014; *Reardon* 2015*; Altenburg* et al. 2016). In most cases, the studies on intermediaries are following the approach of global commodity chains or global value chains (*Gereffi* 1996; *Coe* et al. 2004; *Gereffi* et al. 2005). This approach – considering actors, flows of materials and information, power asymmetries and upgrading potential – helps to describe value chains on the national level. In this study, the identification of actors, their role in the delivery system and the intensity of information flows are in focus. According to this, the second analytical dimension of this study is to identify existing and developing systems of intermediaries and to develop a typology of different forms of delivery systems. Existing interrelations between the expansion of supermarkets and the development of delivery systems will be pointed out.

4. Empirical analysis

4.1 Spatial and temporal expansion of supermarkets

Some twenty years ago, only few supermarkets existed in Kenya and almost none in Tanzania. Since then a rapid expansion process of supermarkets occurred in Kenya (*Fig. 1*), which can be correlated to the growth of the GDP per capita and the growing middle class with higher income (*World Bank* 2021). In Tanzania, with lower GDP per capita and a limited number of people with higher income, the supermarketization is still at the beginning. Kenya also ranks ahead of Tanzania in rankings for business friendliness and corporate regulation (*World Bank* 2020). Explanations for that can be found in different political and economic developments, in the past and in the present (*Heydn* 1980; *Delehanty* 2020). However, supermarket companies are increasingly recognizing market potential in both countries, especially in the metropolises, where more and more supermarkets and shopping malls open and establish themselves alongside the many existing shops, markets and street stalls. An interesting point is the different owner structure of the supermarkets in these countries compared to the Global North. In most countries of the Global North just a handful of large chains are dominating the market. In Germany, the big four chains Aldi, Edeka, Lidl and Rewe gain more than 80% of the turnover in grocery retailing (*HDE* 2018). Only a few larger chains like Naivas and Tuskys exist in Kenya, while there are many small chains with a limited number of branches (*Fig. 2*). The big chains have established branches all

over the country, while the small chains are usually serving regional markets and their units are located in spatial proximity to each other. In Tanzania, only a few chains with a limited number of branches are established up to now. There is a certain kind of probability that with ongoing economic growth and supermarketization the number of independent small chains will be reduced and large chains with several branches all over the country, which can realize internal economies of scale, will dominate the market.

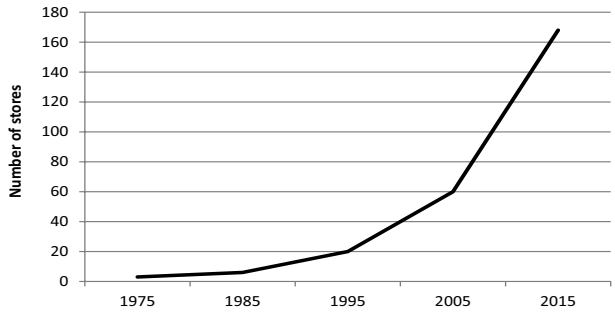

Fig. 1 *Expansion of supermarkets in Kenya (all stores of 5 largest retail chains). Source: own elaboration based on survey results and modified after Neven and Reardon (2004: 673)*

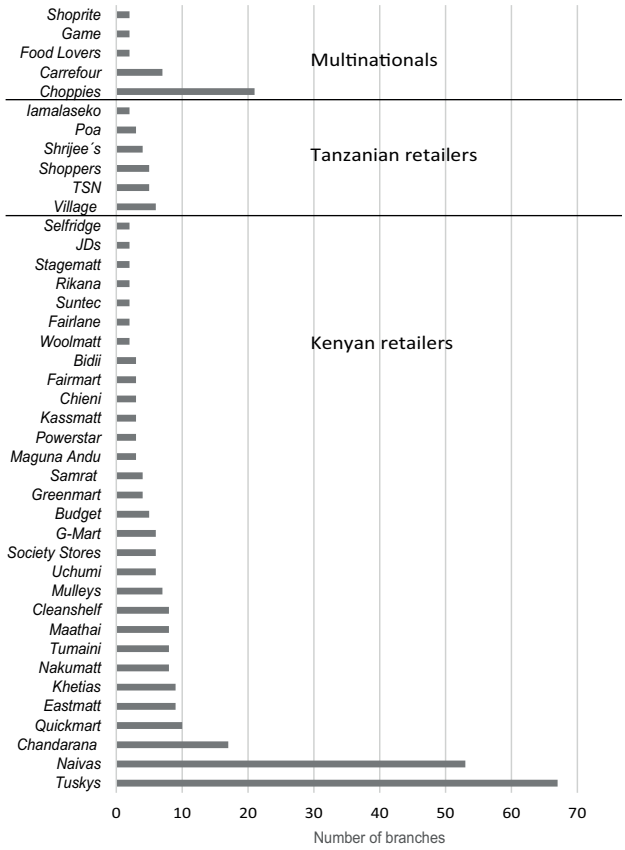

Fig. 2 *Branches of supermarket chains in Kenya and Tanzania (at least 2 branches). Source: own compilation based on survey results, as of December 2019*

Looking at the **international dimension** of the supermarketization one can observe that in both countries national owners with experiential knowledge mainly run the supermarkets. Here, Kenyans and Tanzanians citizens of South Asian origin (mostly from India) play an important role in the supermarket expansion in both countries with a large share of ownership of the retail chains and owner-managed supermarkets (cf. *Adam* 2016). The expansion of international chains is just at the very beginning. Domestic companies and informal retail channels have proven to be resilient to the immediate dominance of multinational enterprises, or MNEs (cf. *Wegerif* 2014). In Kenya and Tanzania supermarket chains from foreign countries started to establish branches five years ago (*Fig. 3*). Shoprite from South Africa entered the Tanzanian market for the first time in 2002, but withdrew in 2014 for profitability reasons. Coming from South Africa (Shoprite, Food Lover´s, Game), Botswana (Choppies) and France (Carrefour, with their regional operational headquarter in the United Arab Emirates), the different countries of origin document the changing pattern of internationalization of retailing in the Global South. As discussed before, the very young process is characterized by South-South expansion. In most cases, established chains from those countries with a slightly higher level of economic development are entering neighboring countries where new markets are developing due to economic growth. According to the considerations of the Uppsala model, these results show the importance of proximity and foreignness. In the Global South, it seems to be easier for chains from neighboring countries than from the Global North to enter the market, because of the more similar socio-economic conditions and because of the spatial proximity, which facilitates delivery of articles and internal organization.

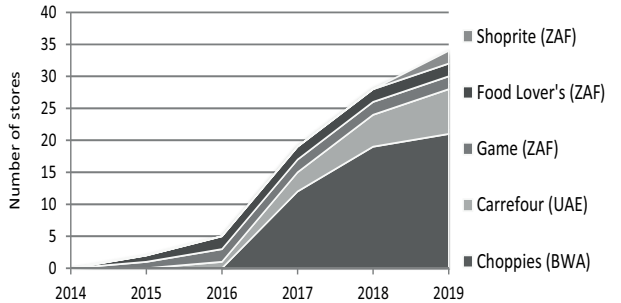

Fig. 3 *Multinational enterprises in Kenya and Tanzania. Source: own elaboration based on survey results, as of December 2019*

The comparison of the development and recent structure of the supermarket systems seems to demonstrate another typical element in the development process. In countries with a low income and limited market for new retail formats, like in Tanzania today (2020) with a GDP per capita of 1.077 US$ (*World Bank* 2021) and in Kenya some years ago, the establishment of these new units is mainly realized by local enterprises which are running only few branches in spatial proximity to each other. For big international retail companies of the grocery sector, countries with a limited number of middle-class households and with a low level of individual car ownership seem to be not sufficient attractive for investment (*Altenburg* et al. 2016: 22). Usually these foreign chain companies need a minimum market volume to establish several branches and to develop an internal distribution system; because the delivery costs can only be handled if there is a sufficient volume of distributed and sold articles that contribute to realize company-internal economies of scale. With increasing number of people with a higher income, which can be correlated with the GDP, the market potential is expanding, like in Kenya with a GDP per capita of 1.838 US$ in 2020, which encourages the development of larger national chains and begins to attract foreign investors (*World Bank* 2021).

Looking on the national level of the spatial and temporal expansion process typical patterns can be identified (*Fig. 4*). At the very beginning of the expansion of supermarkets, companies established units mainly in the metropolitan regions of Nairobi and Dar es Salaam, which are the economic centers with the greatest number of households with higher income. Several studies identified, that the new retail format supermarket is at the beginning of the expansion process mainly addressing consumers belonging to the younger middle- and upper-class with high income and western oriented consumption style (*Franz* 2011). These people in most cases own a car, which allows the transportation of larger purchases of articles, and they have a refrigerator, which allows stowing of fresh groceries (*Altenburg* et al. 2016: 23f.). With ongoing economic growth Kenya faced a typical spatial expansion process which shows both, the importance of spatial proximity (from near to far) and the role of the growth of the market. In the first phase, supermarkets were established in the larger cities near Nairobi (e.g. Nakuru). In the second phase, the supermarkets were expanding to more distant larger cities, like Mombasa, and to medium size towns surrounding Nairobi. In the year 2019 a network of supermarkets exists with several units in the Nairobi metropolitan area and in the large and medium size cities of the whole country. By contrast, and dependent on lower income increase in the country, there was only limited expansion in Tanzania. Retail companies established supermarkets mostly in the large cities, especially in the metropolitan area Dar es Salaam and the tourist and expatriate center Arusha. In the capital Dodoma and the center of the western region Mwanza only very few supermarkets can be found until today.

Observing the development of the **local/regional spatial distribution** within the urban agglomerations similar processes can be observed (*Fig. 5*). The locational choice is mainly dependent on the local market potential and the distribution of higher income households. The spatial proximity is given within the agglomeration. In Kenya, retailers established the first supermarkets in the city center of Nairobi and near the housing areas of high-income families in high-end areas like Muthaiga, Riverside, Rosslyn and Karen as well as in upper middle-class areas like Kilimani and Westlands. These are the spaces, where the supermarkets can address high-income people (including a large share of expatriates) at their place of work or their place of housing. With ongoing expansion more of the supermarkets were established in the same areas, where the supply density grew. First units were opened in the middle-class areas in the northeast and southwest. Supermarkets are mainly located at arterial roads and transfer stations for local public transport to attract two groups of consumer: commuters and the local inhabitants. Up to now, there are hardly any locations in the low-income informal settlements. The income of the most people living here bases on a 'survival economy', which means that they only gain money on a daily base covering their daily expenses. That means that they do not have sufficient money to buy larger volumes offered in supermarkets. A trader, who of course wants to gain income from the system of distribution, sells the single item. This supply and income structure leads to the strange situation that basic essential items sold in the informal settlements are often more expensive than the same articles in supermarkets. Supermarkets benefit from a sophisticated procurement system and can realize significant economies of scale, which opens the possibility for them to offer articles at lower prices than conventional stores. Conventional stores are labor-intensive and have to pay relatively more money for their stock, which both contributes to higher prices. Some studies

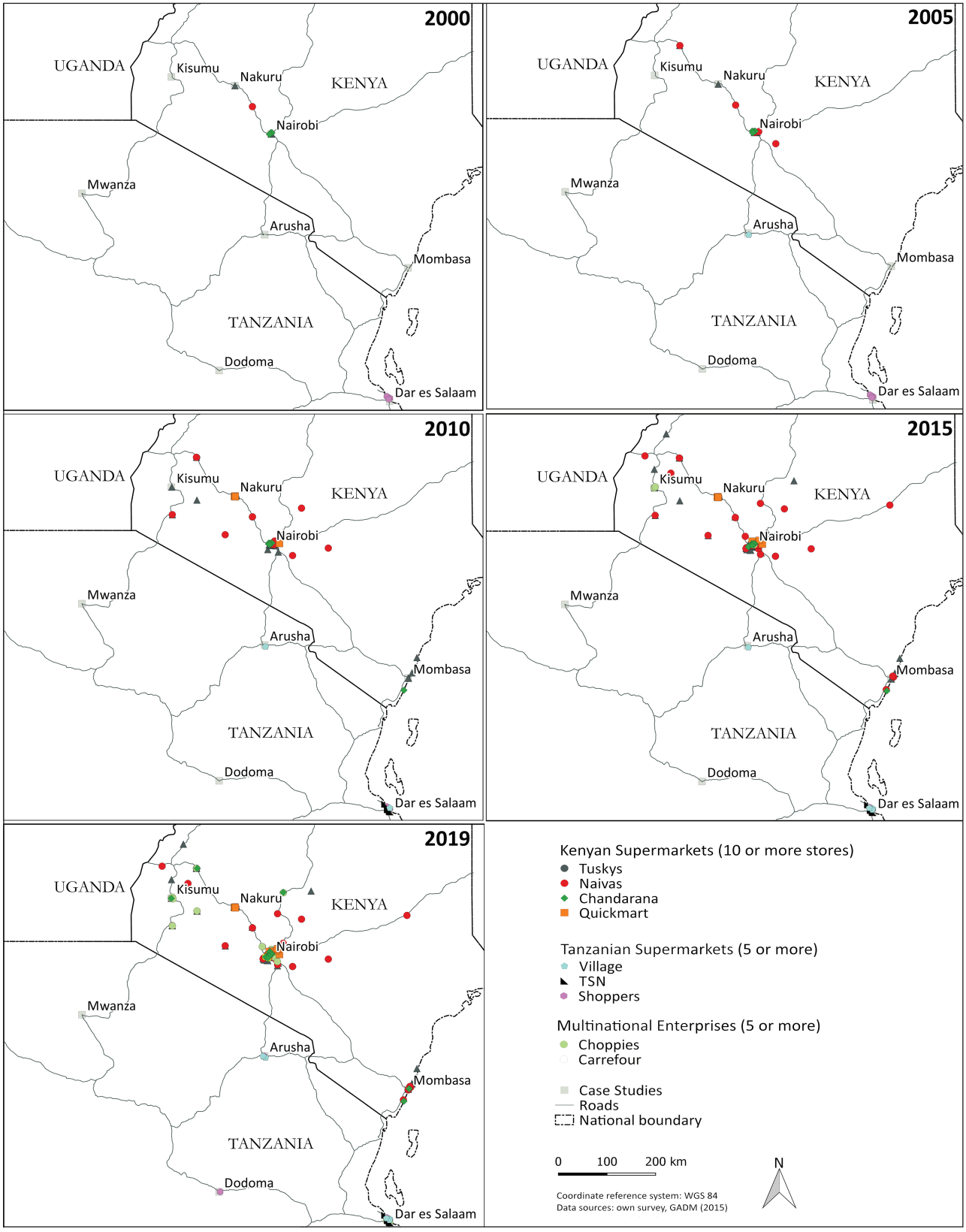

Fig. 4 Spatial and temporal expansion of supermarket locations in Kenya and Tanzania (2000 to 2019). Source: own elaboration, as of December 2019

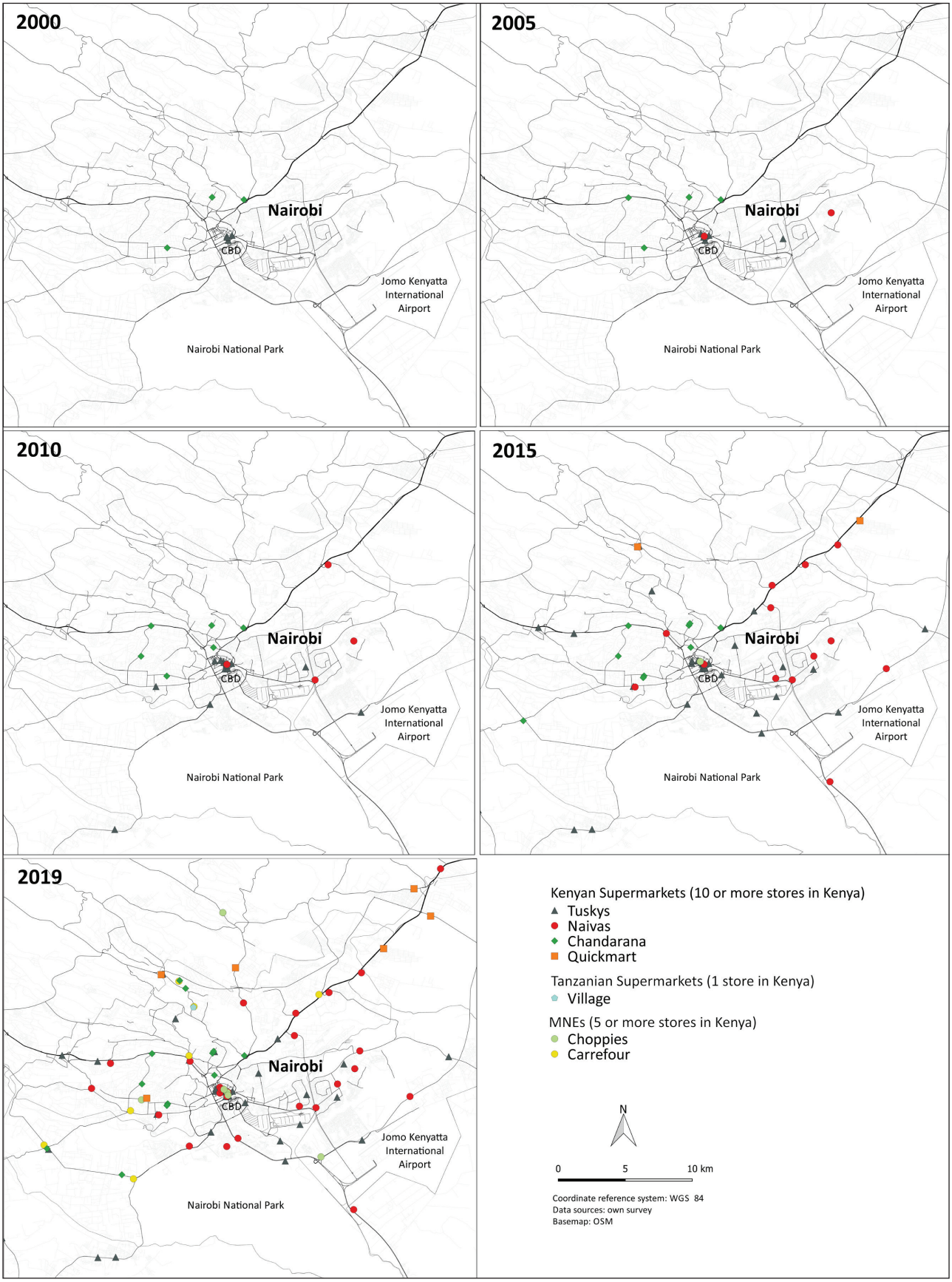

Fig. 5 *Spatial and temporal expansion of supermarket locations in Greater Nairobi (2000 to 2019). Source: own elaboration, as of December 2019*

of prices have documented these price differences between different retail formats (*Dihel* 2011; *Altenburg* et al. 2016: 24). In Dar es Salaam the limited number of supermarkets is only located in the high-income areas within Msasani (Oyster Bay and Masaki), Mbezi Beach, Mikocheni, in the city center and at transfer stations for local public transport (*Fig. 6*); this locational structure is similar to the one of Nairobi at the beginning of the expansion process.

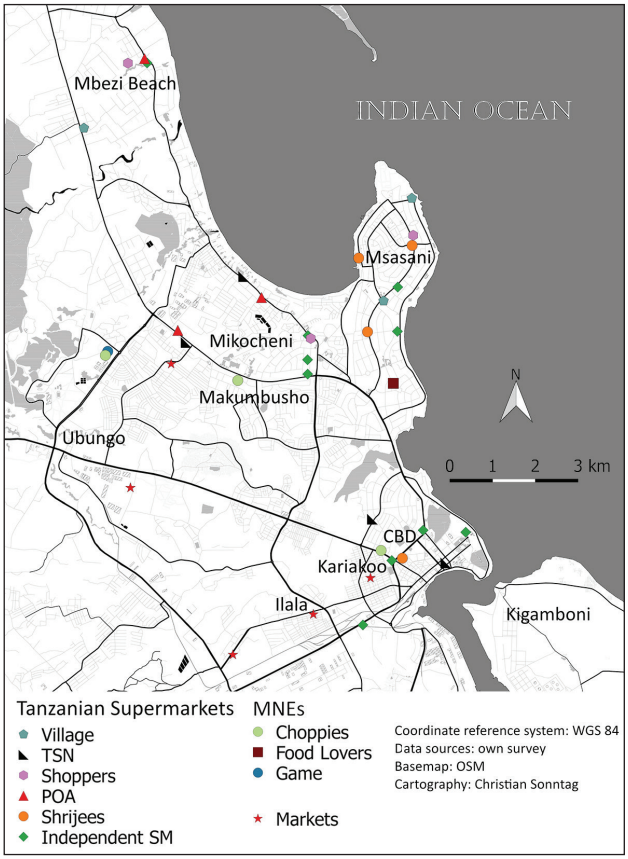

Fig. 6 *Locations of chains stores and owner-managed supermarkets in Dar es Salaam in 2019. Source: own elaboration, as of December 2019*

4.2 Development and characteristics of delivery systems/intermediaries for fresh fruit and vegetables to supermarkets

In the second half of the 1990s, supermarkets in Kenya started to create a third marketing system for fresh fruit and vegetables and gradually added these products to their range (*Neven* and *Reardon* 2004). The "traditional domestic system" and the "export system" are already established marketing channels for fresh fruit and vegetables in the region (ibid.: 681). In the classical domestic system of agricultural production, farmers sell their products directly to the consumers at or near their farms or at local markets. Besides that, conventional broker (or middlemen), owning means of transportation, collect products at farms and sell them to wholesalers or market traders. In both cases, farmers face a high insecurity according the possibility to sell the products (volumes) and to gain income (prices). They do not have the flexibility to cover a larger time period of sales, due to missing storage facilities, and to distribute the articles to different markets, because of missing own means of transportation. During harvest season oversupply could occur, which means low prices and insecurity to sell the products. Out of the harvest season, there are situations, where only few local products are available. These aspects all contribute to large post-harvest losses, insecure income for farmers and unreliable supply for consumers. With the development of new formats of retailing, like supermarkets, and with the establishment of commodity chains with new roles of actors, new forms of organization of delivery systems were established.

However, there is no definable, single system for supplying supermarkets with fresh fruit and vegetables in Kenya and Tanzania. Different supermarkets each use systems that are organized differently. In our study in Kenya and Tanzania, five typical forms of organization of delivery systems for fresh fruit and vegetables were identified (*Table 1*). Different types of supermarkets – multinational, national, regional chains, owner-managed – use these different forms of delivery systems in different areas with a different context-specific infrastructure and economic development. They represent the actual structure of different delivery systems, but besides that, they show the development process parallel to the expansion of the locational system of supermarkets. Some of them have been established earlier, some developed later and some are very young, mainly established for large chains with several branches. In these systems, intermediaries act between production and retail and take on various functions.

There are established intermediaries, such as conventional brokers, also called middlemen, transport service providers and exporters. The wholesale markets with their traders continue to be a central institution for fresh fruit and vegetables. Also 'new' players such as importers, so-called third-party logistics providers (3PL) and intermediaries specialized in the delivery of supermarkets enter the market. In addition, there is direct marketing by agricultural producers and

Table 1 Five models of delivery systems between agricultural producer and retailer. Source: own elaboration

Forms of organization of delivery systems between agricultural producers and supermarkets	Supermarkets (examples)*	Intermediaries and farmer/suppliers involved
Collecting Point Model	Regional chains and owner-managed supermarkets[a]	Farmer, Broker, Importer
Decentralized Model	Naivas[b], Carrefour[b], Game[a], Shoppers[c], Shoprite[b], Food Lovers[c], Uchumi[b], owner-managed supermarkets[a]	Company Farms, Contract Farmer, Farmer, Specialized Intermediaries, Exporter, Importer, Broker, Wholesaler
Import Model	TSN[c], regional chains and owner managed supermarkets[a], some branches of the large chains[a]	Importer
Mixed Model	Choppies[a], Village[a]	Importer, Exporter, (Contract) Farmer, Company Farms, Small-Scale Farmer, Broker, Wholesaler
3PL Model	Nakumatt[b], Tuskys[b], Chandarana[b], Shrijee´s[c], Homes[c]	3PL Provider, Importer, Exporter, Contract Farmer, Farmer, Company Farms, Broker, Specialized Intermediaries

* [a] = operating in Kenya and Tanzania, [b] = operating in Kenya, [c] = operating in Tanzania

the actual retailers who procure fruit and vegetables themselves. A big problem in general, and affecting all forms of organization, is that supermarket companies in many occasions not or too late pay farmers and suppliers. Regulatory institutions, as an example of other involved actors, in Kenya aim to introduce payment obligations for fresh fruit and vegetables within seven days.

Actors in the Collecting Point Model (*Fig. 7*) use established structures for the organization of the delivery systems. Accordingly, actors within the export marketing use collection points already. In the Collecting Point Model, farmers or brokers transport fresh food products to collection points. Brokers inform farmers about the need for products or farmers inform brokers about the availability of products (cf. *Krone* et al. 2014). The brokers fulfil an important role within the information exchange between agricultural production and supermarkets, but reduce the profit of the farmer. They are bridging the information concerning needed/available volumes and actual market prices between the actors. Contacts, networks and personal relationships between the actors involved play a crucial role. In most cases, brokers are doing the financial transactions. At the collecting point, persons with transport vehicles, owned either by broker or by supermarkets, sort and pick up the products and deliver them to the different supermarkets. This model is used in comparable form for the export of fresh vegetables (*Dannenberg* 2012). Owner-managed supermarkets and smaller, regional chains with only a handful of branches use this model. Imported articles supplement the local supply of products.

Many supermarket chains rely on the Decentralized Model as a form of organization (*Fig. 8*). Decentralized means here that the individual branches of a chain each have their own suppliers. A model that, according to the Fresh Department Manager of a large Kenyan supermarket chain, currently has many advantages. Flexibility and adaptation are crucial in his opinion and he emphasizes the willingness to switch to another model, but makes this dependent on the improvement of the delivery infrastructure.

> "A decentralized system works in Kenya in the year 2017 much better than a centralized one. You have to be flexible. But who knows how the infrastructure is changing. Roads, trucking, storage. We will see and try to adapt". (Interview with Fresh Department Manager of a major Kenyan supermarket chain, 2017)

A mix of intermediaries involved is characteristic for the decentralized system. There is the group of exporters who see their core business in the export of fresh fruit and vegetables outside of the East African market. Almost all of the interviewed exporters now deliver, mainly their B-stock, to supermarkets.

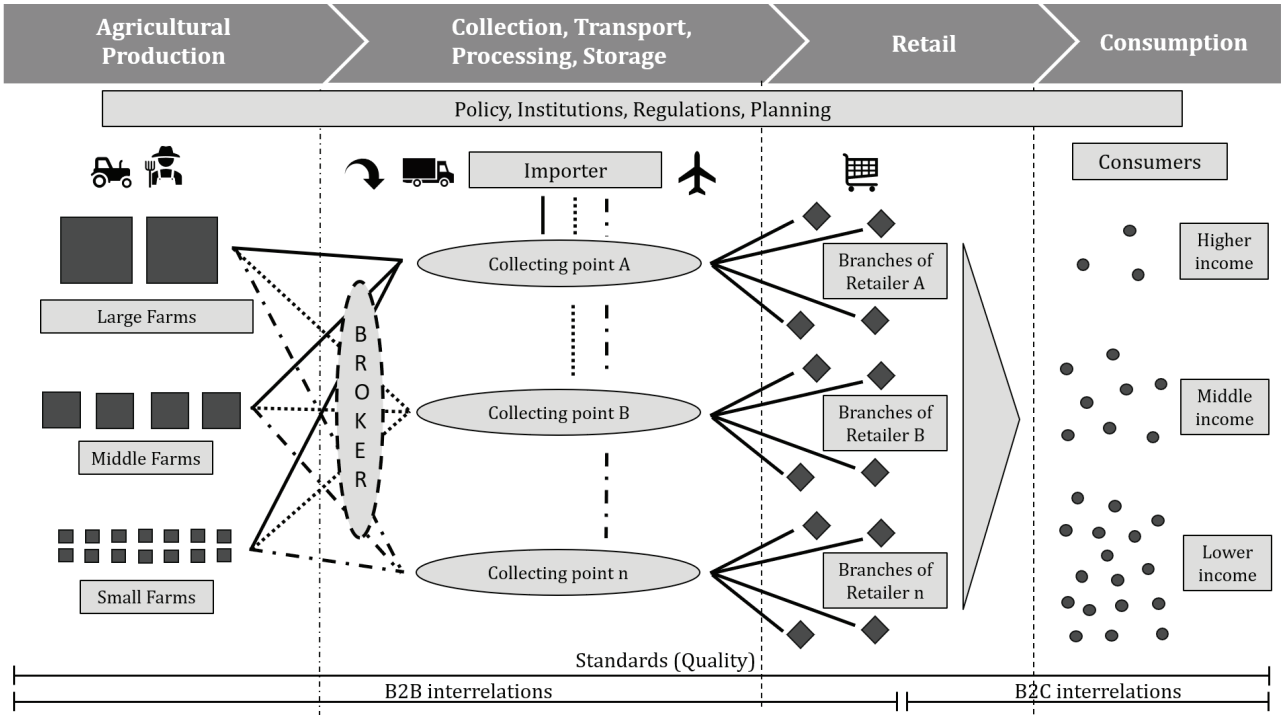

Fig. 7 Collecting Point Model. Source: own elaboration

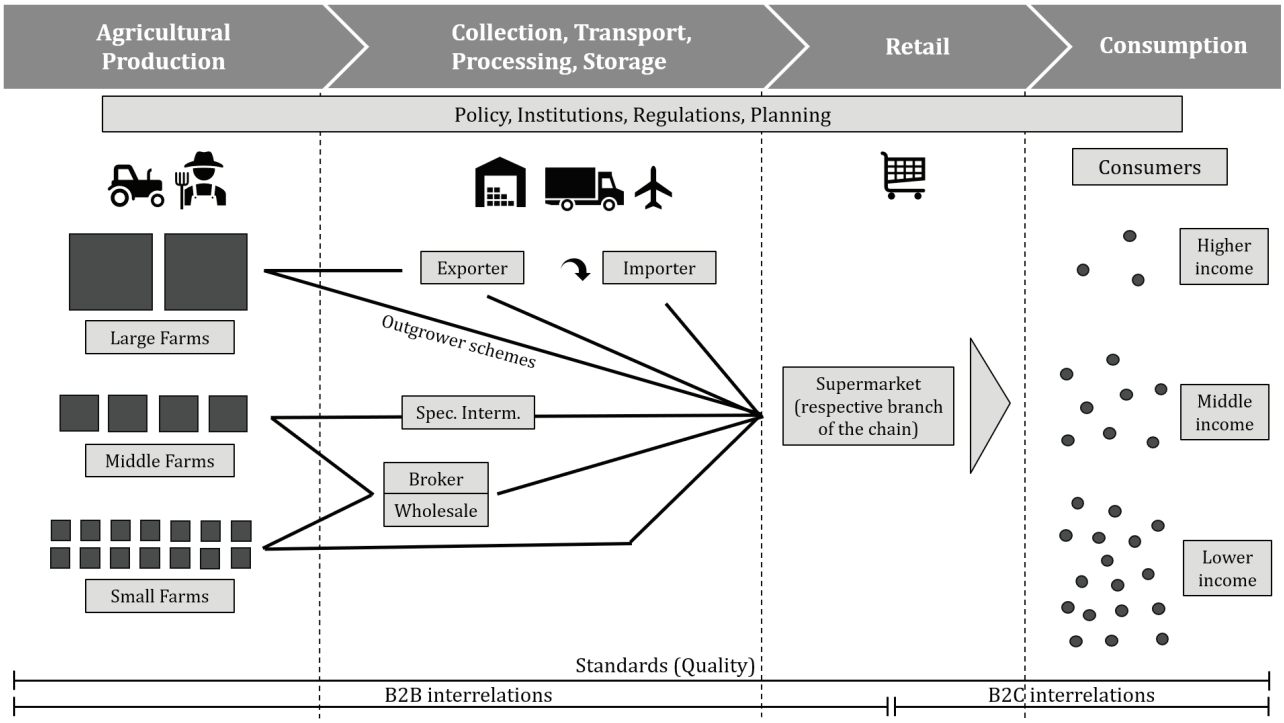

Fig. 8 Decentralized Model. Source: own elaboration

This change to a neighboring product chain is an inter-chain upgrading. Exporters have the experience, knowledge and infrastructure to meet supermarket requirements and standards. They also import weighed and packaged products and thus take on additional functions. Sometimes they upgrade the product by delivering peeled or cut fruit and vegetables. All of this leads to a relatively strong market position. It can be seen that contract farming is increasingly being integrated into captive relationships. In other

words, farms produce for certain retailers and deliver directly. Which on the one hand guarantees secure sales. On the other hand, however, it leads to the fact that many small-scale suppliers are excluded and the prices are determined by the lead firms such as supermarket chains and larger intermediaries. The larger farms, which produce sufficient volumes and qualities on their own, usually have permanent contracts with supermarkets or are sometimes outgrowers belonging to the chains. They deliver their products directly to the supermarkets. The information exchange between these actors is relatively strong, which contributes to improvements of the agricultural production. Studies showed that farms can benefit from the contracts because they get an information transfer, gain permanent income and due to that, are able to get credits for the improvement of the production system (*Minten* et al. 2007). The information about efficient agricultural production and the investment in improving the production (e.g. irrigation) can even contribute to reduce the negative effects on the environment, because farmers use less fertilizer and pesticides (*Rao* et al. 2013).

Furthermore, young, creative start-ups who have specialized in delivering to supermarkets ('specialized intermediaries') and differ from conventional brokers in terms of processes (washing, sorting, packing and barcoding of products) and range of products. The acquisition or availability of own means of transport represents an enormous upgrade here.

Direct marketing per se is still possible for small farmers. However, farmers are increasingly excluded from the chains, as they are unable to guarantee delivery consistency and quantity. Their produce more likely ends up at the supermarket via conventional brokers and via the wholesale market. Niche products (such as fresh herbs or berries) are one of the few options here. Besides this domestic chain, some fresh food articles that are permanently unavailable (e.g. apples and grapes) are imported from the international market and directly brought to the supermarkets. This Decentralized Model is used either by the Kenyan national chains like Naivas, by the Tanzanian national chain Shoppers, by international chains like Game and Carrefour or by owner-managed supermarkets (see *Table 1*).

The import of articles, which were produced on large farms outside of East Africa (e.g. Egypt, South Africa), is the main form of delivery in the Import Model (*Fig. 9*), which developed during the younger expansion of supermarkets. This is a special case, as some supermarkets deliberately do without local fruit and vegetables and only offer these imported products. The only involved intermediary here is the importer. This model is a transitional form until the delivery systems for local fruit and vegetables become more efficient. The importer stores and cools fresh fruit and vegetables in large warehouses. These warehouses are mainly located in large agglomerations with international transport connections by ship or plane. From these warehouses, employees deliver the articles to supermarkets all over the country mainly by using insulated or refrigerated vehicles of the importers. Supermarkets, which are offering only a limited assortment of fresh articles and are mainly selling fresh products with a longer durability (e.g. imported apples, oranges), use this form. It is very typical, that the assortment of fresh articles is only limited at the beginning of the expansion process of supermarket chains, because of the problems to handle perishable products in an environment with not yet established intermediaries and contracts with farms and with limitations in the transport infrastructure (*Altenburg* et al. 2016). The international chain stores, which rely on their established procurement system of their home country, are practicing this system mainly at the start of their expansion process in a foreign country. The interactions between the actors in the chain are mainly limited on information about volume, quality and prices of more or less standardized products. This limited exchange of information is not contributing to joint learning process between the actors.

The next developed delivery system is the Mixed Model (*Fig. 10*), which illustrates connections with the expansion of chains with several branches. Large retailers like the Botswanan chain Choppies and the Tanzanian chain Village are establishing their own central located warehouse. Farmers/suppliers bring products from farms with different sizes; usually these farms have a contract with the company, which secures income and information, and for the supermarket chain reliable delivery of products. Some articles which are permanently or temporarily unavailable in the country are imported and delivered to the warehouse. In addition, exporters deliver their second choice products to the warehouse. In the warehouse, the goods are stored and cooled, selected by qualities and packed. These goods are then delivered to the own branches of the supermarket chain all over the country with their own vehicles. This form

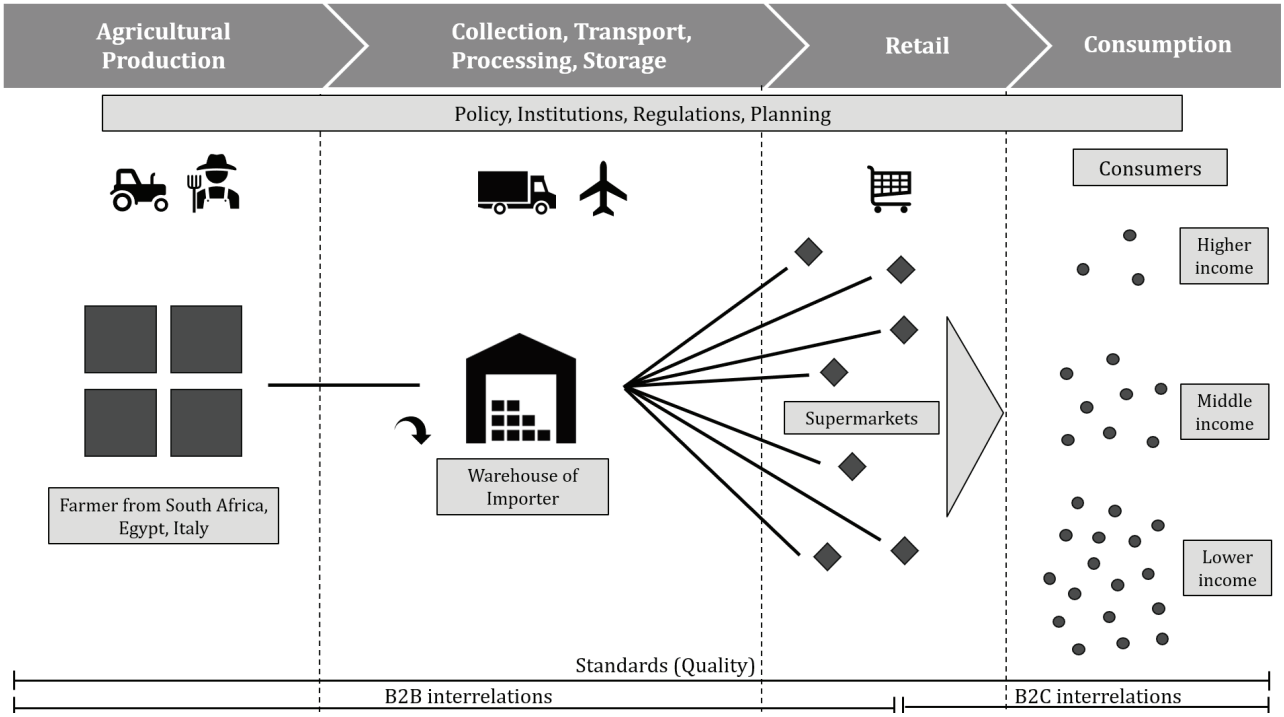

Fig. 9 Import Model. Source: own elaboration

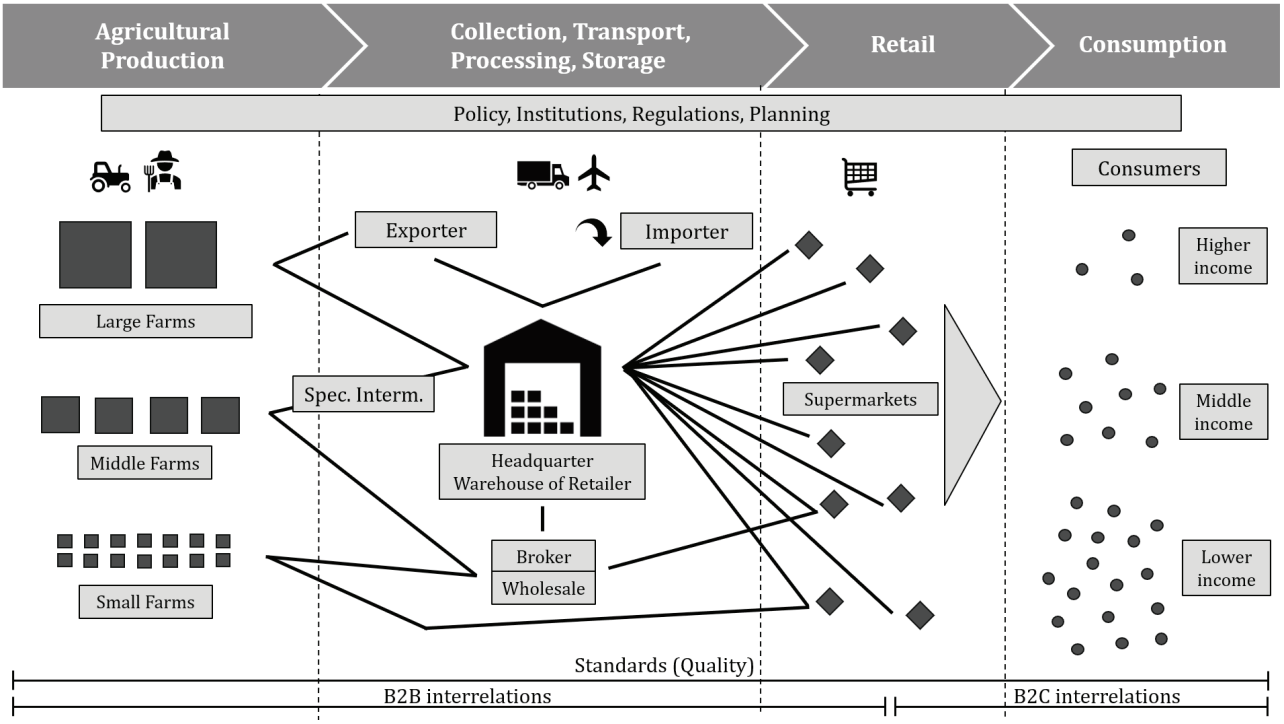

Fig. 10 Mixed Model. Source: own elaboration

is dominated by strong company internal information flows, which secure permanent availability of articles in the supermarket dependent on the local demand. In addition, there is additional external cooperation with the farms about improving the way of agricultural production, which contributes to upgrading in the farms and ensures stable and homogenous supply for the chain. However, in this system the problem of exclusion of smaller farms, which are not able to fulfill the basic conditions for quality and stable supply,

is occurring (*Maertens* and *Swinnen* 2009; *Schipmann* and *Qaim* 2010; *Altenburg* et al. 2016). The centralized system of collection and distribution is mainly used for fresh food, which have a longer durability (e.g. potatoes, onions, capsicums). Parallel to this, fresh and perishable products (e.g. tomatoes, salad, spinach, sukuma wiki) are purchased decentral by supermarket branches at nearby farms or even local markets, which are also the few opportunities for small-scale farmers and conventional brokers. Because of this parallel system, which includes on the local level elements of the Decentralized Model and on the national level the centralized warehouse with delivery to supermarkets all over the country, we call it the Mixed Model.

The most recently established form of a delivery system is described by the 3PL Model (*Fig. 11*). In this case, a specialized external and independent third party logistics provider (3PL) coordinates the commodity chain. They have direct and indirect contacts – via brokers – to the farms all over the country and are securing the flow of fresh food often by contracts with the agricultural producers. These contracts establish a win-win-situation with reliable delivery to the 3PL and upgrading perspectives for the agricultural production. Besides this 3PL providers sometimes run their own farms. Articles which are temporarily or permanently unavailable in the country are imported either by own providers or by importers. In addition, exporters supply products that are not suitable for export. This diversified system of collecting articles allows the 3PL to offer a great variety of products and a reliable, permanent supply to the supermarket chains. In this case, the 3PL provider dominates the entire supply chain, maintains close relationships with the retail company, but is also dependent on the retailers' economic success. Many small farmers and conventional brokers with low sales volumes criticized the difficult access conditions.

One example of a 3PL provider is the company Fresh an Juici, which was established in 2008. Fresh an Juici is serving several larger national supermarket chains like Nakumatt & Tuskys. In addition, Chandarana in Kenya as well as Shrijee's and Homes in Tanzania are using the 3PL Model by outsourcing the fresh produce procurement. The existing 3PL providers (e.g. Fresh an Juici, The Corner Shop) are running a central distribution center which fulfills several functions. The supply of fresh food is cleaned, assorted by qualities, cooled and stored, selected according to the orders of the supermarkets and finally delivered by own vehicles to supermarkets in all parts of the country. They sometimes process food, e.g. by producing juices from fresh products or by making precooked meals. A very young development is the establishment of their own

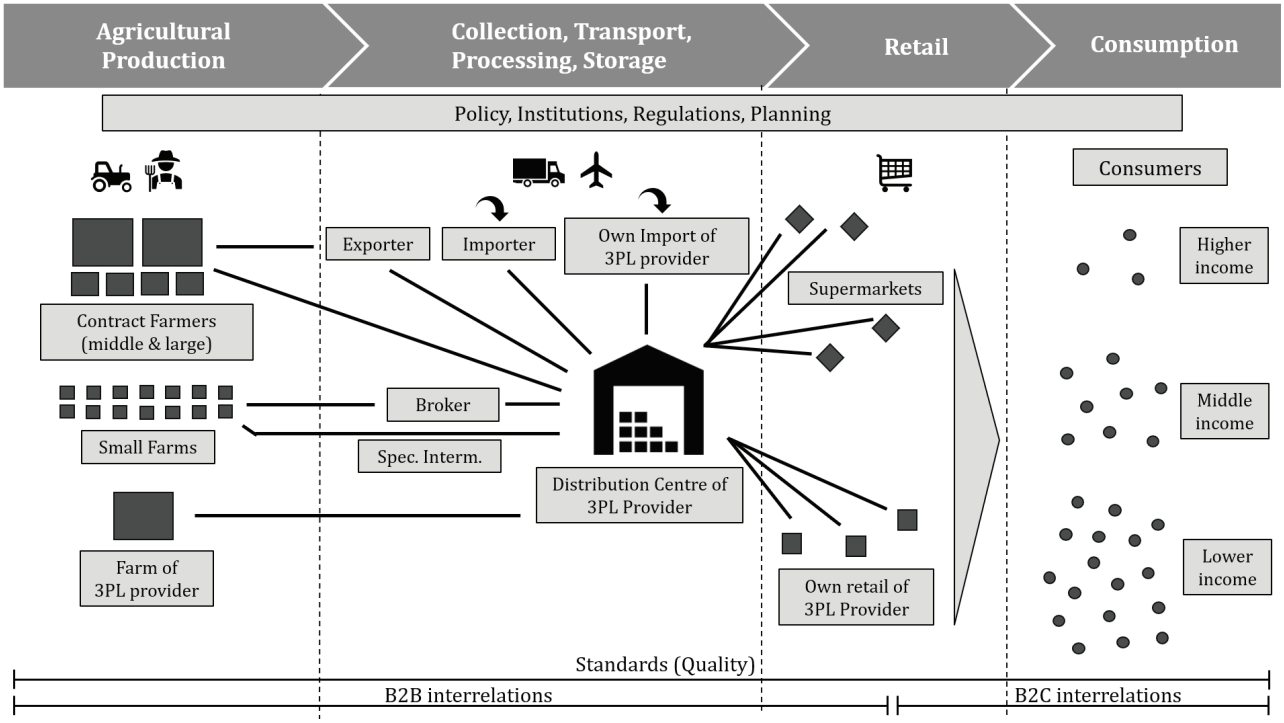

Fig. 11 3PL Model. Source: own elaboration

retail branches. To establish the 3PL Model, the availability of qualified labor with higher qualification levels like supervisors, management-personal, IT-specialists or logistic-experts is required.

The five different forms of intermediaries and commodity chain organization all exist in Kenya with a wide spread supermarketization (see *Fig. 12*). Also in Tanzania, different forms of delivery systems of fresh fruit and vegetables exist, although the spread of supermarkets is still limited. This typology of delivery systems for fresh fruit and vegetables is not intended to suggest that a system per se is more efficient, better or cheaper, for example. Rather, it is about a more diversified analysis of the different characteristics. Considering observed recent developments in Kenya and Tanzania, it is probably that in the future

Fig. 12 Collecting point in Nairobi, Kenya (top left); supplier in a decentralized delivery model in Kenya (top right); supermarket with only import products (grapes and apples) using the Import Model in Dar es Salaam, Tanzania (middle left); warehouse of a large supermarket chain in Nairobi, Kenya (middle right); third party logistic company in Kenya (bottom left); fresh fruit and vegetable section in supermarket in Arusha, Tanzania (bottom right). Photo credit: Christian Sonntag 2017 and 2018

the Mixed Model and the 3PL Model will gain market share. Even if decentralized systems undoubtable have advantages.

5. Conclusions

Supermarketization is a relevant and actual process changing the retail landscape in countries of the Global South (*Reardon* 2005; *Reardon* et al. 2005; *Anand* 2009; *Crush* and *Frayne* 2018). Supermarkets are expanding in Tanzania and Kenya, although the different expansion phases in Kenya and Tanzania have been discussed. The results from Tanzania and Kenya show that the expansion of supermarkets is at the beginning mainly driven by small local companies. This is followed by the establishment of national wide chains. Both aspects have been rarely discussed in the context of the internationalization process of supermarkets and document new findings. Market entries of supermarket chains from foreign countries are only just beginning, and only take place, if the market volume is sufficiently large enough for establishing several units with an own procurement system. This corresponds with existing literature to international expansion of supermarkets. There is evidence that supermarkets originating from neighboring countries – in the sense of a South-South expansion – seem to have advantages according to spatial proximity, which facilitates delivery, and cultural proximity, which enables the better calculation of market conditions. This is a recent process and up to now, not much recognized in the literature, but it is according to the dimensions of proximity in the Uppsala model – spatial, cultural and economic proximity – of great evidence (*Johanson* and *Vahlne* 2009).

The analysis showed for the national spatial expansion process similarities, which are discussed in the Uppsala model for the international spatial expansion patterns for service activities. Proximity and urban hierarchy characterize the spatial development path, which correlates to the spatial distribution of middle- and high-income households. In the beginning, supermarkets are established in the higher income areas of the urban agglomerations. After this, with rising national and individual income, a spreading to urban centers in the surroundings and to middle income areas of the agglomeration can be observed. Later in the centers of more distant areas branches are established and small local chains are developing there.

The development of a functioning delivery system for fresh food is a great challenge for the supermarketization. Supermarkets need a reliable delivery of greater volumes of fresh food in a constant quality. To achieve this, different types of commodity chains (cf. *Gereffi* 1996) with different intermediaries were developed in the path of supermarketization. In the beginning, the assortment of fresh fruit and vegetables in supermarkets is limited and (local) supplier (broker or farmer) deliver them by using collecting points; the information transfer between the demand in supermarkets and the supply of farmers is often done by brokers. Regional supermarket chains in small areas use this system. In a Decentralized Model, different (local) intermediaries collect fresh fruit and vegetables and deliver them to respective supermarket branches, next to direct supply of farmers. The Import Model can be seen as a transition model before delivery systems for local fruit and vegetables are more efficient. In the ongoing process, bigger chains begin to establish their own centralized warehouses, where the handling of fresh fruit and vegetables play an increasing role. In the most recent established delivery system, third party logistics (3PL) providers are fulfilling several functions.

While market-driven forms of coordination in the fruit and vegetable trade predominated in the region in the past, the study shows that there is an increasing number of dependent structures such as 'contract farming' and 'outgrower schemes'. In these more captive value chains, either supermarket chains or large intermediaries act as so-called lead firms, which results in different positions of power and increasingly exclude small-scale suppliers from the chains.

It should also be mentioned that platform-based business models such as the start-up Twiga Foods are also gaining large market shares in Kenya and aim to enter the supermarket marketing systems in the near future. This article shows that with ongoing expansion of supermarket locations and retail chains step by step more diversified commodity chains with different intermediaries are developing, which are in the sense of the global value chain approach characterized by different functions of actors, by various actor constellations and by intensive information flows between them (cf. *Gereffi* et al. 2005).

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