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The Pattern of Spatial Interaction of Commodities Flow in Changing People's Livelihoods in Moshi Rural District, Tanzania

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Abstract:
This study investigated the impact of the flow of commodities in changing the people's livelihood in Moshi rural district. Various methods which included questionnaire, interviews, and observation and focus group discussions were employed in collecting data in the field. The obtained data were both qualitative and quantitative. Quantitative data were analyzed using Statistical Package of Social Sciences (S.P.S.S.). The analyzed data were then presented in tabular form to provide an informative data to readers.
The study revealed that there was a flow of food crops, particularly bananas, maize, beans and avocados which were sold to the rural, urban and abroad markets. The study further noted that the spatial flows of commodities have got an impact on changing the people's livelihoods in the study area, realized through the acquisition of livelihood assets, obtained through selling of crops and their use for various purposes and due to social services and construction of infrastructures. The study recommended that, there is a need for government interventions to manage the flow of commodities in order to regulate commodity prices.

Keywords: Spatial interaction, Movement of commodities, livelihood, crops prices

1. Introduction

Spatial interaction, in terms of goods and people, has always been one of the survival strategies used by people around the world included Tanzania. It is influenced by the development networks which facilitate the transportation from rural, urban and international areas. This leads to changing people's livelihoods in the rural areas. (Hoggart, 2005; Mbonile, 1999; 2005).

Spatial interaction of commodities has occurred in Kilimanjaro region for several decades. Flow of goods, which is quite intensive in the region, has led to the establishment of local markets which operate weekly, hence creating a big impact in changing people's livelihoods (Mbonile, 2005). This is because the development of rural and urban markets has enabled farmers to sell their crops such as bananas, maize, beans and forest products and purchased farm inputs. Some of the locally produced goods are transported to other regions in the country and beyond. The flow of commodities has increased the suppliers' and consumers' purchasing power and hence an overall change in the people's livelihood.

Studies conducted by Baker (1995) and Mbonile (2005) on agricultural policy and population movements in Tanzania revealed that the people of Biharamulo in Kagera and Kilimanjaro regions commuted to various market places on a weekly basis, and marketed different agricultural commodities such as maize, beans, bananas and vegetables which assisted the rural population to increase their capital and assets. Conversely Taylor's (1996) study in Mexico revealed that population mobility undermined the traditional rural livelihoods and social institutions by removing healthier, young, energetic and educated people out of their areas of origin.

Exchange of goods between localities is another area for the existence of spatial flows. This can be conducted between different localities which include rural-rural, rural –urban, rural-international and vice versa (Krugman, 1991). Kilimanjaro region is engaged in cultivation of both annual crops such as maize, beans, fruits, vegetables and permanent crops such as bananas and coffee which are marketed within the region, in the country and abroad. According to U.R.T. (2007) census for agriculture, Moshi Rural District produced 3,519 tons of maize, 1,118 tons of beans and 165,222 tons of bananas, all of which were sold in local markets and elsewhere. In return, the rural households purchased commodities such as soap, kerosene, salt and agricultural inputs from the local marketing areas (weekly markets) and large urban centers. Due to the growth of monetary power in the region, the cultivated crops were being sold to traders who took them to other regions. The impact of flow of goods, particularly food crops, changed the people's livelihoods in Kilimanjaro Region in general and Moshi Rural District in particular. It is hypothesized there from that flows of goods and people from Moshi Rural District to other parts of the region and towns in other regions in Tanzania and beyond resulted into changes in people's livelihood.

Although spatial interaction has taken place in Kilimanjaro region for several decades, the extent to which the flow of commodities has impacted on the people's livelihoods in Moshi Rural District has not been investigated. Therefore, this

study aims at investigating the impact of spatial interaction of commodities on people's livelihoods in Moshi Rural District, Kilimanjaro region, Tanzania.

2. Materials and Methods

The study took place at Moshi Rural District. The area was selected due to the following reasons: Firstly, people of Moshi Rural District are heavily dependent on the cultivation of permanent and annual crops. This is evidenced by 2003 agriculture survey which revealed that the district planted 262,751 hectares of maize and beans 46,429 hectares of bananas whose outputs were largely marketed internally and externally (U.R.T, 2007). The quantity of annual and perennial crops produced was quite high in comparison to other regions and it may have influenced the livelihood changes of people.

For Quantitative data the Multi- stage random sampling technique was employed to select the sample. Firstly, Kothari (2004) recommended that for a sample to be representative it should be at least 10% of the entire population. Moshi Rural District had 31 wards. Thus, three wards which were Mwika Kusini, Kirima and Mbokomu were selected using the table of random numbers. Secondly, the sampled wards had 1I villages in which about eighteen percent (18%) of the villages in each ward were randomly selected without replacement. This procedure yielded six (6) villages, which were Kiruweni and Kondeni in Mwika Kusini ward, Tema and Korini Juu in Mbokomu ward and Kirima Kati and Kirima Juu in Kirima ward as shown in Table 1 below.

Thirdly, there were 4563 households in the six villages. 10% of the households were randomly selected without replacement. This procedure produced 456 households. Each village contributed 76 households to the sample. A household formed a unit of analysis and the head of household was the targeted interviewee.

Name of Wards	Selected Villages	Number of Household	Sample Size (10%)
Kirima	Kirima Kati	758	76
	Kirima Juu	755	76
Mbokomu	Tema	764	76
	Korini Juu	763	76
Mwika Kusini	Kondeni	764	76
	Kiruweni	759	76
Total		4563	456

Table 1: The Sampled Wards, Villages and Sample Size

The qualitative data were obtained through the use of In-depth interviews which were conducted to the key informants who consisted of church leaders, ward officials and village officials. Also, six focus group discussions were conducted to the six villages. The focus group discussions were made up of three males and three females.

The study used both primary and secondary sources of data. Secondary data comprised data obtained from books, journals, reports, files, publications, brochures; unpublished materials while primary data included the data were collected through questionnaires, interviews, direct observation and focus group discussion. Quantitative data analysis which was obtained using questionnaire was conducted by using Statistical Package for Social Science (SPSS) computer software. Multiple response questions were coded for multiple response analysis for the open- ended questionnaires. The results are presented using frequencies, percentage distribution, tables, and histograms graphs. Flow line maps were drawn using volumes the dominant commodity to various destinations.

3. Results and Discussion

3.1. Demographic Characteristics of the Study Population

3.1.1. Age and Sex of the Respondents

Age and sex composition of a population is the most important social parameter, since it determines issues associated with dependency ratio, labour supply, marital status, and migration. Also, social services allocations such as schools, dispensaries, housing as well as transport facilities depend largely on this variable (Hossain, 2001).

The surveyed population in this study was composed of 456 households which were surveyed in Moshi Rural District (areas of origin). The study's finding shows that in the surveyed villages (Kirima Juu, Kirima Kati, Kiruweni, Kondeni, Tema and Korini Juu) the total rural population was 456, where by 182 (39.9%) were males and 274 (60.1%) females. It further showed that there were higher concentration of mid age and elderly people of the age 50-59 and 60-69 years respectively. Also, this group (elders) might be comprised of the retirees from their employment who decided to return home after retirement and engaging themselves in agriculture practices.

Wards	Kirima		Mbokomu		Mwika Kusini		Study Area
Villages	Kirima Juu	Kirima Kati	Korini Juu	Tema	Kondeni	Kiruweni	
Age	(n=76)	(n=76)	(n=76)	(n=76)	(n=76)	(n=76)	N=456
30-39	7.9	9.3	7.9	9.3	10.5	7.9	8.5
40-49	18.4	19.7	15.8	21.1	11.8	22.4	18.2
50-59	26.3	28.9	23.7	26.3	19.7	15.8	23.5
60-69	25.0	14.5	27.6	25.0	30.4	27.6	25.3
Above 70	22.0	27.6	25.0	18.4	27.6	23.6	24.5
Total	100.0	100.0	100.0	100.0	100	100.0	100.0

Table 2: Age of the Respondents

3.2. Household Size

Household size was another vital factor to study since it determines the characteristics of labour supply in economic activities such as agriculture, production patterns as well as consumption patterns within the household (Mwisomba and Kiilu, 2002). The information on household size was of great significance in this study because the larger the household size, the larger the pressure on land and other productive resources owned by the household.

Wards	Kirima		Mbokomu		Mwika Kusini		Study Area
Villages	Kirima Juu	Kirima Kati	Korini Juu	Tema	Kondeni	Kiruweni	
H/H Size	(n=76)	(n=76)	(n=76)	(n=76)	(n=76)	(n=76)	N=456
1-3	50.0	38.2	43.4	46.1	52.6	48.7	46.5
4-6	44.7	46.1	43.4	44.7	42.1	47.4	44.7
7-9	5.3	15.8	11.8	5.3	5.3	2.6	7.7
Above 10	0.0	0.0	1.4	3.9	0.0	1.3	1.1
Total	100.0	100.0	100.0	100.0	100	100.0	100.0

Table 3: Household Size of the Rural Households

As it is indicated in Table 3, the majority of the respondents in the rural areas had household size of 1-3 members (46.5%); followed closely by 4-6 household size (44.7%), while the household with above 10 were very few. When the data in the 1-3 members were analysed based on the study villages, Kondeni village had the highest household size as it presented (52.6%), followed by Kirima Juu and Kiruweni which had 50.0% and 48.7%, respectively. Tema and Korini Juu had 46.1% and 43.4%, respectively while Kirima Kati contributed about 38.2% of the total population.

Generally, the findings on household size were contradicts several studies in the developing countries which have revealed that rural households were larger and more complex than urban households because of strong kinship links, and the nature of the subsistence economy. According to Hoddinot (1992), large households in developing countries were welcome because they help in cultivating more land with the help of extra children and wives. He also pointed out that, large households in most rural areas in the developing countries were considered as insurance for old age and prestige. The reason behind that contradiction was based on the existence of youth migration in the study area which left out the elderly population only with few or no extended family members.

3.3. Major Sources of Household Income

People in the six studied villages generated income through various sources which included selling of food crops, cash crops, livestock, employment and others. The major sources of household income are presented in Table 4

Wards	Kirima		Mbokomu		Mwika Kusini		Study Area
Villages	Kirima Juu	Kirima Kati	Korini Juu	Tema	Kondeni	Kiruweni	
Major Sources	Responses (135)	Responses (133)	Responses (153)	Responses (163)	Responses (147)	Responses (147)	Responses (878)
Food crops	49.6	56.4	45.8	42.0	48.3	48.3	48.0
Cash crops	31.9	29.3	35.3	28.0	31.3	35.4	31.9
Livestock	17.1	13.5	17.6	26.0	17.7	15.0	18.0
Others	0.7	0.8	0.7	0.6	1.4	0.7	0.8
Employment	0.7	0.0	0.7	3.7	1.4	0.7	1.3
Total	100.0	100.0	100.0	100.0	100	100.0	100.0

Table 4: Major Sources of Household Income

When the respondents were asked to mention the means they used to generate income in their households, the majority (48.0%) reported they generated income through selling food crops cultivated in their households. About 56.4% were from Kirima Kati village, followed by Kirima Juu village 49.6% whereas Kondeni village and Kiruweni had 48.3% each, while Korini Juu and Tema villages had 45.8% and 42.0%, respectively. On the other side generating income through other activities such as petty trading, selling local beer and working as casual labourers had a minimal representation in the six studied villages. This category contributed 0.8%; with Kondeni village having 1.4% while Kirima Juu, Kirima Kati, Korini Juu, Tema and Kiruweni were represented by an average of 0.7%.

4. Flow of Commodities

4.1. Rural-Rural Flow of Commodities

As far as the flow of commodities was concerned in the study area, several markets which were located in the highlands, middle zone and lowlands which were used by the rural population. Observation showed that the rural markets operated weekly. These included Mwika, Himo, Kibosho, Sahoni and Kidia which are found within the study area (Figure

The crops which were marketed in those weekly markets included bananas, maize, beans and avocados. Coffee produced in the study area was sold to the cooperative societies and private trading companies which are located in the study area. The quantity sold for each crop was converted into tones whereas 1000 kg was converted into 1 tone (Figure

The findings revealed that bananas ranked the first among the commodities flowing from rural households to other rural market, followed by maize and avocadoes, while beans occupied the last position. For the analysis of this paper only the dominant crop will be considered.

As Figure 1 show, Mwika market was the leading rural market where bananas were sold by most of the rural households in the study area. This was clearly revealed when four out of the six villages complied to have transacted with that market, selling an average of 53.15% of the total bananas produced in their households. Kondeni had (96.5%), Kiruweni (94.4%), Korini Juu (15.9%) and Kirima Juu had (5.8%). The Kidia market had the minimum amount of bananas sold there. Maize was mostly sold at the Mwika market. This was reported by Kondeni village (88.9%), Kiruweni (93%), Korini Juu (100%) and Kirima Juu (51.2%). The remaining two villages (Kirima Kati and Tema) did not sell their maize product in any of the rural markets located in the study area, thus they transacted with urban markets.
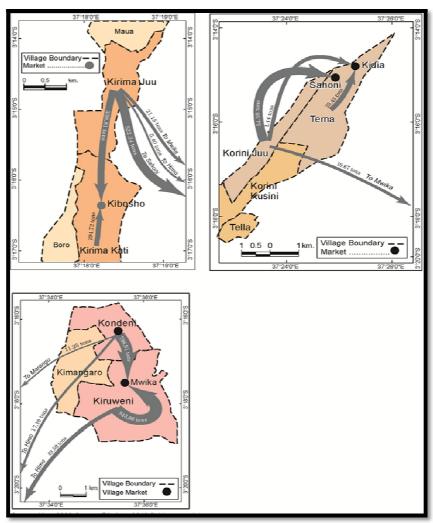

Figure 1: Source 2012 Census EA Data and Field Survey

4.2. Rural-Urban and International Flow of Commodities

The findings further showed that rural households sold their food crops to the urban markets which are located inside and outside the study area. This was influenced by high demand of those food crops to urban areas. Also, the rural households had the capacity to produce surplus food, hence enabling them to sell the surplus to those urban markets. In the study area, the rural households sold their food crops to Kiboroloni (urban market), Moshi town as well as Arusha and Dar es Salaam Cities. The main food crops sold to these urban markets included bananas, maize, beans and avocados (Figure 2)
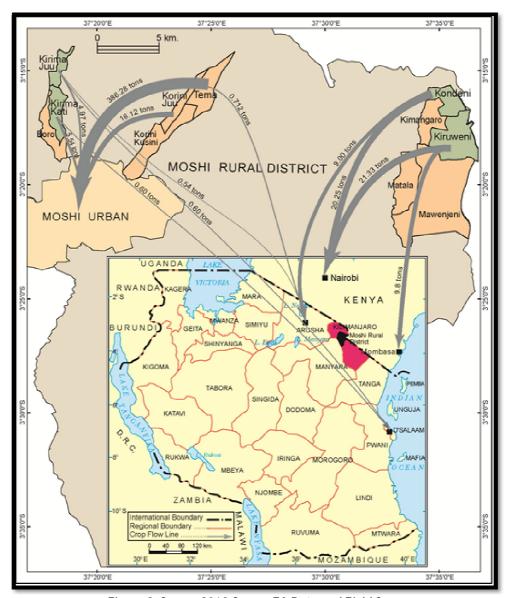

Figure 2: Source 2012 Census EA Data and Field Survey

Figure 2 show that rural-urban movement of commodities was another element of flow of commodities which was found in the study area. This type of interaction was acknowledged by 29.0% of the respondents who agreed to have transacted with different market centers located in the urban areas, including Kiboroloni, Moshi town, Arusha and Dar es Salaam. Out of the total surveyed households in the six study villages, the main food crops which were sold to the urban markets were bananas, followed by maize and avocados, while beans held the last position. A village-wise analysis showed that four out of six villages sold their food crops in the urban markets particularly Kiboroloni (urban market), Moshi town, Arusha and Dar es Salaam. These villages were Tema, Korini Juu, Kirima Kati and Kirima Juu where bananas, maize and beans were sold to the urban markets. Only two villages out of six sold their bananas to Arusha markets city. These villages were Tema and Kirima Juu. Also, Kirima Juu and Kondeni were reported to sell their food crops, particularly bananas and avocados to Dar es Salaam city. Generally, the villages which transacted with urban market complement Ullmans (1980) principle of complementarity where the rural areas are capable of producing at an excess and so sold to urban markets. Also, the existence of efficient transport system which linked the rural areas to urban markets (Kiboroloni, Moshi town Dar es Salaam and Arusha encouraged the flow of commodities to those markets. Moreover, the flow line map in Figure 5.3 revealed that among the commodities produced in Moshi rural district banana in particular were not sold to the regions which were far from the study areas such as Kagera and Mbeya regions since these regions produced the same commodities and the cost of transportation might be very expensive because of distance. Hence banana was sold to the

regions which are proximal and accessible to the study area. A different observation was made at Kiruweni village, which did not transact with the urban markets at all. This was due to the fact that it was located near Mwika market, which is the largest market point in the interior with many merchants from different areas

4.3. Rural-International Area Flow of Commodities in the Study

This type of flow included the movement of food crops to the international countries particularly to Kenya in (Mombasa and Nairobi cities). Among the food crops sold in Kenya were bananas, maize, beans and avocados Table 5 presents the flow of commodities from rural areas to international markets.

Food Crops Transacted									
Wards	Origin (Villages)	Destinations	Bananas		Maize		Beans		Avocados	
			Tons	%	Tons	%	Tons	%	Tons	Tons
Mwika Kusini		Mombasa	0	0	0	0	0	0.0	0.24	100.0
		Nairobi	20.25	100.0	0.30	100.0	0	0.0	0	0
	Kondeni	Total	20.25	0	0.30	100.0	0	100.0	0.24	100.0
		Mombasa	21.33	68.7	0	0.0	0	0.0	5.40	100.0
		Nairobi	9.68	31.3	2.5	100	0	0.0	0	0.0
	Kiruweni	Total	31.01	100	0	100	0	100.0	5.40	100.0
Mbokomu		Mombasa	0	0.0	0	0.0	0	0.0	0	0.0
		Nairobi	0	0.0	0	0.0	0	0.0	0	0.0
	Tema	Total	0	0.0	0	0.0	0	0.0	0	0.0
		Mombasa	0	0.0	0	0.0	0	0.0	0	0.0
		Nairobi	0	0.0	0	0.0	0	0.0	0	0.0
	Korini Juu	Total	0	0.0	0	0.0	0	0.0	0	0.0
Kirima		Mombasa	0	0.0	0	0.0	0	0.0	0	0.0
	Kirima Kati	Nairobi	0	0.0	0	0.0	0	0.0	0	0.0
		Total	0	100.0	0	100.0	0	100.0	0	100.0
		Mombasa	0	0.0	0	0.0	0	0.0	0	0.0
	Kirima juu	Nairobi	0	0.0	0	0.0	0	0.0	0	0.0
		Total	0	0.0	0	100	0	100.0	0	100

Table 5: Flow of Food Crops Commodities from Rural Households to International Markets

Table 6 shows that only two villages were transacting internationally. These are Kondeni and Kiruweni, which transacted business with Mombasa and Nairobi city markets in Kenya. The main crops sold to these international markets were bananas, maize, and avocadoes. When the data were analyzed village-wise, the findings showed that Kondeni village sold to Nairobi the bananas produced, while avocados were sold to Mombasa. Kiruweni village, on the other hand, sold 68.7% of the bananas to Mombasa, 31.3% to Nairobi. Avocadoes produced in Kiruweni village were sold to Mombasa city only. Additionally, the remaining four villages did not transact business with the international markets.

5. Impacts of flow of Commodities to People's Livelihoods

5.1. The Role of Flow of Goods and People in Changing the People's Livelihood

In assessing the role of the flow of goods in changing the people's livelihoods in the study area, the respondents were asked if they had observed any role in their lives as results of flow of good and people. The findings revealed that the rural households had been able to create viable livelihood through selling of food crops.
- Amount of Money Earned After Selling the Crops Commodities Produced in Rural Markets, Urban and International Markets

The amount of money earned by the rural households after selling their crops to rural markets, urban and International market is presented in Table 6 below.

Crops Produced and Sold							
Wards	Villages	Markets	Bananas	Maize	Beans	Avocados	Coffee *
Kirima	Kirima juu	Mamba Kisambo	0	0	0	0	
		Mwika	35,955,000	12600	0	0	
		Himo	9,180,000	7200	0	0	
		Kibosho	575,968,500	4800	0	0	
		Sahoni	887,978,000	0	0	0	
		Kidia	0	0	0	0	
		Total	1,509,081,500	24,600	0	0	16,318,000
	Kirima Kati	Mamba Kisambo	0	0	0	-	
		Mwika	0	-0	0	-	
		Himo	0	0	0	-	
		Kibosho	331,015,500	75000	0	-	
		Sahoni	-	0	0	-	
		Kidia	-	0	0	-	
		Total	331,015,500	75,000	0	0	35,840,000
Mbokomu	Tema	Mamba Kisambo	0	0	0	0	
		Mwika	0	0	0	0	
		Himo	0	0	0	0	
		Kibosho	0	0	0	0	
		Sahoni	0	0	0	13500	
		Kidia	43,222,500	0		12000	
		Total	43,222,500	0	0	25500	19,582,000
	Korini Juu	Mamba Kisambo	0	0	0	0	
		Mwika	18,130,050	7200	4500	0	
		Himo	0	0	0	0	
		Kibosho	0	0	0	0	
		Sahoni	92,794,500	0	0	600,000	
		Kidia	2,448,000	0	0	0	
		Total	113,337,300	7,200	4500	600,000	17,456,000
Mwika Kusini	Kiruweni	Mamba Kisambo	0	0	0	0	
		Mwika	143,222,000	243,600	64500	17000	
		Himo	84,303,000	18600	0	14500	
		Kibosho	0	0	0	0	
		Sahoni	0	0	0	0	
		Kidia	0	0	0	0	
		Total	1,518,525,000	262,200	64 500	31,500	80,678,000
	Kondeni	Mamba Kisambo	19,125,000	1,800,000	0	0	
		Mwika	1,354,738,500	37,800,000	2,400,000	515,000	
		Himo	29,223,000	2,940,000	0	0	
		Kibosho	0	0	0	0	
		Sahoni	0	0	0	0	
		Kidia	0	0	0	0	
		Total	1,403,086,500	42,540,000	2,400,000	515,000	47,888,000

Table 6: Amount of Money Obtained from Selling the Crops Commodities in Rural Market

Study Area			Amount of Money Earned			
Wards	Villages	Markets	Bananas	Maize	Beans	Avocados
Kirima	Kirima juu	Kiboroloni	4,862,000	69,000	-	13,000
		Moshi town	3,581,000	72,000	-	5,500
		Arusha	918,000	-	-	-
		Dar es salaam	1,000,000	-	-	-
		Total	10,381,900	141,000	0	18,500
	Kirima Kati	Kiboroloni	3,520,000	-	13500	7,000
		Moshi town	5,914,300	60,600	24,000	15,500
		Arusha	-	-	-	-
		Dar es salaam	1,002,000	-	-	-
		Total	10,436,300	60,600	37,500	22,500
Mbokomu	Tema	Kiboroloni	536,112,000	10,200,000	6,150,000	4,560,000
		Moshi town	120,564,000	720000	-	8,520,000
		Arusha	1,210,400	-	-	-
		Dar es salaam	136,000	-	-	-
		Total	658,022,400	10,920,000	6,150,000	13,080,000
	Korini Juu	Kiboroloni	26,266,700	69,000	-	-
		Moshi town	1,132,200	33600	-	-
		Arusha	-	-	4500	-
		Dar es salaam	-	-	-	-
		Total	27,398,900	102,600	4500	0
Mwika Kusini	Kiruweni	Kiboroloni	-	-	-	-
		Moshi town	-	-	-	-
		Arusha	-	-	-	-
		Dar es salaam	-	-	-	-
		Total	0	0	0	0
	Kondeni	Kiboroloni	-	-	-	-
		Moshi town	-	-	-	-
		Arusha	I5300000	-	-	-
		Dar es salaam	-	-	=	300000
		Total	15,300,000	0	0	300,000

Table 7: Amount of Money Obtained from Selling the Crops to Urban Markets

Study Area			Crops Produced and Sold			
Wards	Villages	Markets	Bananas	Maize	Beans	Avocados
Kibosho	Kirima juu	Mombasa	0	0	0	0
		Nairobi	0	0	0	0
		Total	0	0	0	0
	Kirima Kati	Mombasa	0	0	0	0
		Nairobi	0	0	0	0
		Total	0	0	0	0
Mbokomu	Tema	Mombasa	0	0	0	0
		Nairobi	0	0	0	0
		Total	0	0	0	0
	Korini Juu	Mombasa	0	0	0	0
		Nairobi	0	0	0	0
		Total	0	0	0	0
Mwika Kusini	Kiruweni	Mombasa	36,261,000	0	0	2,700,000
		Nairobi	16,447,500	1,500,000	0	0
		Total	52,708,500	1,500,000	0	2,700,000
	Kondeni	Mombasa	0	0	0	120,000
		Nairobi	34,425,000	510,000	0	0
		Total	34,425,000	510,000	0	120,000

Table 8: Amount of Money Obtained by the Rural Households after
Selling Food Crops to International Markets

It was found that the rural household got income from selling food crops produced in their households. The income came from selling crops to rural, urban and abroad markets. The findings in Table 6a,6b and 6c clearly revealed that rural households in the study villages obtained livelihood outcomes in the form of money, which ranged from Tshs 7,500 to 1,518,525,800 per year, after selling their crop. When the same findings were analyzed basing on the study villages, it was revealed that the majority of the rural households obtained high income through the selling of bananas. Kiruweni village being the leading one by generating (Tshs.1, 518,525, 000/=), followed by Kirima Juu and Kondeni villages which created Tshs. 1,509,081,500 and 1, 403,086,500/= while Korini Juu and Tema villages got Tshs.11, 337,300/= and Tshs. 43,222,500/= was maize. This was found in Kondeni village household members who obtained Tshs.42, 540,000/=, followed by Kirima. Kati and Kiruweni villages which generated Tshs.262, 200/= and 75,000/=, respectively. Korini Juu and Kirima Kati villages had represented the smallest amount of money earned after selling maize Tshs. 75,000/= and 7,200/= respectively. Avocadoes were the last food crop in generating income to the studied rural households as it was sold to the rural markets. As a result of selling avocadoes Korini Juu households obtained Tshs.600, 000/=, followed by Kondeni (515,000/=) while Kiruweni and Tema villages got Tshs 31,500/= and 25,500/= respectively.

Again, the study also found out that the rural households in the study area obtained money by selling their food crops to the urban markets. The amount of money obtained varied from Tshs 4,500/= to 658,022,400/= per year. Village wise, the analysis of data found that bananas were the leading food crop in generating income to the rural households from urban markets. These villages were Tema which generates Tshs. 658,022,400, followed by Kondeni Tshs 15,300,000/=. Kirima Kati and Kirima Juu sold Tshs. 10,436,300/= and Tshs.10, 381,900/= respectively.

On the other hand, beans were the last income generating food crop from the rural households sold to the urban markets. Tema village generated Tshs. 6,150,000/= by selling the crops. It was followed by Korini Juu and Kirima Kati villages which generated Tshs.450, 000/= and 37,500/= respectively, while Korini Juu generated the smallest amount of Tshs.4, 500/=.

The study further found out that, the rural households in the study area generated income from selling their crops to international markets. As it is shown in the Table 7.3 the rural households obtained money which varied from Tshs 120,000/= to 36,261,000/= from abroad marks. The study's findings from the studied villages showed that selling of bananas to abroad markets brought more income. This fact could be clearly seen in Kiruweni (Tshs.52,708,500/=), while Kondeni village got 34,425,000/=. Also, the selling of avocados created Tshs. 2,700,000/= in Kiruweni, and Tshs 120,000/= for Kondeni village

Generally, the study found out the rural households obtained a substantial amount of income from selling the crops produced at their homestead. When the average income is calculated based on the study villages, Kondeni generated Tshs. 12,238,421, followed by Kirima Kati and Kirima Juu villages with Tshs.9,894,957 and 5,710,643. While Kiruweni and Tema villages generated Tshs.3, 598,436 and 1,745,419. Korini Juu villages occupied the last position by generating Tshs 1,376,354.

5.2. The Use of Money Obtained from Selling Crop Commodities

The money obtained after selling the crops had some impact in changing people's livelihood in the study area as it was presented in Table 9.

Wards	Kirima		Mbokomu		Mwika Kusini		Study Area
Villages	Kirima juu	Kirima kati	Korini juu	Tema	Kiruweni	Kondeni	
The use of money	Responses (220)	Responses (12)	Responses (210)	Responses (231)	Responses (211)	Respones (208)	Respones (1292)
Buying food	27.5	28.8	27.6	22.5	25	25	26.0
Taking care the farm	10.9	7.2	8.6	5.6	10	11.8	9.0
Normal uses at home	23.7	15.8	19	24.7	18.6	22.2	20.8
Education expenses	19.9	20.2	19.5	19	20	21.2	19.9
Treatment	14.2	18.8	12.9	11.3	9.1	11.3	12.8
building/house repairer	1.4	4.3	4.8	6.5	5.4	3.7	4.4
Saving	2.4	3.4	1.0	1.3	3.2	2.4	2.3
Purchase farm inputs	0.0	1.5	2.4	3.5	5.5	0.0	2.2
Investments	0.0	0.0	4.2	5.6	3.2	2.4	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 9: The Use of Money Obtained after Selling the Crops
N.B the Total Adds To More Than 76 Due To Multiple Answers from Respondents

The findings in Table 9 above revealed that the flow of goods had a role on changing the people's livelihood since the rural households were able to utilize the money to acquire various livelihoods asserts. The main livelihood assets included those which were associated with nutrition (buying food, and normal uses at home), physical assets (investing in building house, medical bills, purchasing farm inputs and taking care farms) as well as acquiring financial assets, which included different savings. At Village wise, analysis of the data showed that the majority of respondents in the study sites were able to purchase food for household consumption, as it accounted for 26.0% of the total responses. Kirima Kati and Korini Juu villages had the highest proportion of (28.8% and 27.6%), followed by Korini Juu village with 27.5%. Kiruweni and Kondeni villages were represented by 25.0% each, while Tema village had 22.5% of the money spent on food. On the other hand, the use of money in purchasing farm inputs had a very low representation in all the study villages, as it was represented by the mean average of 3.2% in the four villages (Kirima Kati, Korini Juu, Tema and Kiruweni villages). These findings were supported by findings obtained by Kwabena and Asiendu (2011) in their study in Ghana which found out that farmers' income was usually spent in households' necessities which included purchasing staple foods, items and snacks. Also, a considerable amount of income generated was spent on education, medical bills, clothing, fuel, transportation and accommodation. Similarly, some of the incomes were used for social issues in the community.

6. Conclusion and Recommendation

The study concluded that spatial flows of commodities had an impact on changing people's livelihoods in the study area. This is because the money obtained through remittances and selling of food crops was utilized in acquiring livelihood assets such as food, normal uses at home, covering medical bills and educational expenses, constructing/house repair, saving, purchasing farm inputs as well as investment. The study recommends that there is a need for the government to work in collaboration with other development stakeholders in order to create an enabling environment for effective and efficient marketing of agricultural and other products, from the rural economic activities. This can be achieved, through the formation of farmers' groups so that crops produced are certified by international organization so the crops to be purchased at good prices Moreover the central and local governments should strengthen the infrastructures system particularly roads in order to simplify transportation of commodities from the rural households to urban areas as well as to international countries.

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