The Structure and Conduct of Maize Market in Kibaigwa Emerging Urban Centre, Kongwa District, Tanzania

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ABSTRACT

This study assessed the structure and conduct of maize market in Kibaigwa Emerging Urban Centre (EUC), in Kongwa District in Tanzania. A total of 202 respondents were randomly selected, whereby 120 were smallholder farmers, 42 were traders, and 40 were transporters. Gini coefficient and descriptive statistic were used to characterize the existing markets. The results show that there was high concentration in the market with low degree of competitiveness whereby 67 percent of sales shares were found to be in the hands of few marketers. The results show further that 9 per cent of the traders were large scale, about 36 percent were medium scale, and 55 percent were small scale. This shows that the market was dominated by small-scale traders who came from different areas in the country. In addition, the market was characterised by information asymmetry and arbitrage between market actors, whereby there was no transparency on marketing information among them such that the middlemen were claimed to be distorting market price. Therefore, it is recommended that the Local Government Authority should ensure openness in maize trade in the market, provide market guidelines and by laws and establish market information system which will ensure that all stakeholders have access to agricultural marketing information, prices, and technology so as to benefit from maize trade.

Key words: *Structure and conduct of maize markets, smallholder farmers, Kibaigwa EUC*

1. INTRODUCTION

Markets play fundamental role in managing risk associated with demand and supply shocks by facilitating adjustment in export flows and storage over time (Barrett and Mutambatsere, 2005). Markets also facilitate physical productive activities through

commercial exchanges across places and between market actors. Through terms of trade and investments made by merchants, agricultural markets are the conduits of the extraction of resources from agriculture to industry and vice versa (Jan and Harris-White, 2012).

However, agricultural markets are the types of markets with special characteristics that are different from other markets. This is mainly due to different factors affecting the supply of agricultural produce (such as transport condition, government policies, and factor prices) and lack of bargaining power among small-scale producers (who are the main producers in Tanzania) in this sector. Agricultural markets can be characterised based on structure, conduct, or performance of the market such as exchange functions and behaviour (power system) of the market players.

Agricultural market is a competitive arena with many buyers and sellers competing in the same market. Accordingly, maize market, which is dominated, by large group of small scale producers while large and medium scale producers holding a small share of the produced maize. According to Eskola (2005), local markets are characterised by small or local farmers who are traders; regional markets are characterised by small, medium, and large traders, while national and export markets are dominated by large traders. Similarly, maize markets are characterised by large number of small-scale under-capitalised traders and few large trading enterprises with national and international operations (Meridian Institute, 2010). However, the number of medium traders at district level is higher than that of large traders in a given market, but lower than that of small traders (WFP, 2016). maize market in Tanzania is widely dispersed commercially. Moreover, maize trading is not dominated by one group whereby traders and businesses of many different sizes participate in the marketing and processing nodes of the maize value chain (Mahdi and Zorya, 2009; Msuya and Isinika, 2011; Food; Food and Agriculture Organization (FAO), 2015). However, recently, few medium scale processors have also entered the trade and built storage facilities in the production areas (Mkonda and He, 2016).

On other hand, market conduct includes behaviour that market actors follow and the manner in which they adjust to the changing market conditions. This includes price setting behaviour and buying and selling practices (Tirole, 1988; USAID, 2008; Haruna et al., 2012). Exchange function as a process of buying and selling agricultural produce is facilitated by different market actors. WFP (2016) describes how this function is performed by cereal markets agencies in Kasulu District whereby local farmers or collectors sell the produce informally to the neighbouring households

and local small traders in the local markets. In addition, small traders purchase from producers and sell the produce directly to consumers, while medium traders purchase maize from collectors, smallholder farmers and traders, and sell the produce to small traders or consumers at retail and wholesale units. In addition, large traders purchase maize stocks after harvest from transporters and local producers; store them and later sell them during lean season when the prices are high. Moreover, according to Mahdi (2012), maize traders are classified into two groups namely, small itinerant traders who buy maize directly from farmers and medium to large maize traders who buy maize from markets and village based traders. In addition, local traders collect the produce from farmers and send it to the collection points and market centres ready for large-scale buyers who transport the produce to the district, region, and international markets (Mwakaje, 2010; FAO, 2015, Swai et al., 2019).

Agricultural markets are also characterised with different power system of firms and various agencies that have powers and perform different marketing activities. The most crucial of these institutions are middlemen such as brokers, speculative, and processors who are involved in purchasing and selling of the produce and move from producers to consumers. Agricultural markets are dominated by middlemen with substantial market power (Mitchell, 2011) while marketing processes are much dominated by personal relationship (Mwakaje, 2010, Swai et al., 2019). However, middlemen normally behave opportunistically against small-scale farmers during marketing processes. This includes the use of power to change prices of the produce for profit maximization leaving farmers with little gains.

Kibaigwa maize market is one of grain trading centre in Tanzania which was started in 1995 (Lazaro and Birch-Thomsen, 2013). The name Kibaigwa originates from first the person who settled in the area by the name of Lembaigwa from the Wamasai origin. the establishment of the maize trade was the beginning of the growth of Kibaigwa as Emerging Urban Centre (EUC). The major traders in Kibaigwa trading centre were farmers from the neighbouring villages and traders or buyers from as far as Arusha and Dar es Salaam (Lazaro and Birch-Thomsen, 2013).

This study therefore aimed to characterise the existing agricultural (maize) markets in Kibaigwa Emerging Urban Centre, Kongwa District in Tanzania. The findings from this study will help government, agricultural development partners, and policy makers to formulate policies that will enable small-scale farmers and traders to participate fully in the market and gain profitably from their market share.

2. METHODOLOGY

Description of the Study Area

The study was conducted in Kibaigwa Ward in Kongwa District, Dodoma Region. Administratively, Kongwa District has three divisions, 22 wards and 82 villages (Dodoma Region profile, 2014). Kibaigwa is one of the 22 administrative wards in Kongwa District. Kibaigwa Ward is located at 6°6' South of Equator and 36°38' East of Greenwich with an elevation of 1184m asl. Kibaigwa emerging urban centre is located along the Morogoro to Dodoma main road, about 160 km from Morogoro town and 100 km from Dodoma town. Ndurugumi village is located at a distance of 5 km from Kibaigwa centre while Kinangali village is located at a distance of 3km from Kibaigwa centre. The total area of Kibaigwa is about 45km^2, whereby Kibaigwa centre has 10km^2, Kinangali 15km,^{2} and Ndurugumi has a total area of 20km^2.

The economy of Kibaigwa depends much on agricultural and business activities. People living in Kibaigwa centre, and those from the nearby villages of Ndurugumi and Kinangali village are engaged in farming activities involving production of crops such as maize, groundnuts, and sunflower, as well as engaging in small businesses. The presence of Kibaigwa cereal market attracts migrants, mainly farmers and businessmen from other rural and urban areas within Kongwa District and even outside Dodoma Region. Moreover, the physical location of Kibaigwa provides an opportunity for farmers and traders to have access to agricultural markets and transportation services. Therefore, agricultural produce are transported from the rural hinterlands to Kibaigwa centre then to the district, national, and international markets, while agricultural inputs are transported from urban areas of Morogoro and Dar es Salaam to Kibaigwa centre.

The selection of Kibaigwa farmers was based on the information that some of them are also acting as buyers of maize from other farmers in the nearby villages, who do not have time to spend in Kibaigwa market. Kibaigwa Ward was purposively selected because of its intense commercial activities and the existing linkages with other urban centres, as well as rural communities due to the presence of international cereal market. Kinangali and Ndurugumi villages were selected because of the existing linkages with Kibaigwa Centre. Therefore, the study area offers a suitable rural-urban setting for an in-depth study of the inter-linkages between the town centre and its surrounding hinterlands.

Study Design and Approach

a cross-sectional research design was used in this study, whereby the data were collected at a single point in time. The design used survey techniques during data collection since it is inexpensive and not time consuming. Cross-sectional studies also provide a clear snapshot of the outcome and characteristics associated with the outcome at a specific point of time, and draw inferences from the existing differences between groups (Bethlehem, 1999). However, the study used both qualitative and quantitative research approach.

Sampling Procedures

The purposive sampling method was used to select Kibaigwa Ward and all its constituents of Kibaigwa Centre, Kinangali, and Ndurugumi. farmers were selected randomly from these villages,. However, traders and transporters were randomly selected from trading spots in Kibaigwa market. The targeted sample size was 350 for farmers. However, the actual sample used was 120 who were selected randomly from the population of 24 761. The 350 was obtained by taking 80 percent of agricultural producing households (FAO, 2015) and based on the fact that only 35 percent produce surplus for sale (FAO, 2015). Then snowballing technique was used to obtain 40 transporters out of 100 and 42 traders out of 300. Therefore, the final sample size used was 202 respondents.

Data Collection and Analysis

The combination of qualitative and quantitative tools was used in this study due to the dynamic nature of the processes involved in rural-urban interactions. Moreover, qualitative research approach was highly deployed. These tools include in-depth interviews with key informants, and survey method and both structured and unstructured questionnaire.

Moreover, descriptive statistic was used to characterize the market and to present arguments pertaining to market characteristics. This involved the use of frequency, cross-tabulation, and percentages. The analysis was used for the structure and conduct of maize market only. These characteristics include main market players available in the maize market, the number of sellers and traders, exchanging functions such as buying and selling practices, and mechanisms used in the marketing of the produce.

Furthermore, Gini coefficient was used to measure the concentration ratio of marketers (traders) in Kibaigwa maize market. Gini coefficient is a measure of statistical dispersion, which is used as measure of inequality of income or shares distribution and concentration in the market. The ratio values ranging from 0 to 1, whereby when a ratio is 0, the market is perfect competitive (equal income/sales share distribution) and if it is1, the market is perfect monopoly (unequal income/ sales share distribution). The model is expressed in equation 1.

$$\text{Gini coefficient} = 1 - \sum_{i=1}^{k} X_i Y_i \qquad\qquad (1)$$

Whereby: X_i = Cumulative percentage of traders in ith class of trader; Y_i = Percentage of shares in ith class of trader, K = Number of traders

3. RESULTS AND DISCUSSION

Characteristics of the Respondents

Farmers:

Socio-economic characteristics of the respondents such as age, sex, and level of education play an important role in making decision on production and marketing processes. For the case of farmers, the results show that 70 percent of the respondents from Kibaigwa centre, 63 percent from Ndurugumi village and 63 percent in Kinangali village were young and aged between 18 and 39 years old (Table 1). This means that within the study area, farming activities were mainly handled by young household members. However, the findings revealed further that about 25 percent of farmers at Kibaigwa centre, 30 percent at Ndurugumi village, and 33 percent at Kinangali village were aged between 40 and 59 years old (Table 1). This shows that these villages have more productive young aged farmers, who should then be supported with modern agricultural production and marketing technologies for improved productivity. This is because young farmers are more dynamic and risk takers, hence they can adopt innovations easily (Alhassan et al., 2012).

Moreover, the results show that out of the 60 farmers 57 percent were males and 43 percent were females at Kibaigwa centre. In Ndurugumi village, out of 30

farmers 37 percent were males and 63 percent were females while in Kinangali out of 30 farmers 39 percent were males and 70 percent were females (Table 1). This implies that farming at Kibaigwa centre was carried out by male-headed households while in Ndurugumi and Kinangali villages it was practiced mainly by female-headed households.

Table 1: *Socio economic characteristics of the respondents*

Variable	Kibaigwa centre						Ndurugumi		Kinangali	
	Farmers		Traders		Transporter		Farmers		Farmers	
	Freq.	%	Freq.	%	Freq	%	Freq.	%	Freq.	%
Age										
18 - 39	42	70.0	40	95.2	40	100.0	19	63.3	16	53.3
40 - 59	15	25.0	2	4.8	0	0.0	9	30.0	10	33.3
≥ 60	3	5.0	0	0.0	0	0.0	2	6.7	4	13.3
Total	60	100.0	42	100.0	40	100.0	30	100.0	30	100.0
Sex										
Male	34	56.7	29	69.0	40	100.0	11	36.7	9	30.0
Female	26	43,3	13	31.0	0	0.0	19	63.3	21	70.0
Total	60	100.0	42	100.0	40	100.0	30	100.0	30	100.0
Education										
None-formal education	8	13.3	1	2.4	4	10.0	4	13.3	5	16.7
Primary	39	65.0	11	26.2	9	22.5	21	70.0	19	63.3
Form four	8	13.3	25	59.5	23	57.5	3	10.0	1	3.3
Form six	2	3.3	2	4.8	4	10.0	0	0.0	0	0.0
Not finish primary	2	3.3	-	-	-	-	2	6.7	4	13.3
Adult education	0	0.0	-	-	-	-	0	0.0	1	3.3
College/university	1	1.7	3	7.1	0	0.0	0	0.0	0	0.0
Total	60	100.0	42	100.0	40	100.0	30	100.0	30	100.0

On education level, the results revealed that most of the farmers (65% in Kibaigwa centre, 70% in Ndurugumi village, and 63% in Kinangali village) had educational qualification of only up to primary level, whereby about 13 percent at Ndurugumi and Kinangali villages and 17 percent in Kibaigwa centre had no formal education (Table 1). These results are almost similar to those reported in a study by Daniel (2013) who found that majority (73%) of the respondents had attained primary education, 11 percent had no formal education, and only 2 percent had college education old (Table 1). This implies that farming activities are mainly carried out by farmers with primary education and a few with no any education at all. These

findings are consistent with those reported by URT (2004) which revealed that a large number of farmers who had attained primary education or less were involved in agricultural production in Tanzania.

Traders and Transporters

The findings show that most, that is, 95 and 100 percent of the interviewed traders' and transporters respectively were aged between 18 – 39 years (Table 1). This implies that trading activities and transportation of maize was dominated by younger traders and transporters who are more active and strong. Similar findings are reported by Mgeni and Temu (2010) who found that 95 percent of marketing activities was performed by economically active group.

As for gender of the respondents, the results show that majority, that is, 69 and 100 percent of traders and maize transporters respectively were males old (Table 1). This implies that, maize trading and transportation was dominated by men. This is because at the household level men are more involved in marketing activities than is the case with women.

For the case of education of the respondents, most 60 percent of traders and 58 percent of transporters had completed Form Four education (Table 1). This implies that trading and transportation activities in Kibaigwa are dominated by people who attained ordinary level of secondary education, and who are considered to be better in communication than are people with primary level of education. This is an advantage to them since Kibaigwa market is an international market and language especially English is important in business communication. Similar findings are reported by Agwu and Ibeabuchi (2011) who found that majority (54%) of traders in Abia State, Nigeria, had attended secondary school**.**

Volume of maize marketed at and transported into Kibaigwa market

As presented in Figure 1, the volume (in tonnes) of maize bought and sold by different market players such as producers and traders in the last five years varies between 100,000 to 800,000 metric tonnes. The results show further that the trend of volume of maize bought and sold increased from 2012 to 2014, then started to decrease from 2014 to 2016. The increase or decrease in volume of the maize traded in the market depends on the production level. A farmer or producer with high production level has enough surplus maize to sell. The higher the production the higher the maize supplied to the market. This increasing and decreasing trend

in maize produced could be due to a change in climate condition in different areas.

Figure 1: *Bought and Sold Maize at Kibaigwa market*

Source: *Kibaigwa market management (2017)*
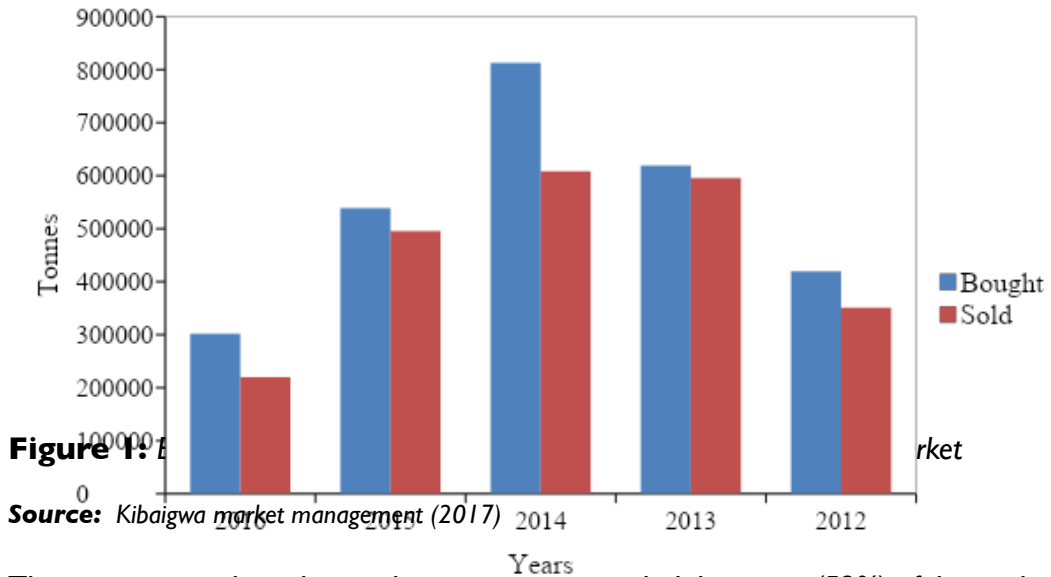
The interview with traders and transporters revealed that most (52%) of the traders were capable of buying and 50 percent were capable of selling maize at a maximum of 50 tonnes daily or weekly (Table 2). As for transport activity, about 75 percent of transporters transported maize with a maximum of 50 tonnes per trip. In other studies, for example WABS Consulting Ltd. (2008) found that, intermediary traders in Ghana bought 15 – 20 tonnes of maize from villages and transported it to larger traders in larger towns or cities. This shows that maize transportation depends on the maize that has been bought by different traders and the selling capacity of producers. The larger the volume of maize traded the higher the volume of maize transported from the villages to the market and from the market to other regions. In addition, transportation of maize is also influenced by maize and inputs prices, availability, and consistency of supply and weather condition. For example, if the price of inputs is cheaper and accessible in line with good weather condition, farmers will be able to use more inputs so as increase production, harvest, and hence increase the supply.

Table 2: *Volume of maize traded and transported per week*

Variable	Bought		Sold		Transported	
	Freq.	**Percen**	**Freq.**	**Percen**	**Freq.**	**Percen**
1 – 50 tonnes	22	52.4	21	50.0	30	75.0
51 – 100 tonnes	7	16.6	8	19.0	5	12.5
≥ 101 tonnes	13	31.0	13	31.0	5	12.5
Total	42	100.0	42	100.0	40	100.0

Number of Market Players in Kibaigwa Market

Traders and transporters

Kibaigwa cereal market was characterised by different sizes of market actors who are involved in trade and transportation activities. Based on the provided information from market management, there were about 100 maize transporters and more than 300 maize traders, who trade maize in the market and transport maize from different surrounding villages to the market and to different areas within Dodoma Region, within the country and even outside the country. However, out of the 300 traders, there were about 50 large traders, 100 middle traders, and 150 small traders in the market. This classification was based on ACT (2007) and Match Maker Associates (MMA) Ltd (2010) studies which claim that an average trader can deal with about 300 to 600 metric tonnes per annum. Therefore, for this study, traders dealing with a stock of above 600 metric tonnes are large while those trading below 30 are low. The medium traders are the ones trading between 301 to 599 metric tonnes of maize per annum.

Sellers (producers/farmers)

Almost all small-scale farmers in all the villages were expected to selling agricultural produces at Kibaigwa cereal market. The results show that out of the 60 respondents 78 percent of the respondents from Kibaigwa centre were sellers of the produce at Kibaigwa market, while out of 30 respondents, 53 percent from Ndurugumi village, and 60 percent from Kinangali village were the sellers of produce at Kibaigwa market (Table 3). This means that in all the villages, the majority of farmers sold their produce at the market. These findings concur with the findings reported by Magesa *et al*. (2014b) who found that majority of farmers in Hai district sold their agricultural produce including maize at the markets. However, few farmers (18% in Ndurugumi and 37% in Kinangali villages) were not selling maize at the market.

The Findings are in line with the findings reported in a study by FAO (2014), who found that few smallholder maize growers (28%) in Meru and Bungoma were pure subsistence farmers who did not sell maize in the market. This is due to different factors including non-tariff barriers such as market price, low yield, ownership of transportation tools, distance to the market place and transaction costs. This observation is in line with observation of Maziku et al. (2015), who found that, education level of household head, family size, market price and experience, ownership of motorbike or ox-cart and the number of livestock had a positive and significant effect on smallholder farmers' decisions to enter in the maize market in Momba and Mbozi Districts. In addition, Urassa (2015) found that maize farmers who sold maize in Rukwa region had higher productivity and yield than those who did not sell.

Table 3: *Produce sellers at Kibaigwa market*

Variable	Kibaigwa centre		Ndurugumi		Kinangali	
	Freq.	Percent	Freq.	Percent	Freq.	Percet
Sellers	47	78.3	16	53.3	18	60.0
Not seller	11	18.3	13	43.3	11	36.7
Other	2	3.4	1	3.4	1	3.3
Total	60	100.0	30	100.0	30	100.0

Main Market Players (Buyers and Sellers) at Kibaigwa Cereal Market

Traders

Kibaigwa market was characterised by small, medium, and large-scale traders (ACT 2010; MMA 2010), who buy and sell maize in the market and in other areas. The findings show that out of 42 interviewed traders, 9 percent were large scale traders, 36 percent were medium scale traders, and 55 percent were small-scale traders (Fig. 2). This implies that the market was more dominated by small-scale traders than medium and large-scale traders were. Small-scale traders were characterised by small initial capital (starting from 500 000 TShs.) while large and medium scale traders had more capital (from 10 000 000 TShs.). The difference in the amount of starting capital differentiate small, medium, and large scale traders in terms of volume of maize traded in and outside the market. Traders with big capital have bigger capacity of buying large volumes of maize and selling them in different regions in the country than is the case with small trader. The situation is similar

to the one in Burkina Faso, where large-scale traders have set up storage facilities that can handle from 500 to 25 000 tonnes. large-scale traders can negotiate and process the provision of contracts with millers and key institutional buyers such as the World Food Programme (WFP), the Army, and schools. These traders do also sell large quantities to wholesalers, retailers, and small-scale traders. (Kaminski et al., 2013)
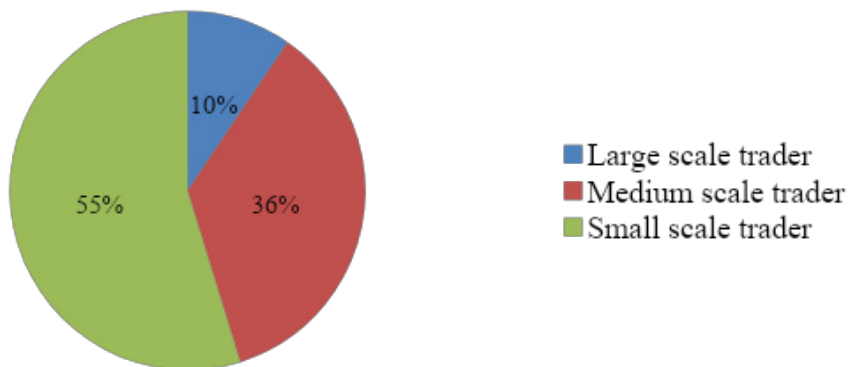

Figure 2: *Scale of traders existed in Kibaigwa market*

In addition, out of 42 sampled traders in Kibaigwa market, 19percent were found to be local collectors, 40 percent were retailers, and 41 percent were wholesalers (Fig. 3). This means that in the market the trading activities were dominated by wholesalers followed by retailers. This can be supported by the study of Wondim et al., (2019) who found that wholesalers dominate activities along the value chain, have the power of purchasing large quantity, and decide on market issues than unorganized smallholder farmers in Dembecha District, West Gojjam Zone, Ethiopia.
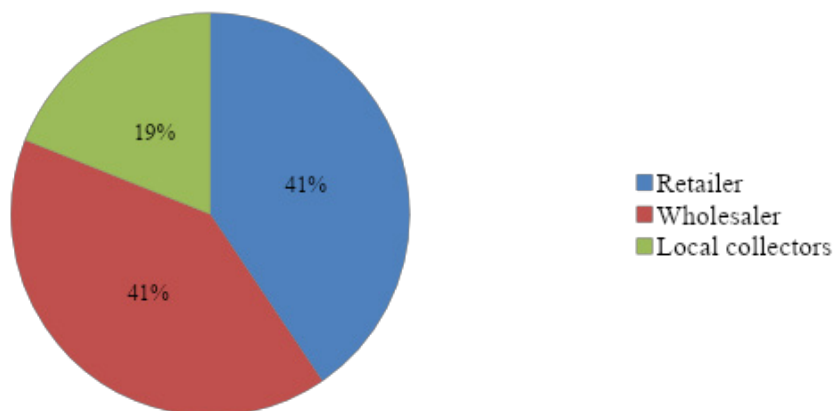
Figure 3: *Type of traders existed in Kibaigwa market*

Wholesalers buy and sell maize to other traders and large processors. Retailers buy and sell maize at retail price and in small quantities to consumers. While local traders at Kibaigwa buy maize from different villages around Kibaigwa EUC and sell the produce to the market. However, it was reported that the majority of buyers (traders) were from other regions within and outside the country. The situation is similar with that reported about Burkina Faso, where retailers sell a few tonnes a month and most of them are supplied by wholesalers despite the fact that they can buy maize at the farm gate (Kaminski et al., 2013).

Farmers (sellers)

Information from interviewed village chairpersons and market leaders show that the cereal market at Kibaigwa Ward was characterised by small, middle, and large-scale farmers (sellers) from within and outside Kibaigwa EUC. It was noted further that most of the maize sold by farmers at the market were cultivated outside Kibaigwa EUC such as Kiteto in Manyara region. These findings are in line with the findings in a study by Gabagambi (2013) who found that much (75%) of the maize delivered at Kibaigwa market is from Kiteto District. This is because some Kibaigwa farmers have accessed large and fertile land in Kiteto villages, which are bordering Kibaigwa and produce maize, which are also sold in Kibaigwa market.

This implies that the market was dominated by middle and large-scale farmers who were the most beneficiaries of the Kibaigwa cereal market than are small-scale farmers. This is because small-scale farmers had low incomes and cannot afford the costs of cultivating maize outside the region. In addition, other farmers were cultivating maize outside the EUC because of searching for fertile land for

increasing their production level who later were also selling at Kibaigwa market.

Concentration Ratio of Maize Traders in Kibaigwa Market

The results show that the Gini coefficient of maize traders in Kibaigwa market is 0.6935. Since the ratio approached one, this implies that Kibaigwa market is characterised by low level of competitiveness, as the market concentration was high. The findings are similar to those in a study by Beadgie (In Press) who found that the market structure of maize markets of Farta Woreda, South Gondar Zone in Ethiopia were non-competitive. Moreover, according to Bakare (2012), the high inequality level of income lies between 0.50 and 0.70 while relative equitable distribution of income lies between 0.20 and 0.35. Similar to this study, the Gini coefficient obtained of 0.6935 (69%) which is lying between 0.50 (50%) and 0.70 (70%), implies that the market was also characterised by unequal distribution of sales share among marketers. This indicates that the concentration of sales share (67%) is in the hands of few market players (21% of the marketers) (Table 4).

Table 4: *Sales distribution and inequality coefficients of marketers in Kibaigwa market*

Sales (TShs)	Freq. of traders	Prop. of traders (X)	Cumulative frequency	Total sales (TShs)	Prop. of sales	Cumulative proportion (Y)	XY
≤ 100 000	22	0.52	0.52	894 000	0.06	0.06	0.0312
100 00 - 1500 000	7	0.17	0.69	2 006 000	0.13	0.19	0.0323
500 001 - 800 000	4	0.10	0.79	2 158 400	0.14	0.33	0.0330
≥ 800 001	9	0.21	1.00	9 915 200	0.67	1.00	0.2100
Total	42	1.00		14 973 600	1.00		0.3065

Therefore Gini coefficient = 1- XY $\qquad$ (2)

$$= 1 - 0.3065$$

$$= 0.6935$$

Selling Practices

The results revealed that in all the villages, maize was the main cultivated and traded crop followed by sunflower. The findings show further that, 93 percent of the respondents in Kibaigwa centre, 87 percent in Ndurugumi, and 67 percent in Kinangali village sold the maize (Table 5). Farmers who sold sunflower were 67 percent in Kibaigwa centre, 60 percent in Ndurugumi, and 57 percent in Kinangali village. In all the villages, few farmers sold pigeon peas since most of them did not cultivate pigeon peas in that year. It was reported that, subsistence production is practised by some of the farmers who produce maize just enough for food without having surplus for selling. It was also noted that, selling of crops depends on the amount of agricultural produce harvested whereby during bumper harvest (depending on weather condition), farmers would have enough surplus of their produce to sell. However, farmers do sell after having stocked their food reserves (SAGCOT, 2015).

Table 5: *Agricultural produce sold by respondent*

Variable	Kibaigwa centre		Ndurugumi		Kinangali	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Maize						
Selling	56	93.3	26	86.7	20	66.7
Not selling	4	6.7	4	13.3	10	33.3
Total	60	100.0	30	100.0	30	100.0
Sunflower						
Selling	40	66.7	18	60.0	17	56.7
Not selling	1	1.7	3	10.0	7	23.3
Other	19	31.7	9	30.0	6	20.0
Total	60	100.0	30	100.0	30	100.0
Pigeon peas						
Selling	4	6.7	2	6.7	1	3.3
Not selling	1	1.7	5	16.7	0	0.0
Other	55	91.7	23	76.7	29	96.7
Total	60	100.0	30	100.0	30	100.0

Mechanisms Used in Marketing Process

The results revealed that about 20 percent of the respondents in Kibaigwa centre, 7 percent in Ndurugumi village, and 13 percent in Kinangali village (Fig. 4) sold maize

directly to neighbours at home. Moreover, the findings show that 53 percent of the farmers in Kibaigwa centre, 63 percent in Ndurugumi, and 50 percent in Kinangali village sold their maize directly to middlemen (Fig. 4). The findings are in line with those reported by Mdoe and Mwagike (2015) who found that, the majority (58%) of smallholder farmers in Kilolo District sold their agricultural produce directly to middlemen.

However, it was noted that there was a problem with the middlemen during marketing activities. This is supported by farmers' claims that:

"*During the process of selling produce at the market we have no direct contact with buyers, normally at the market middlemen buy produce on behalf of buyers with low price compared to the real market price.*"

Therefore, it seems that the presence of middlemen between buyers and sellers lead to opportunistic behaviour whereby middlemen at Kibaigwa market pay farmers lower than the real market price. However, to avoid this problem, some farmers decide to sell their produce at home.
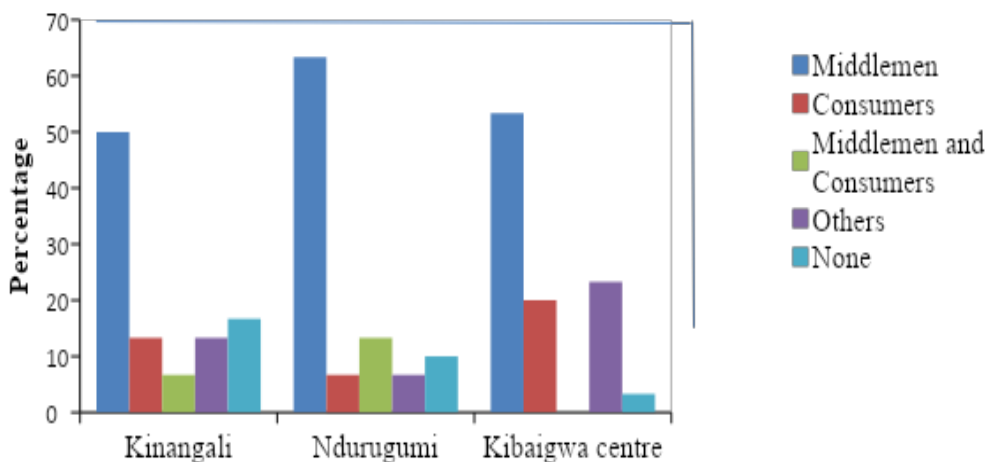

Figure 4: *Mechanism used to sell maize*

Farmer's Accession with the Existing Marketing System

The results reveal that out of 60 respondents, that is, 73 percent agreed with the marketing system in Kibaigwa centre. While out of 30 respondents, that is, 73 percent in Ndurugumi, and 67 percent in Kinangali village agreed with the

present market system (Table 6). Specifically at the Kibaigwa market, farmers did not assented with the management system due to various reasons including lack of direct communication between farmers (sellers) and buyers in the market (there are middlemen who buy from farmers and sell to buyers).

Table 6: Respondents' assension with the existing marketing system

Variable	Kibaigwa centre		Ndurugumi		Kinangali	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Assented	16	26.7	8	26.7	10	33.3
Not assented	44	73.3	22	73.3	20	66.7
Total	60	100.0	30	100.0	30	100.0

There is weighing problem as well; and there was no feedback provided on the collected revenue and expenditure. There were also high rate of levies and prices written on the notice boards at the market, which were different from the real market prices. This situation is similar with that reported by Maziku et al. (2015) who found that maize farmers and traders were not happy with the existence of many non-tariff barriers that affect their profits in maize production and marketing.

Therefore, this shows that the Kibaigwa market was also characterised by arbitrage and asymmetry of information between market actors. The asymmetry of information exists in the market as traders (middlemen) and market leaders have more information concerning the market system (such as price and revenue collected) than is the case with the farmers. While arbitrage of information emerges due to the behaviour of the middlemen who take advantage of price difference by distorting the market price as most of them are buying on behalf of larger traders and millers (FAO, 2015; Maziku et al., 2015)

4. CONCLUSION AND RECOMMENDATIONS

Conclusion

This paper aimed to characterise the existing maize markets in Kibaigwa Emerging Urban Centre, Kongwa District in Tanzania. The expected outcome of the paper was a generation of useful information to policy makers and other players in maize marketing system to ensure fairness and equitable returns between small-scale farmers, transporters, middlemen, and traders who are the main participants in the

market. The findings revealed that, Kibaigwa market was characterised by higher domination of small-scale traders who came from different areas in the country, high market concentration, and unequal distribution of sales share between players. This leads to low degree of competitiveness among the actors.

In addition, the findings show that the market is characterised by information asymmetry, arbitrage between market actors, whereby there was lack of transparency on marketing information among sellers/farmers and that the middlemen were reported to be distorting market price. Moreover, during the marketing process, farmers had no direct contact with the buyers but the middlemen who act opportunistically leaving farmers aside.

Recommendations

Therefore, this paper recommends that, the Local Government Authority (LGA) at the Kibaigwa Township should increase openness in maize transaction including announcing the prevailing prices regularly. This would ensure that farmers from the production villages are benefiting from the trade. Further, the LGA should formulate strategies and by-laws or guidelines on marketing activities, which would allow small-scale farmers to be able to contact buyers and negotiate prices ahead of the transactions. This would help farmers to sell the produce to the right buyers and at the right market price. In addition, the LGA should design an information system, which will provide marketing information to all players involved in the maize trade at Kibaigwa market. This would make the market more competitive and sustainable.

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