Understanding Spatial Distribution of Informal Sector Activities for Income Poverty Alleviation: The Case of Iringa Municipality, Tanzania

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Abstract

This paper examines the spatial structure of urban informal sector activities in Iringa Municipality, Tanzania for poverty alleviation. Four types of UIS activities were used namely manufacturing, repair work, food vending and other services. Data collection was done in January- February 2010 using survey, in depth interview and observation techniques. The findings show that there was a statistical significant relationship between the type of informal sector activities and their locations in urban or mixed wards at $p < 0.05$ level. Using ArcView version 3.2, it was possible to calculate population densities for all the wards and identify a future urban ward. Thus the government should plan or provide space in the identified future urban ward for the development of urban informal sector activities particularly growth enterprises. This will contribute to poverty reduction in the municipality as more income will be obtained from the sector.

Key Words: Urban Informal Sector, ArcView

1.0 Introduction

Urban Informal Sector (UIS) activities are usually conducted by small or micro economic units that are mostly owned by families that use small labor forces and simple technologies (Yankson,2000). Also, they typically operate on a small scale at a low level of organization with little or no division between labor and capital as factors of production. Labor relations are mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees (UNCHS, 2001).

These UIS activities in most developing countries have increased considerably as governments have failed to provide adequate employment opportunities to its urban population due to among other reasons rapid urban population growth. Furthermore, as wages in the formal sector have declined following the adoption of structural adjustment programs, (Lugalla, 1997), many urban residents have resorted to UIS activities for survival and economic growth. Lupala (2011) points out that, in Tanzania in some urban centers 95 percent of urban labor force is employed in the UIS and URT (2002) notes that 61 percent of the total households in urban areas have informal sector activities.

Several reasons have been put forward to explain the widespread surge of activity in the UIS across urban Africa. One of them is the retrenchments in the public sector following reduced spending by governments. This has affected civil servants and skilled technicians who have been made redundant owing to restructuring or closure of public sector enterprises. Most of retrenched persons have been forced to operate UIS activities (Nwaka 2005). Declining real incomes is another reason as some urban residents who have experienced declining real incomes have resorted to UIS activities as one of the survival strategies. Hence, previously non-earning household members have joined the UIS as well as wage earners have taken on supplementary cash earning activities (Sheuya, 2004; Oluremi, 2003).

Generally, UIS activities can be divided into two broad groups namely survivalist and growth enterprises (Briggs et al. 1999; Parnwell and Turner 2001). Survivalist enterprises are enterprises that are established in urban areas so as to support the operators with the necessities of life. They include for example, open food vending, hawking and shoe polishing.

Growth enterprises are those that contribute to economic growth such as vehicle repair, welding and carpentry. Thus this paper examines the spatial distribution of both, survivalist and growth enterprises in Iringa Municipality.

This is particularly important because despite the expansion of the UIS activities, no or very few studies have looked at the spatial distribution of UIS in order to assist urban planning of informal sector activities. Thus this study aimed at filling this gap.

2.0 Theoretical Issues

In the 1950's and 1960's modernization theory was an important development strategy for the non industrialized countries (Rapley 1996; Martinussen, 1997). The theory aimed at explaining the social, economic, cultural and political aspects of development. This theory argued that the transition from agricultural and peasant societies to non agricultural societies in urban areas could be achieved by the non-industrialized countries to emulate the historical pattern of capitalist development, followed by the industrialized countries. It focused on increasing the output of manufacturing and services sectors through more capital investment so as to decrease the share of agriculture in employment and output. Urbanization was thus regarded as the outcome of industrialization and economic growth. The workers who were to be employed in the industries were to come from the rural agricultural sector. The expectation was that population growth would automatically adjust as modernization proceeded. Thus for most developing countries modernization was equated with industrialization.

However, experience has shown that the theory has not been very successful in most of the developing countries and particularly in Africa (Rumulika, 1996). The contribution of the industrial sector to the Gross Domestic Product (GDP) has been very low. Urbanization has been largely a result of net increase and net migration rather than industrialization (Ngara-Muraya,2001). Rural inhabitants have moved to urban areas partly because they perceive that urban areas have more employment opportunities and better facilities than rural areas. Thus lack of industrial expansion together with increased rural urban migration has led to increased UIS activities as survival and economic growth strategies in urban areas (Sheuya 2004). However, two main theoretical debates have emerged on the informal sector activities. One school of thought argues that: urban informal sector is a good example of a well functioning market-economy based on the rules of supply and demand and due to its flexibility and highly adaptive nature it is better placed to respond to external shocks (Nsana et al 1994)

The other school of thought points out that UIS is a pool of exploitative elements. Exploitation takes place between economically stratified layers of society as well as gender. The UIS is exploited as it supplies cheap and unorganized labor force to the formal sector (Lugalla 1997; Sethuraman 1997). Because of this reason it is argued the formal sector is deliberately unwilling to develop the informal sector and to aid their organization and fight for labor rights. This is also supported by the view held by some planners and government authorities, that the sector is an anomaly, a source of disorder, and an obstacle to the development of a modern economy. It is a transitory phase in the course of development, therefore it will wither away with time and economic progress (Lugalla, 1997; Nwaka, 2005). That being the case than there is no need of improving the Sector.

However, the first school of thought has been criticized because it has failed to understand the importance of social and political networks in the UIS activities (Lomnitz 1988) as the UIS is not largely based on the rules of demand and supply. The other school of thought has been criticized because it fails to understand that the UIS is not simply stratified along economic lines but also along political and social lines. Furthermore experience in developing countries show that UIS activities will not disappear in the near future.

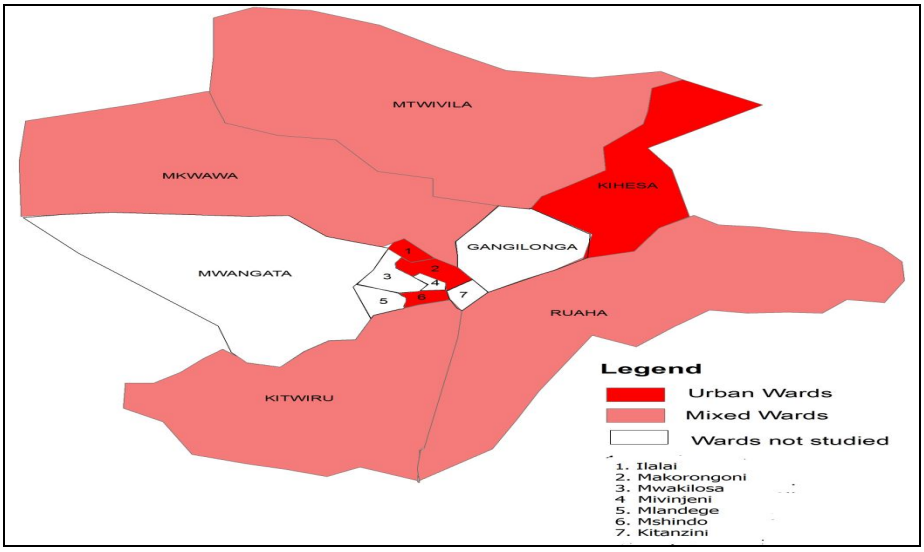
3.0 Materials and Methods

3.1 The Study area

Iringa municipality is one of the fastest growing urban centers in Tanzania where urban population accounts for 17.2 percent of the regional total population. It is located in Iringa region in the south western highlands of Tanzania. It has an area of 16 square kilometers and human population of 1,115,165 (URT, 2003). It is administratively divided into 14 wards and has 149 sub wards (*Mtaa*). The wards include Ilala, Kihesa, Gangilonga, Kitanzini, Mshindo, Mivinjeni, Mlandege, Kwakilosa, Mtwivila, Ruaha, Mwangata, Mkwawa, Makorongoni and Kitwiru.

These wards include urban and mixed wards. Using stratified random probability sampling method four mixed and four urban wards were picked.

The urban wards included Ilala, Kihesa, Mshindo, and Makorongoni. The mixed wards were Mtwivila Ruaha Mkwawa and Kitwiru (Map 1) Thus the sample size was 60 percent all the wards.



Map 1 Selected Mixed and Urban Wards in Iringa Municipality

Using a stratified random probability sampling method UIS operators to be interviewed in the different wards were selected. There were four major groups namely; small scale manufacturing, repair works, food vending and other services. Manufacturing and repair works represented growth enterprises and food vending and services represented survivalist enterprises. The small scale manufacturing in the UIS included carpentry, metal fabrication, shoe makers and brick making. Repair works included vehicle and electronic equipment repair. Food vending included at kiosk and open space, other services included hair dressers and tailors. A maximum of six UIS operators were interviewed from each sector making a total of 24 operators for each ward. However, not all the wards had all UIS activities. Thus wherever there were fewer operators than expected, total enumeration was used.

The study was predominantly based on empirical data collected through questionnaire. To complement the questionnaire derived data, in depth interview were conducted with a view to discover the spatial distribution of USI in the study area. Also secondary data from University library, relevant ministries were used.

4.0 Findings and Discussions

4.1 The Socio –Economic Characteristics of the Respondents

The study observed that 71.6 percent of the respondents were aged between 21 and 40 years and 21.1 percent were above 40 years and 7.2 percent of the respondents were under 20 years. This implied that UIS activities were carried out by different age groups including children and the elderly. However, the dominant group was that of between 21 and 40 years.

In terms of sex, the findings showed that 66.5 of the respondents were males and 33.5 percent were females. In terms of education, the findings showed that the UIS activities were performed by operators with different levels of education. The majority (73.3 percent) had primary education and 1.5 percent had non-formal education. This was particularly the case because most of the non-formal and primary school leavers could not get jobs in the formal sector and therefore had to resort to informal sector activities for their survival as well as economic growth. However, 21.1 percent had secondary education and 4.1 percent had post-secondary education.

In the case of marital status the findings showed that 70.1 percent of the respondents in the different sectors were married people.

This could be attributed to the fact that married people needed more income to support their families. Thus it was necessary for them to be involved in UIS activities so as to get the required income. However, there were also widows (1.5 percent) and single (28.4 percent) who were involved in the UIS activities (Table 1).

Table1. Socio Economic Characteristics of the Respondents

AGE	Number	Percent
1 - 20	14	7.2
21 - 40	139	71.6
< 40	41	21.1
Total	**194**	**100**
SEX		
Male	129	66.5
Female	65	33.5
Total	**194**	**100**
EDUCATION		
Non-Formal	3	1.5
Primary Education	142	73.2
Secondary Education	41	21.1
Post-Secondary Education	8	4.1
Total	**194**	**100**
MARITAL STATUS		
Married	136	70.1
Single	55	28.4
Widow/widower	3	1.5
Total	**194**	**100**

Source: Field Data 2010

4.2 Spatial Distribution of Urban Informal Sector Activities

4.2.1 Location of UIS activities

In terms of location, 14 percent of the respondents used open spaces owned by Iringa municipality so as to cut down operating costs as they were used free of charge. 75 percent used rented premises, 2 percent used their relatives and friends premises and 9 percent used their homes (Figure 1). However, it was observed that those who rented premises paid rents that ranged between 5000 Tshs to 25000 Tshs (1 USD = Tsh 1500) per room per month depending on whether water and electricity were available in the location or in the rented room. As regards to those who worked at home, Yeboah (2010) points out in the case of women it allows them to take care of their children but at the same time earn some income for their families. However, from the in depth interviews that were conducted it was clear that most of the UIS operators tended to locate their activities at strategic areas such as along urban roads where residents could easily access their goods or services.

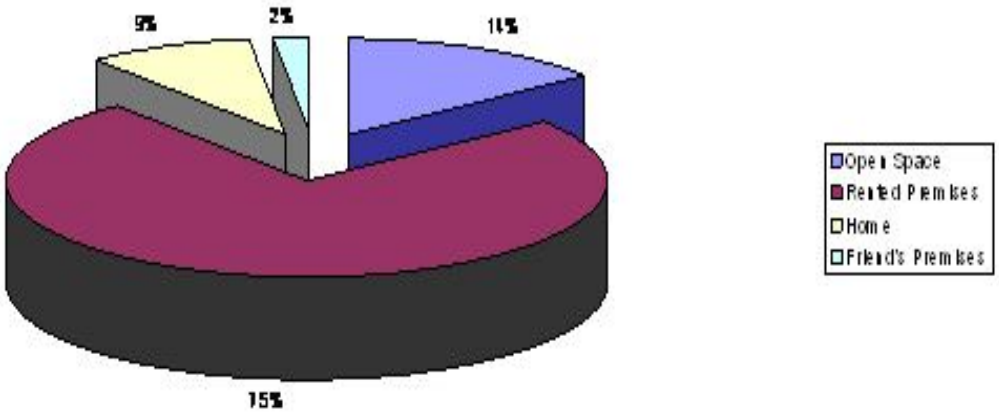


Figure 1: Location of the UIS activities in the municipality

4.2.2 Spatial Distribution of UIS Activities in Relation to Urban and Mixed Wards

The $\chi 2$ test showed that there was a statistically significant relationship between the spatial distribution of UIS activities and the type of wards that is whether it was urban or mixed. The mixed wards had mainly survival enterprises such as food vending (Plate 1), 64.9 percent and hair dressing 55.8.

Plate 1: Food Vending at Kiosk in Kihesa ward, Iringa Municipality
Source: Field Survey 2010**.**

Urban wards had most of the growth enterprises such as manufacturing (62.7 percent) and repair works (70.6 percent). The results were statistically significant at $p< 0.05$ level. (Table 2).

Table 2: The Relationship between Urban and Mixed Wards and UIS Activities

	Urban	**Mixed**	**Total**	**Urban**	**Mixed**	**Total**
Manufacturing	32	19	51	62.7	37.3	100
Repairing	24	10	34	70.6	29.4	100
Food vending	20	37	57	35.1	64.9	100
Service provisioning	23	29	52	44.2	55.8	100
Total	99	95	51.0	49.0	49.0	100
Pearson Chi square value	Value 14.765	Df 3	Asymp. Sig.p-0.002			

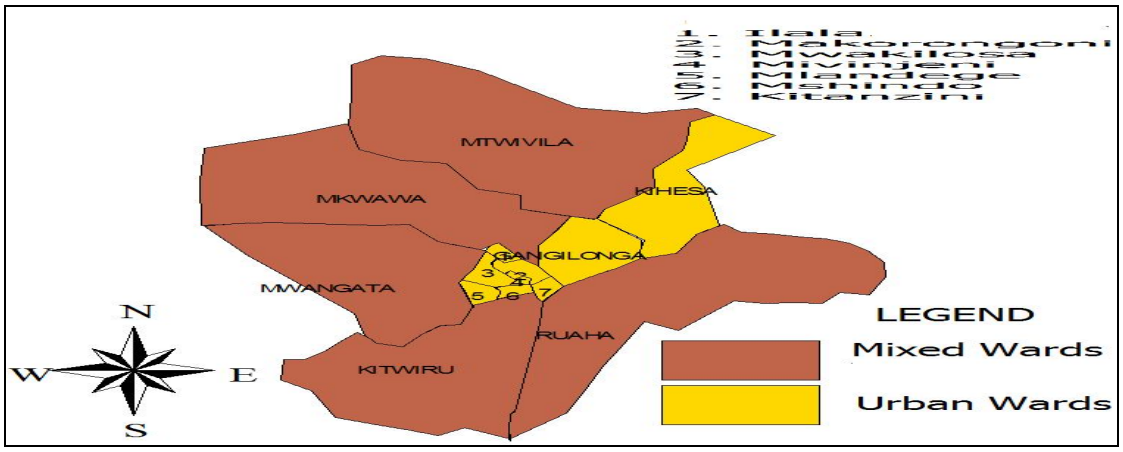
Source: Field data 2010

Using ArcView version 3.2 GIS program and Table 3 attribute data it was possible to identify urban wards as those which had population density above 200 persons per square kilometer. This is reflected in Map 2 which shows the current urban wards and mixed wards in Iringa Municipality.

Table 3: Ward Population Densities

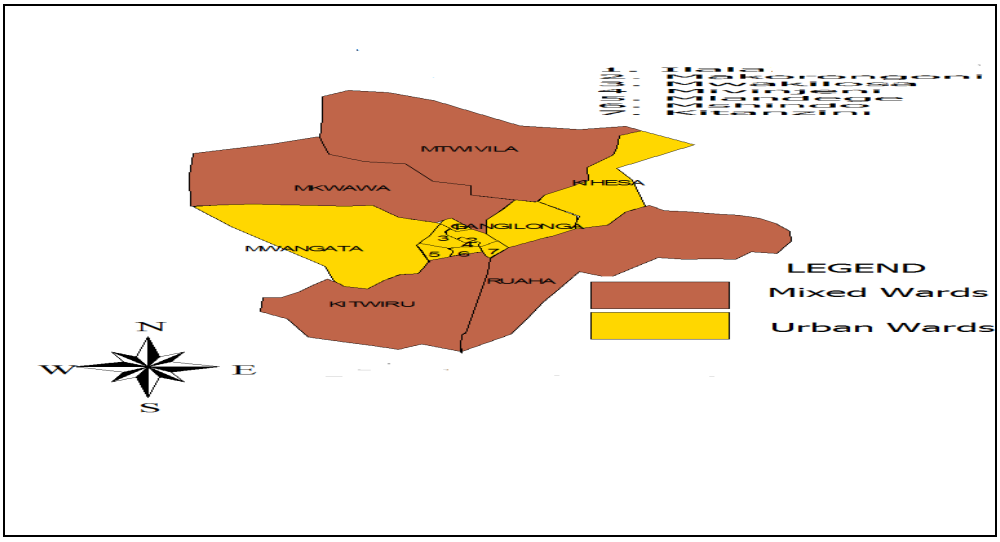
Ward Area Km2	**Population**	**Area**	**Km^2**	**Population Density**
Mtwivila	13519	189074.2	189	72
Mkwawa	7996	147341.6	147	54
Mwangata	11508	108225.9	108	107
Kitwiru	7198	134855.6	135	53
RUAHA	10829	160544.2	161	67
KIHESA	12417	51521.48	52	239
Gangilonga	9668	26992.65	27	358
Kwakilosa	6883	4999. 671	5	1377
Mlandege	4204	3616. 623	4.	1051
Mshindo .	1892	1964. 777	2	946
Mivinjeni	5180	1068. 314	1	5180
Ilala	3745	1935.16	2	18722
Makorongoni	7247	4214. 292	4	1812
Kitanzini	4085	2468. 379	2	2042

Source: Field Data 2010



Map 2: Current Urban and Mixed Wards in Iringa Municipality

Changing the criteria for urban wards from above 200 persons per square kilometer to above 100 persons per square kilometer enabled Mwangata ward to become an urban ward. Thus Map 3 includes Mwangata ward as one of the urban wards. It should be noted that the future urban wards would form a corridor along the current Iringa – Dodoma road that crosses the municipality By implication Mwangata which is currently a mixed ward would become an urban ward in the near future. Thus the government should provide an enabling environment for the development of growth enterprises in the ward by providing, for example, space and utilities to support the development of UIS activities particularly growth enterprises.



Map 3: Future Urban and Mixed Wards in Iringa Municipality

4.2.3 Relationship between Income and the type of UIS Activities

In terms of income the findings showed that 44.8 percent of the respondents got between1 and 80000 Tsh per month from their UIS activities (1USD = 1500 Tshs). About 38.1 percent received between 81000 – 160000 Tsh. and 17.0 percent got over 160000 Tsh. (Table 4). Thus informal sector activities played a very important role in reducing income poverty among urban residents. In the in-depth interview it was noted that the money was used to pay school fees for children, health services and buy assets such as land, build a new house or invest in agriculture. The $\chi 2$ test showed that there was a statistical significant relationship between the amount of income earned and the type of UIS activity performed. The manufacturing and repair work growth enterprises provided more income compared to food vending and service provision at $p > 0.005$. This meant that there was more income in the urban wards than in the mixed wards as there were more growth enterprises in the urban wards than in the mixed wards. This is supported by Akintoye (2008) who points out the important role played by UIS in providing employment to urban residents.

Table 4: The Relationship between Amount of income and the type of UIS activity

	0 - 80000	80000 - 160000	161000- and above	Total	0 – 80000 %	80000 – 160000 %	161000- and above %	Total %
Manufacturing	27	10	14	51	52.9	19.6	27.5	100
Repairing	14	11	9	34	41.2	32.4	26.5	100
Food vending	22	29	6	57	38.6	50.9	10.5	100
Service provisioning	24	24	4	52	46.2	46.2	7.7	100
Total	87	74	33	194	44.8	38.1	17.0	100
Pearson Chi square value	Value 18.674	df 6	Asymp. Sig.p-0.005					

Source: Field data 2010

5.0 Conclusion

Geographical Information systems such as ArcView can assist urban planners to identify future urban wards where UIS development can be directed to. This is particularly important for growth enterprises as they provide more income than survivalist enterprises and hence tend to contribute greatly to poverty reduction in municipalities in developing countries. Provision of space by the government will enhance the establishment of premises where the UIS operators can rent. This is essential because, the study has shown that 75 percent of the UIS operators rented their premises.

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