Rural –Urban Migration and Subsequent Land Management Practices in Moshi Rural District, Tanzania

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Abstract

This paper examined the impact of rural urban migration on land restoration and management in Moshi rural District. The paper is based on the study carried out in Mkolowonyi, Tema and Otaruni villages. Both qualitative and quantitative techniques were employed in collecting, managing and analysing data. Questionnaire were used to collect quantitative data while focus group discussion, indepth interviews and direct observation were employed to collect qualitative data. A total number of 100 householdswhich representing 5% of 1819 household swere was selected as a sample. Also 5 key informants and about 17 members were purposefully selected for 3 focus group discussions. Descriptive and thematic data analysis techniques were employed. Findings show that rural urban migration has both positive and negative impacts on land management. It reduces pressure on land resource, and improves land management practises through funds provided by the migrants, employing temporary labourers and introducing new crop varieties. The study recommends that rural - urban migration should be seen as an opportunity instead of a problem. Thus there is a need to encourage positive linkage between rural migrants and counterparts in rural areas in order to boost community development.

Keywords: Migration, environment, impact, rural-urban.

Introduction

According to Neo Malthusian perspective, there is an inverse relationship between population and land use (Maro, 1974). The existence of this relationship between population growth in a particular ecosystem exert pressure on the prevalent land and the concomitant land shortage which leads to the change in land use as well as the pattern of using resources. As a response to land shortage, the land may be fragmented (Larson, 2001; Mallya, 1996). As a whole Mallya (1996) observed that changes in land use mainly in terms of agriculture intensification, increased pressure on land resulting into land shortage and fragmentation. As a result, some individuals responded to such

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impulses by diversifying economic activities to non-farm activities or they opted to out-migration.

Contrary to Neo-Malthusian perspective, other scholars like Tiffen and Mortmore (1994) also view population pressure as a resource. In their study conducted in Machakos District in Kenya, they revealed that the population increase can enhance environmental recovery provided that the market development makes farming profitable. Moreover, they saw that population growth generated new technology which supported the improvement of agricultural production as well as conservation of land

Rural-urban migration has also been prominent in some parts of Tanzania. This paper investigated the phenomenon in Kilimanjaro region where rural-urban migration can be traced back to the colonial era because of the establishment of large scale plantations in the region especially in Western Kilimanjaro (Spear, 1996). This led to migration to the lowland areas due to the displacement caused by land alienation. During post-independence era, the land that belonged to agro-pastoralists and pastoralists was allocated for game reserves and national parks. For instance, about 750 km² were taken and this caused massive dispossession of land which was followed by migration of local people outwards, especially to the lowlands (Mbonile 2005). Currently, rural-urban migration around Mount Kilimanjaro is caused by shortage of arable land as population pressure is too high in the region. Shortage of land is sometimes intensified by the local rules of land possession like inheritance, where a big portion of the family land (*vihamba*) is normally devoted to the last sons, while others are left virtually landless, making them experience livelihood hardships across the whole region (URT, 2000). Moreover, some people have the attitude of leaving their homeland to seek for greener pastures as revealed by 2002-2012 censuses in which 148,184 migrated out of the region (URT, 2015).

Rural to urban migration has diverse and complicated impacts on natural resource base of migrant sending communities. Studies conducted in South America and Africa suggests that migration may positively or negatively affect the environment of places of origin depending on specific social, economic, and biophysical circumstances (Bilsborrow, 2002). Rural to urban migration can reduce demands on food and water resources, and lead to less intensive farming or grazing. But in places with no excessive population pressure relative to carrying capacity, the loss of productive labor may disrupt the preceding human-nature balance and lead to serious environmental degradation (Bilsborrow, 2002). Moreover rural to urban migration can produce

environmental feedback effects in places of origin via factors such as remittances (income and goods sent or brought back by migrants to family members staying in the places of origin), return migration, and changes in the labor force activate the people left behind (Bilsborrow, 1992).

On one hand, remittances may relieve pressure on natural resources by allowing households to substitute purchased goods for locally produced goods, or by investing in environmentally-friendly production or resource conservation projects. Nonetheless, sometimes remittances may result in negative environmental impacts by increasing investment in environmentally destructive livelihood activities or deteriorating the indigenous knowledge systems that have traditionally guided the management of natural resources. Hence there are two opposing views on the environmental impacts of rural to urban migration (de Sherbinin et al. 2008).

One is that out-migration leads to labor shortage and thus threatens agricultural production as explained by Black (1993); Meanwhile Zimmerer (1993), Durand et al, (1996) and Taylor,et.al (1999).observed that remittances generated from migration can compensate for reduction of labor input and provide capital resources for agricultural improvement and land purchases Generally, studies have been conducted on the environmental impacts of migration in areas of destination, but relatively less have been conducted in areas of origin which is influenced with the existence of imbalance and the simple assumption that outmigration has positive effects on the environment in the places of origin due to the reduction of population pressure on local natural resources, while increased population tends to threaten the environment of destination areas. However, little evidence has been found to support this supposition, therefore, this study aimed at filling that gap of information from Moshi rural District.

Materials and Methods

The study was conducted in Moshi Rural District based on the fact that it is one of the districts in Tanzania which experiences land shortage, and that situation forms the basis for rural -urban migration for most people in the district. Administratively, Moshi Rural District has 31 wards. Three wards which were Kibosho Central, Vunjo East and Hai East were selected by using a table of random numbers from the District Executive Officer's list to ensure the representativeness of the entire district. The second stage was the selection of villages to be studied whereas all villages in each ward were assigned an identification number, and then one village was sleeted in each ward by using a table of random numbers (Systematic Random Sampling). Every fourth number

from the left and right was picked and compared to the identification. The identification number which was found to match with the fourth number in each ward was picked as a sample village. Figure. 1 shows the study area and sampled villages.

From the selected villages, village leaders prepared and provided a list of heads of the households. Otaruni village (Kibosho central ward) had 400 households, Tema (Hai East ward) had 679 households and Mkolowonyi (Vunjo East ward) had 740 households. It was assumed that having many households in the study area at least 5% of them, would be manageable and be representative for this study, as is suggested by Boyde et al (1981). The sample interval was obtained using the formula (K=N⁄n), where K= is sample interval, N= is population size and 'n' is a sample size, as summarised in Table 1. Through these procedures, both households with migrants and those with no migrants were included in the sample to establish a broad possible generalization. A total number of 100 households were selected as a sample from three villages. Both primary and secondary sources of data were used in collecting information. Primary data included data collected through questionnaires, interviews, and focus group discussions. The qualitative data were analysed using thematic analysis while quantitative data were analysed using descriptive statistics; particulary frequencies. Statistical Package for Social Science software (SPSS) was used to analyse the findings from questionnaires and land use respectivelly. The findings obtained were presented using tables, chats and figures

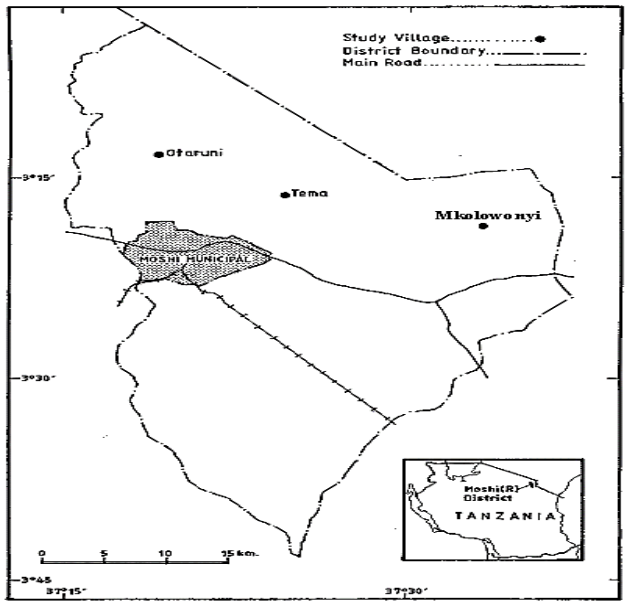

Figure 1: Map to show study area and villages

Table 1. Sample Population by Villages

Village	Number of households	Sample Interval	Number of Households selected	Percentages
Mkolowonyi	740	20	37	5
Tema	679	19	35	5.1
Otaruni	400	14	28	7.1
Total	**1819**		**100**	**5.4**

Source: Field Survey 2018

Results and Discussions

As an important variable in migration the study investigated the demographic characteristics of participants. As indicated by Hassan and Ogunkoya (2014) these are important variables in demographic studies as they show events associated with birth, death, migration, and labour force participation Starting with age, it was found that the age of household members varied between 15 and 60+ years. A sizeable number of the respondents (25.9%) were aged 60 and above while a small proportion of household members (29.9%) were in the age group of 20-58 years (see Table 2).

Table 2: Age of the Rural Household

	Male		Female		Total	
Age	**Frequency**	**Percent**	**Frequency**	**Percent**	**Total**	**Total%**
15-19	13	6.7	7	5.8	20	12.5
20-24	3	1.7	2	1.7	5	3.4
25-29	3	0.8	0	1.1	3	1.9
30-34	1	1.1	3	2.2	4	3.3
35-39	3	1.4	2	1.7	1	3.1
40-45	3	1.7	3	3.3	6	5
45-49	2	1.4	3	1.6	5	3
50-54	8	2.2	11	3.1	19	5.3
55-59	6	1.7	12	3.3	19	5
60+	38	10.6	55	15.3	93	25.9
TOTAL	**100**	**44.6**	**199**	**55.2**	**360**	**100**

Source: Moshi Rural District Survey 2018

Marital status of respondents is another aspect of vital importance to the study since marriage instability is one of the impacts of rural-urban migration, especially when the husbands opt to migrate to other places, leaving behind their wives. The results of the study showed that a reasonable proportion of household members (41.0%) were single while 56% were married and few (3.0%) were divorced.

Education as a liberating tool against poverty in developing countries was also of interest to the study. It was found that the majority of household members (73%) had primary education followed by 13.0% with secondary education. Moreover, about 3.0% of the respondents had attended adult and tertiary education respectively. In spite of a good number of schools in Kilimanjaro region, about 11.0% of the respondents had not gone through any formal education. Most people who comprised this group were old people who did not get education during the colonial period.

Rural Urban Migration and Land Management

Land management requires availability of labour in the household, capital, as well as farm inputs (Kivelia, 1997). When the respondents were asked if the rural-urban migration process had any effects on the land management, some respondents (38.4%) revealed that it reduced pressure on land, thus reducing the intensification of land use. The same results were observed by Bislborrow (2004) who contended that rural-urban migration has a positive impact as it

reduces pressure on the resources such as land. Another 35.8% of the respondents claimed failure to manage the land since land management requires active labour force and capital (see Figure 5.1). A small proportion of the respondents (9.9%) said that migration process led to the improvement of land productivity, due to the fact that the migrants do remit an average of Tshs. 112,640 per month to their rural homes and the money which is usually used in taking care of the land such as purchasing farm inputs and employing temporary labour to take care of the farms. This is similar to the study conducted by Mazambani (1990), Rozelle et al. (1999), Schmook and Radel (2008). Only 16% of respondents did not see any impact of rural-urban migration on land (Fig 2)

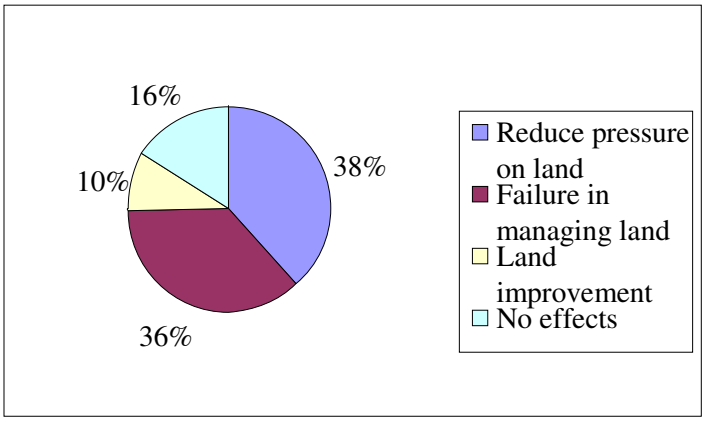

Figure 2 Effects of migration on land
Source: Moshi Rural District Survey 2018

In examining the impact of labour force on land, the findings revealed that some pieces of lands were not utilized for agricultural activities. This was reported by 17% of the rural respondents who had left parts of their lands bare, planted grass and trees or had been abandoned. Leaving the land unused resulted in the land conservation practices. On the other hand, about 83.0% of the respondents claimed to use all the land which implied continuous use of land, the situation which would lead to the intensification of agriculture and other land uses due to the absence of fallow period. Only a small proportion (5.0%) of the respondents said they sold or hired some parts of their land to other people because they could not manage it as there was no labour.

Further investigation was conducted to know if the migrants, though they lived in towns, did anything to make sure that their farms were cared for. The questions were administered to the care-takers of the migrants' farms whereby

48.1% said that the migrants provided funds for maintaining their farm, and only 5.6% of the migrants had employed workers to care for their farms temporarily (Table 3). In an attempt to investigate the amount of money provided by migrants one respondent from Tema village reported that;

"My son normally sends the average of Tshs 230,000 in a year for taking care of this farm.

I use the money for cultivating, irrigating and managing this farm that is why his farm is clean and healthy''.

This adds to what Fargues (1990) also observed in Sub-Saharan Africa that remittances sent by migrants are beneficial to the households as they can be used in purchasing the food, taking care of farms, invest in land purchasing farm inputs and hire labour.

Table 3 Migrants' Techniques to Maintain Their Farms in the Areas of Origin

Means of Maintaining	Respondents Frequency	Percentages
Provide funds	52	48.1
Provide farm inputs	16	14.8
Employ temporary workers	6	5.6
Don't provide anything	34	31.5
TOTAL	**108**	**100**

Source: Moshi Rural District Survey 2018

New Crops Introduced by the Migrants

It was further found that migrants introduced new crops in their places of origin. The types of new crops were used as a determinant of land management approach. This study found that 11% of the respondents in rural areas mentioned flowers for marketing to have been introduced by the migrants, 8.3% said that new types of coffee called kp 14 and bananas such as Kimalindi, have been introduced. Moreover, 5.5% of respondents said that migrants have introduced new fruit species in their houses while 2.8% mentioned sunflower and coconuts respectively. Due to lack of firewood in the homesteads 13.8% of the migrants had introduced new tree species, and some farms had been completely abandoned (Figure 3). Generally, the type of crops introduced by the migrants are very important in the management of land use as they ensure environmental conservation , food security and offers a new long standing

solution to soil erosion. This fact is also supported by Glover et al. (2007) who contends that perennial crops tend to have longer growing seasons and deeper rooting depths which interrupt, retain, and utilize more precipitation and thus they are important in environmental conservation practices.

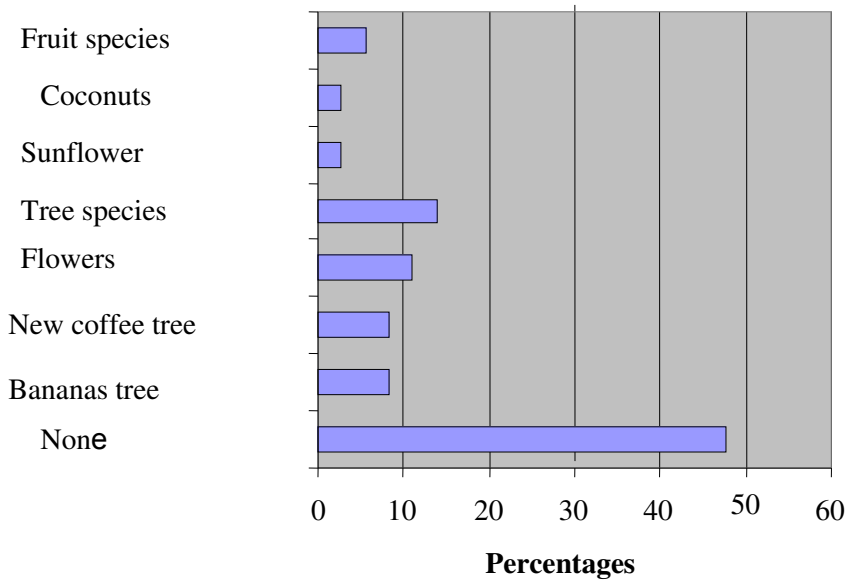

Figure 3 .New Crops Introduced by Migrants
Source: Moshi Rural District Survey

The *Fate of Uncared Migrants' Farms*

When asked on what happens to uncared farms, 21.8% of the respondents mentioned poor production of crops in those farms. This fact was attributed to the decline in soil fertility for there is no supply of farm inputs and lack of labour force since those left in rural areas cannot cope with heavy labour required to maintain crop production because most of them are old. Another 27.3% said that there were pests and diseases in the abandoned farms which spread to neighbouring crops like coffee and bananas. Commenting on this fact, one of the respondents lamented how his farm had been spoiled by pests and diseases from his neighbour's absentee farmer (migrant) farm;

'A*ll pests in my farm come from his farm. They have destroyed coffee and bananas.'*

A disease that attacks banana trees which is a staple food had made people change from eating bananas to *ugali* (thick maize flour porridge) which in the past was regarded as a foreign (*chasaka*) food. Another reasonable proportion of the rural respondents revealed the existence of weeds to the uncared migrant farms while 10.3% said that they do not know what happens to uncared farms. This is like what was observed by Mbonile, (1999) that the distance of migrants from the areas of origin limits their number of visits to their home areas and the

in-puts to the farms which results into the minimum care or abandonment of the migrants farms (see Table 4).

Table 4: The Fate of Uncared Migrants' farms

Effects	Respondents Frequency	Percentages
Poor crop production	36	21.8
Existence of pests and diseases	29	27.3
Bare farms	16	9.7
Loss of soil fertility	18	10.9
Do not know	17	10.3
TOTAL	**165**	**100**

Note: The total adds to more than 100 due to multiple answers
Source: Moshi Rural District Survey 2018

Migrants Contribution on Land Conservation

The presence of the household members is very important in land conservation and other related factors like intensity of farm inputs such as the use of fertilizers and irrigation. When asked on how migrants participated in conserving the land, 42.0% of the respondents said that the migrants provided advice on different ways of conserving soils such as using manure and mulching while (14%) of the respondents acknowledged the efforts made by migrants to make terraces to avoid soil erosion when they visit their areas of origin. Although Bhandari (2004) study in Nepal observed that rural to urban migration in Nepal leads to environmental degradation this study found out that the migrants participated in land conservation in their area of origin through the provision of advice, making terraces as well as providing money to take care their lands.

Table 5 Land Conservation Measures Taken by the Migrants

Activity performed	Respondents frequency	Percentages
None	26.0	16.6
Provide advice on different such as using manure and mulching	66.0	42.0
Making terraces to avoid soil erosion	22.0	14.0
Provide money to take care the land such as cultivating farms, wedding and paying labourers	43.0	27.4
TOTAL	**157**	**100**

Source: Moshi Rural District Survey 2018

Conclusion

The demographic characteristics of respondents indicated that the majority were adults aged above 28 years because of heavy out-migration of young population. In terms of marriage the majority were married and had completed primary education. Furthermore, the study concludes that rural-urban migration process has both positive and negative impacts on land management to the in the places of origin. Among the positive consequences includes reduction of pressure on land resource, improvement of land through the use of migrants remittances and introduction of new crop spices. However, the process has resulted into poor land handling due to lack of active labour. This eventually leads to the abandonment of farms/lands. The study recommends for comprehensive on the impacts of new crops established by the migrants on the environment and its contribution to the national economy as well as its importance in boosting the household economy.

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