REGIONAL DEVELOPMENT THROUGH RURAL-URBAN LINKAGES: The Dar-es Salaam Impact Region

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by

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Declaration

I Nimrod Shitrael Mushi, hereby declare that this thesis submitted and presented to the Faculty of Spatial Planning, University of Dortmund, is a product of my own four years research and where it is beholden to the work of others, acknowledgement has been made.

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Abstract

Many households have spanning livelihoods that draw on rural and urban resource opportunities. Urban and rural areas are closely linked, each contributing to the other, they therefore need to be considered jointly in development planning. The absence of rural development policies that recognise and seek to take advantage of positive aspects of rural-urban linkages in the impact regions of many cities in Developing Countries is a constraint to both rural and urban development. This policy vacuum requires a study to unveil how such deficiencies have affected rural-urban linkages and in turn livelihoods in both rural and urban areas.

The impact region of Dar es Salaam is very conspicuous. The impact region surrounds Dar es Salaam city, which is the country's main point of entry and exit for goods and people and has always had an important role to play in the national development. Poor provision of socio-economic and physical infrastructure is evident in the impact region of Dar es Salaam. The poor development of infrastructure in the impact region dates back to the purpose of establishing Dar es Salaam city. There is a common agreement that the city was established as a port to receive agricultural produce and minerals from the hinterland to be exported to Europe.

Consequently, the first objective of this research was to identify the types of rural-urban linkages in the impact region, describe the level of development of the impact region and the extent of rural-urban linkages. The second objective of the research was to evaluate the strength and weaknesses of rural-urban linkages in the impact region, analyse rural-urban linkages with specific focus to the city and the settlements in the impact region, and appraise its role in enhancing livelihoods in urban and rural areas as well. The third objective was to formulate a policy framework for effective rural-urban linkages and enhanced livelihoods. These issues have been investigated empirically.

The research addresses the question of urban-rural linkages first from a theoretical standpoint, and thereafter illustrates it with some concrete cases at two different geographical locations. Besides, it takes a dynamic approach to rural-urban linkages by looking more closely at changes affecting the impact region livelihoods rather than merely describing the linkages between urban and rural areas. The study adopted participatory methodology tools such as focus group discussions, mobility matrix, Venn diagrams, and small-scale household surveys. These tools were put to practice in the commodity chain analysis from the production stage in the villages to the consumption stage in urban areas. This research unveils the latent potentials of rural-urban linkages in livelihood enhancement in both rural and urban areas. The observed weak rural-urban linkages and livelihoods development can be attributed to the limited local institutional development and its interplay, inadequate provision of social, physical and economic infrastructure and ineffective regional planning machinery in the impact region.

Main findings in the study were: locally designed institutions are fundamental safety nets; affordable transport complements other factors; and that migration is a survival strategy in rural-urban linkages. Based on these findings, the study recommendations include: Firstly, institute planning teams to deal with the urban problems that cut across local authorities boundaries consisting of core city and the adjacent district authorities. Secondly, involve local communities to surcharge new development in the impact region

for the provision of line infrastructural facilities, such as roads, electricity and water. Thirdly, support locally designed institutions and private small-scale processing industries by formulating a policy that allows governments non-governmental organisations and donors to invest in institutions, either directly or indirectly by creating an environment friendly to the emergence of local institutions. Lastly, as regards migration of people, it is at the heart of development. Policies need to support migration by creating socio-infrastructure facilities such as schools, water, and value added processing and employment opportunities to the new areas.

The report is organised in eight chapters. Chapters one to four describe the context, the conceptual framework and the research methodology. Chapter five and six present the case studies, while chapters seven and eight present the cross case analysis, policy implications and recommendations.

Key words

Rural-urban linkages, poverty, livelihoods, livelihoods strategies, impact region, and regional development.

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1. Rural-urban linkages, livelihoods and poverty in regional development

This chapter discusses the emergence of rural-urban linkages as an important concern in regional development planning. It gives examples of the factors that hinder the development of rural-urban linkages. Before discussing livelihoods and livelihood strategies adapted by rural and urban people, and how they are related to rural-urban linkages, a discussion of poverty and its many facets in regional development planning is presented. Then it goes on to discuss the link between rural-urban linkages, poverty and the livelihoods concepts. Finally, a global overview of rural-urban linkages is given to show how rural-urban linkages directly affect the livelihoods of both rural and urban households.

Defining rural-urban linkages

Rural-urban linkages can be divided into two broad categories: spatial and sectoral linkages. Spatial linkages include flows of agricultural commodities from rural to urban markets, and in the opposite direction flows of manufactured and imported goods from urban areas to rural settlements. They also include flows of people commuting between rural and urban settlements either daily, or seasonally to urban-based services and administrative centres. Flows of information on markets, price fluctuations between urban and rural areas are also other types of rural-urban linkages. Finally, the financial flows including remittances from migrants to relatives and communities. The flow of goods and services involve the transfer of income, people and capital from one place to another among households dispersed in the settlements. The linkages between rural and urban areas represent the daily transactions that take place between farmers and traders, producers of goods and services in urban areas and consumers. Therefore, the myriads of exchanges of goods and services that take place in daily transactions cumulatively bring about multiplier effects in the long run that contribute to enhanced livelihoods in both rural and urban areas.

Sectoral linkages include forward and backward linkages between agriculture and manufacturing services, for instance, production of agricultural inputs in urban areas such as fertilisers and farm implements, and existence of processing industries in rural areas. Both types of linkages are influenced and often intensified by macro-level changes including structural adjustment and economic reforms that affect both rural and urban populations. Besides, the nature and scale of rural-urban linkages is also affected by local contexts including the level of access assets (natural, physical, financial, social and human (Tacoli 1998; Satterthwaite and Tacoli 2002).

Many poor households in rural and urban areas use rural-urban linkages as a survival strategy, whereas wealthier households use it as part of an accumulation strategy. According to Douglas (1998), to a rural household, the landscape of daily life includes both rural and urban elements. Thus, rural-urban linkages are part of the local reality for household members carrying out the diverse tasks of producing income on and off-farm. Besides, many households maintain a living space in the village, and travel to local and even distant towns for shopping, marketing, work and specialised services. These linkages are crucial to the livelihoods of the poor; they are rarely taken into account by policy-makers. There are many types of spatial linkages discussed in literature, and Table 1.1 presents the major types.

Table 1.1: Major types of rural-urban linkages

Type	Elements
Infrastructure linkages	Road network, health, education, rivers and water canals, railroads
Economic linkages	Market patterns, raw material flows, capital flows, production linkages, and technology transfer
Population movement linkages	Migration temporary or permanent
Social linkages	Visiting patterns, social group interactions, religion, culture
Institutional linkages	Norms and rules, formal and informal organisations
Administrative linkages	Structural relationships, informal political decision chains
Environmental linkages	Waste disposal from rural areas, water from rural areas, forest resources

Source: Author and literature review

Strong rural-urban links at household level (including livelihoods that have rural and urban components) also mean that enhanced livelihoods in rural areas often influence positively on urban areas. Drawing from Rakodi (2002), falling crop prices or declining rural production mean a sharp rise not only in rural poverty but also in a falling demand for the goods and services provided by many urban enterprises to rural enterprises and households. An increase in urban poverty also implies that there are fewer job opportunities in urban areas for rural migrants, reduced remittance flows from urban to rural areas, less urban demand for rural products and more rural-urban migration which increases the dependence burden in rural areas.

Consequently, it is important that policy-makers and development workers realise that their target populations rely on rural-urban linkages to meet their daily needs. Interventions must consider the linkages to provide a holistic approach to improving the welfare of the people who may not strictly fit into urban or rural ways of life. In order to understand what is happening in the rural communities today, and to find ways to improve the situation of the rural people, we need to look at a wider social field; one that includes people located in urban areas, both elites and non elites as well as those located in rural areas. For this reason, the study provides the end users such as policy makers and development workers with a better understanding of the complex types of assets and activities needed and used by the average citizen to achieve a sustainable livelihood.

Understanding rural-urban linkages matters provides the basis for measures that can improve both urban and rural livelihoods and environments. Ignoring them means that important opportunities will be lost, and in many cases, it will contribute to poor livelihoods.

Significance of rural-urban linkages

The difference between urban centres and rural areas may seem so obvious that definitions should not be an issue. However, there can be major variations in the ways in which different countries define what an urban centre is. The criteria used include population size and density, and availability of services such as secondary schools, hospitals and banks. However, the combination of criteria applied can vary greatly. Even the population thresholds used can be different: for many African countries, it is 5,000 inhabitants, while for most Latin American and European countries it can be as low as 2,000 or 2,500 or even just a few hundred inhabitants (Tacoli 1998). This wide fluctuation in definitions has the following three important implications:

- Official classifications should be treated with caution for example, a large proportion of settlements classed as ‘rural’ in China and India would fall within the ‘urban’ category if

they used the criteria and population thresholds adopted by many other countries. Given the size of the population of these two countries, this would significantly increase the overall proportion of urban residents in Asia and in the world.

- Second, international comparisons are difficult, as they may look at settlements which despite being classed in the same category, may be very different in both population size and infrastructure. In addition, the reliability of data on urbanization trends within one country can be compromised by changes in the definition of urban centres over time.
- Third, public investment in services and infrastructure tends to concentrate on centres that are defined as urban. Consequently, investment can bypass settlements not defined as urban even if these can, and often do, have an important 'urban' role in the development of the surrounding rural areas. Within national and regional urban systems larger cities also tend to be favoured with public investment over small and intermediate-sized urban centres, including those with important roles in supporting agricultural production, processing and marketing (Satterthwaite 1998, Rakodi 2002).

To add to the importance of rural-urban linkages, many research findings point out that it is through rural-urban linkages connecting villages to towns and towns to cities that the process of growth and livelihood improvement takes place. However, the contribution of rural-urban linkages to livelihoods varies depending on households' individual wealth, status, size, education and skills, gender and political affiliation. Major differentiating elements include geographical and ecological characteristics; social, cultural and historical factors; and local, national political system and stability. The location of households is yet another factor that may cause this differentiation. To rural households important characteristics of rural-urban linkages include access to urban-based services and markets for agricultural produce and labour. Thus, urban areas are very important to rural households, not only as sources of demand for rural produce but also for the following reasons:

Funding flows for rural development coming from urban migrants as many migrants to urban areas help support development in the rural settlements from which they moved. For instance, through sending remittances to family members or investing in homes or farms there or becoming politically active in lobbying for government investments there (Kamete 1998).

Many migrants to urban areas establish their own homes there and often provide accommodation for other family or members or kin or fellow villagers who come to urban areas to study or seek employment and provide information about urban opportunities to potential rural migrants (Hugo 1993).

Urban areas often provide refuges for some of the poor rural dwellers including those whose livelihoods were destroyed by development projects, wars, oppression, economic difficulties or disasters. In many countries, rural to urban migration is the movement of people fleeing oppression or discrimination. For instance, rural women who are widowed or separated and who have little or no possibility of getting land or other livelihood opportunities in their village (Kruger 1998).

Urban areas often stimulate labour markets that are more diverse and employment opportunities for those in nearby rural areas (including opportunities for commuters or seasonal, temporary, or circular migrants). Most urban areas have some rural commuters because living in settlements outside urban boundaries is cheaper and there are often possibilities of combining farming with non-agricultural activities (Baker 1995). Baker also suggests that in many places it is the rural households who are most adept at combining agricultural production with utilizing small town opportunities and exploiting urban niches that are most successful at ensuring household survival (ibid).

Urban centres are the locations at which rural populations have access to many different

branches of government and many public services. For instance, secondary schools, district hospitals and law courts. Urban centres that are the seat of local governments and are also the locations from where the provision of most basic infrastructure and services for rural areas are planned and managed (Rakodi 1998, 2000).

Similarly, rural areas are very important for many urban households.

Many low-income urban workers find accommodation in nearby rural communities because it is cheaper to live there and travel to and from work opportunities in town (Rakodi 1998).

Many poor urban dwellers rely on seasonal employment in agriculture or rural development projects or on collecting or purchasing resources from nearby rural areas (for their own use and for sale). For instance, Kamete (1998) reveals the presence of interlocking livelihoods between the town of Banket and its surrounds in Zimbabwe.

Many urban dwellers have relations with rural dwellers to guarantee their food supply. Baker (1995) pointed out that in the town of Biharamulo in Tanzania; there were a considerable proportion of urban dwellers who have farms in rural areas.

Many urban dwellers retain key assets in rural areas and rely on rural dwellers to protect their land, crops or livestock or to provide their children with homes (or even access to schools when urban schools are bad or expensive). For instance, interviews with migrant and non-migrant households from four wards of Dhaka found that more than a third of the migrant 'non-slum' households had cultivable land in rural areas and more than a quarter derived a regular income from that land (Afsar 1999). In Durban (Smit 1998) and in Gaborone (Kruger 1998) a third of households retained land and livestock in rural areas.

A proportion of urban households, including many poor urban households, derive some or their entire livelihood from travelling to rural areas to sell goods or services on daily basis (Tacoli 1998).

Conceivably, the key issue is that both rural and urban dwellers need systems of governance that help ensure their asset bases are protected. This means also to protect them from exploitation, eviction and environmental health hazards including those in the home and workplace. In order to achieve this, policy makers and planners need to acknowledge that people's propensity to move in response to changing livelihood opportunities has increased. As a result, there are diverse and complex population movements in and out of most settlements with a great range in terms of scale, timing, duration, who is moving, destination for out-migrants and origin for in-migrants.

Therefore, rural-urban linkages matter because in normal life rural and urban areas cannot be separated as many households both in urban and rural areas have one foot in the urban and the other in the rural. Thus, we need to evolve an understanding of rural-urban linkages that encompasses both rural and urban populations and the inter-connections between them and one which acknowledges that where people live and work and other aspects of their local context influences the scale and nature of the linkages.

Access to assets and rural-urban linkages

For a rural or an urban household to participate effectively in rural-urban linkages, the level of access to assets is fundamental. Weak linkages are caused by different factors including absence of rural-urban policy, inadequate access to assets (such as social, natural, financial, human, and physical) and increasing urbanisation (Hansen 1982; Chambers and Conway 1992; Dick 1997; Tacoli 1998; Caney 1998; DFID 1999). In rural areas, the most important natural asset is land, and landlessness is increasing, fuelling rural-urban migration and a host of related problems (Tacoli 1998; Kruger 1998). Poor people are often locked into patron-client relationships (e.g. sharecropping), which prevent their accessing resources on

remunerative terms. Female-headed households often have least secure access to land, daughters often do not inherit land and land often reverts to the husband's family on his death (Koopman 1997, Shivji 1998).

Rural poverty also strongly manifests itself in the lack of the physical assets such as adequate housing, roads, transport, energy and communication. Poverty also manifests in the lack of those physical assets that complement land ownership (e.g. draught animals, ploughs and other farm equipment) or substitute for it (e.g. domestic animals that can be stall-fed, tools and machinery of other trades). Lack of access to land and physical assets deprives poor people of a means of saving, a form of insurance, and a means of securing loans, thus increasing their vulnerability to shocks and setbacks. Lack of access to education prevents poor people from enhancing their skills and earning capacity. Lack of safe drinking water is a growing problem particularly for poor rural women, who must collect it because of increasing competition for supply and growing water pollution in many areas. In terms of financial assets, dualistic credit structures condemn the poor to rely on often-informal institutional sources.

The more positive type of social asset (social links/networks) contributes to both equity and economic development in a number of ways. In the first place, it improves the efficiency of economic relations by reducing transaction costs. Secondly, it improves efficiency in the management of community resources and participation in rural-urban linkages. Thirdly, it can both substitute for collateral and reduce the cost of lending to poor people. Finally, social networks facilitate the transmission of knowledge and thus open out new livelihood opportunities. Therefore, rural-urban linkages are highly context dependent and shaped by availability and adequate access to assets implying that access to assets (such as natural, human, financial, social and physical) is crucial for enhanced rural-urban linkages.

Rural agriculture and the urban economy

Rural-urban linkages do not exit in a vacuum, as the economic performance of the agricultural sector has a big influence on its effectiveness. Most successful cities that now have large industrial, commercial and service economies initially developed because of prosperous surrounding agricultural land. Cities represent the largest and fastest growing market for farmers in a context where over 80% of total agricultural production is used for the urban consumption (Satterthwaite and Tacoli 2002). However, the influence of urban demand for food and labour is unevenly spread in the impact region, resulting in different dynamics. In areas fully exposed to the influence of urban markets, agriculture is in competition with non-agricultural activities, for land use, employment as well as investment. These areas often characterized by high population density and high density of exchanges concern a growing proportion of rural population. In the impact region, markets influence is growing, but it is not regular enough to have generated new regulation systems, giving rise to fierce competition over resources.

For instance, Karaska (1999) in Kenya and Madagascar demonstrated that the rural-urban linkages in Kutus region of Kenya were significant and contributed to the overall development of the region. The overall conclusion of the study was that in the case of Kutus region, the production of coffee, maize and tomatoes generated a trading institution in which town-based businesspersons and rural households played a significant role generating a continuous circulation of products and money. Extended over time the multiplier effect for this rural-urban exchange has created economic, enhanced livelihoods as well as opportunities for further regional development.

In the urban centres of the Upper Valley of Rio Negro in Argentina, the economy and the urbanization were driven by the production of fruit and high value vegetables. As a result,

there were many connections between the agricultural producers and agricultural suppliers, box makers, agricultural equipment makers, cold stores, jam producers, juice producers, winemakers (Hardoy and Satterthwaite 1986, Satterthwaite 2000). Agricultural development in rural areas was a cornerstone upon which urbanisation first emerged, and has contributed significantly to the world's economic and urban development, especially in the developed world (Mabogunje 1992; O'Connor 1983; Mwamfupe 1994).

In other cases, large areas in Developing Countries particularly Sub-Saharan Africa are still barely connected to markets (Serge, Snrech & Jean-Marie Cour 2000). Drawing from Zoomers and Kleinpenning (1996) farmers around Paraguay's capital Asuncion are unable to benefit from their proximity to urban markets as lack of access to credit and low incomes prevents them from investing in high value crops due to high input costs. These often serve to diminish the incomes of cultivators and may steer much of the value of agricultural production out of the locality (Tacoli 1998).

According to Satterthwaite and Tacoli (2002), four among the most important factors influencing the extent to which impact region agriculture supports local urban development include:

- the value per hectare of the crops (the higher the value, the more local urban development);
- the potential for local value added activities (and the scale of forward and backward multiplier linkages);
- the land tenure; and
- the market or institutional arrangements for supplying farmers with inputs (and capital), and for collecting, processing and marketing their outputs.

In some instances, agricultural policies have prevented or discouraged rural producers from diversifying production and trapped them in low-profit crops with few forward and backward linkages as in many Asian countries (Douglass 1999). Drawing from Tacoli (1998) markets in many Sub-Saharan Africa tend to be dominated by large traders who access transport, market places, capital, informal credit and information, and thereby dominating incomes of cultivators. Thus, the level of agricultural development in the impact region determines the strengths of rural-urban linkages in the area. The following sections discuss the extent of poverty and how it enhances or weakens rural-urban linkages.

Poverty

This section sketches the evolving definition of poverty as it has been used in literature, and then identifies its main causes and extent. It is important to refer to the changing definition of poverty because poverty alleviation is one of the development agendas in many governments and bilateral organisations. Getting the correct definition of poverty simplifies the work of policy formulation and implementation.

Poverty is a word that has been used in at least three different ways in literature. Each poses questions that every society should be prepared to answer. The first usage poses questions about hardship, misery and destitute poverty conditions which are still occasionally to be found among low-paid workers as well as people out of work. The second usage poses questions about the incomes, wealth and real living standards of different kinds of people. The answers will not provide a scientific measure of 'subsistence poverty', for that cannot be clearly defined, but they will show whose living standards are the lowest and may suggest the reasons for these patterns. The third usage poses questions about inequality, exclusion, discrimination, injustice and relative poverty. If this third concept of poverty is to have any

practical cutting edge, it calls for nothing less than a new morality (UNDP 1998).

A classic definition of poverty sees it as, 'the inability to attain a minimal standard of living measured in terms of basic consumption needs or the income required for satisfying these needs (World Bank 1990). Poverty is thus characterised by the failure of individuals, households or entire communities to command sufficient resources to satisfy their basic needs. Consumption-based poverty lines are primarily concerned with physical measures of well-being. The inability to attain minimal standards of consumption to meet basic physiological criteria is often termed absolute poverty or deprivation. It is most directly expressed as not having enough to eat or as hunger or malnutrition.

Drawing from Lipton (1997), the principal components of poverty definition are based on a growing recognition that:

- Poverty may adequately be defined as private consumption that falls below some absolute poverty line, which he terms 'absolute private consumption poverty';
- Absolute private consumption poverty is best measured by calculating the proportion of the population who fall below a poverty line (the headcount) and the extent of this shortfall (the depth or severity of poverty). This poverty line is usually based on an estimated minimum dietary energy intake, or an amount required for purchasing a minimum consumption bundle;
- Low levels of capabilities (such as literacy and life expectancy) are major components of poverty, but are best measured separately rather than amalgamated with consumption measures;
- Lack of consumption is more readily measured than lack of income, due to the ability of poor households to smooth their consumption over time in the face of income fluctuations arising from seasonality or shocks.

Lipton recognises that important areas of contention remain, principally around issues of redistribution, population dynamics, government regulation and exclusionary forces. During the 1990s, the concern of the state was to prevent destitution hardship, misery and starvation.

Today, there has been a complete shift of emphasis in defining poverty, stressing on vulnerability of the poor springing from their lack of capital assets such as human, natural, financial, social and physical (Chambers and Conway 1992; Moser 1998; World Bank 2001/2, Rakodi 2002). These capital assets are the basic building blocks from which individuals and households can build sustainable livelihoods. Poverty is defined to include opportunity, empowerment and security. The new evidence confirms that expanding the human capabilities of poor people remains central in any poverty reduction strategy, both for the intrinsic value of such capabilities as health and education and for their instrumental contribution to other dimensions of well-being, including income.

The new evidence and broader thinking do not negate earlier strategies such as that of World Development Report 1990/1991. However, they do show the need to broaden the agenda. Most often, poverty is a situation people want to escape. So poverty is a call to action for the poor and the wealthy alike, a call to change the world so that many more may have enough to eat, adequate shelter, access to education and health, protection from violence, and a voice in what happens in their communities (World Development Report 1999/2000; 2000/2001).

As such, public action has to go beyond investing in social services and removing ant labour biases in government interventions in the economy. Acknowledging the need for a broader agenda, a general framework for action focuses on three equally important areas:

- *Promoting opportunity:* expanding economic opportunity for poor people by stimulating overall growth and by building up their assets and increasing the returns on these assets, through a combination of market and non-market actions.
- *Facilitating empowerment:* making state institutions more accountable and responsive to poor people, strengthening the participation of poor people in political processes and local decision making, and removing the social barriers that result from distinctions of gender, ethnicity, race, and social status.
- *Enhancing security:* reducing poor people's vulnerability to ill health, economic shocks, policy-induced dislocations, natural disasters, and violence, as well as helping them cope with adverse shocks when they occur.

Thus, opportunity, empowerment, and security have intrinsic value for poor people in rural and urban areas, and given the important complementarities among them, an effective poverty reduction strategy will require action on all three fronts, by the full range of agents in society government, civil society, the private sector, and poor people themselves.

The causes of poverty

One route for investigating the causes of poverty is to examine the dimensions highlighted by poor people as discussed in the previous section. To understand the determinants of poverty in all its dimensions, it helps to think in terms of people's assets, the returns to these assets, and the volatility of returns. These assets are of five kinds namely human, natural, physical, financial, and social assets, as put forward by Chambers and Conway (1992); DFID (1998); Rakodi (2002).

The returns to these assets depend on access to markets and all the global, national, and local influences on returns in these markets. However, returns depend not just on the behaviour of markets, but also on the performance of institutions of state and society. Underlying asset ownership and returns to assets are not only economic but also fundamental political and social forces. Access to assets depends on a legal structure that defines and enforces private property rights or on customary norms that define common property resources. Access may also be affected by implicit or explicit discrimination based on gender, ethnicity, race, or social status. Moreover, both access to assets and returns to assets are affected by public policy and state interventions, which are shaped by the political influence of different groups (World Development Report 2001/2).

Also important is the volatility of returns. Volatility results from market fluctuations, weather conditions, and, in some societies, turbulent political conditions. Volatility affects not only returns, but also the value of assets, as shocks undermine health, destroy natural and physical assets, or deplete savings. Poor people consistently emphasize the centrality of work to improving their lives. A country's overall wealth is an important influence on this that as countries grow richer, so do the average poor people in those countries get better pay at work. With economic growth, income poverty falls; with economic contraction, income poverty rises. Some countries in East Asia sustained per capital GDP growth rates of 4–5 percent over four decades, with massive improvements in living standards and in health and education for poor people and for everyone else (*ibid.).*

Other countries, most in Africa, registered negative growth or no growth at all over the same period, delivering no improvements even in average living standards. While economic growth is systematically associated with poverty reduction, the rate at which growth translates into lower poverty depends on the initial level of inequality in the distribution of income and how that distribution changes over time. Growth and its effectiveness in reducing poverty also depend on sound, stable governance. Therefore, confronting socio-economic inequalities and building sound institutions can be important both for providing a socially sustainable basis for overall growth and for ensuring that poor people gain substantially from that growth (World

Development Report 2001/2). Following are two main causes of poverty.

Powerlessness: The institutional basis of poverty

Those materially deprived feel acutely their lack of voice, power, and independence. This helplessness subjects them to rudeness, humiliation, shame, inhumane treatment, and exploitation at the hands of the institutions of state and society (Chambers 2000). Absence of the rule of law, lack of protection against violence, extortion and intimidation, and lack of civility and predictability in interactions with public officials, place a large burden on poor people. They are prevented from taking advantage of new economic opportunities or engaging in activities outside their immediate zone of security (World Development Report 2001/2).

Threats of physical force or arbitrary bureaucratic power make it difficult for them to engage in public affairs, to make their interests known, and to have them taken into account. Unaccountable and unresponsive state institutions are among the causes of relatively slow progress in expanding the human assets of poor people. In agrarian societies, poor people's lack of assets and income-earning opportunities ties them to rich landowners in patron-client relationships. For women, a lack of savings and assets precludes a more independent role in decision making in the household and the community. Social norms and barriers can also contribute to voiceless-ness and powerlessness. While local cultures have intrinsic value, they can sometimes be inimical to reducing human deprivation. Pervasive in almost all societies is inequality between men and women. Poor women are discriminated against in the household and in land, labour, and credit markets. Discrimination based on ethnicity, religious beliefs, social status, and race has similar effects. Therefore, powerlessness in a society is a crucial cause of poverty.

Vulnerability

Chambers *et all*. (2000), while quoting a villager from Benin, captures the intrinsic meaning of vulnerability as follows:

> Three years ago, it was a very bad year. The flood washed away all of our crops, and there was a lot of hunger around here, to the point that many people actually died of hunger. They must have been at least a dozen, mostly children and old people. Nobody could help them. Their relatives in the village had no food either; nobody had enough food for his own children, let alone for the children of his brother or cousin. And few had a richer relative somewhere else who could help (Chambers *et all.* 2000).

Vulnerability is a constant companion of material and human deprivation, given the circumstances of the poor. They live and farm on marginal lands with uncertain rainfall. They live in crowded urban settlements where heavy rains can wipe out their homes. They have precarious employment, in the formal or informal sector. They are at higher risk of diseases such as malaria and tuberculosis. They are at risk of arbitrary arrest and ill treatment at the hands of local authorities. The women in particular are at risk of being socially excluded and victims of violence sexual abuse and crime (Chambers *et all*. 2000; World Development Report 2001/2).

The risks that poor people face as a result of their circumstances are the cause of their vulnerability[1]. However, the deeper cause is the inability to reduce or mitigate risk or cope with shocks a cause that both draws from and feeds into the causes of other dimensions of

[1] An institution should not discriminate against people because they are not well dressed or because they are black. If you wear a suit, you are treated as sir; if you are wearing sandals, they send you away.

poverty. Low levels of physical, natural, and financial assets make poor people especially vulnerable to negative shocks; those with more assets can weather these shocks as long as they are temporary. Lack of adequate assets can set up a vicious downward spiral in which actions to cope in the short term worsen deprivation in the long term. This may include:

- Pulling children out of school to earn extra income during an economic crisis;
- Depleting natural resources beyond the sustainable level;
- Making quick sales of land or livestock at desperately low prices; and
- Lowering nutritional intake below the levels necessary to sustain health.

Another underlying cause of vulnerability is the inability of the state or community to develop mechanisms to reduce or mitigate the risks that poor people face. Irrigation, infrastructure, public health interventions, honest police and a fair legal system, public work schemes in times of stress, micro credit to sustain people through the aftermath of an adverse shock, social networks of support and insurance, famine relief in extreme circumstances all reduce vulnerability for poor people. The diverse cross-country experience with each of these mechanisms can help in developing actions to address vulnerability in specific circumstances (World Development Report 2001/2).

Poor people also are exposed to risks beyond their community those affecting the economy, the environment, and the society in which they live. Civil conflict and wars, economic crises, and natural disasters affect not only their current living standards but also their ability to escape poverty. To the extent that global forces such as volatile capital flows, global climate change, and arms sales are the causes of shocks and disruptions in poor countries, the inability or unwillingness of the global community to address them increases the vulnerability of poor people.

Other main causes of poverty in Africa include low levels of productivity and production technology, especially in the agricultural sector that provides most of the employment and large share of the continent's GDP; high illiteracy and population growth rates frequent natural disasters; inadequate infrastructure and excessive dependence on a narrow range of commodities for export earnings. Counterproductive economic policies in the 1970s and the early 1980s, political instability and conflicts in a number of countries and the continent-wide problem of gender and inequality in access to resources and social services have also contributed to reduced economic growth (*ibid.*).

The review has shown that poverty has proved to be a challenging problem in sub-Saharan Africa. The rapid population growth continues to place a strain on national resources. The inability, unaccountable and unresponsive state institutions are among the causes of relatively slow progress in expanding the human assets of poor people by governments. The above issue will be examined more closely in the concrete case of Tanzania in the coming chapters.

The extent of rural and urban poverty

This section outlines the extent of poverty in rural and urban areas in Sub-Saharan Africa. According to the World Bank (1999), insecurity has increased among the world's poor. Largely, poor people feel that they have not been able to take advantage of new economic opportunities because of lack of connections, information, credit and skills. Today, the poor work in rural areas and in the urban informal sector. They argue that life is more insecure and unpredictable than it was a decade or so ago, due to the loss of traditional livelihoods, breakdowns in state and social solidarity and isolation. Other causes of insecurity include increased crime and violence, lack of access to justice, extortion and brutality from police (*ibid.*). Ineffective and corrupt government institutions add to the problems of the poor.

Despite an abundance of natural and human resources, Africa currently suffers from

widespread and persistent poverty and a high degree of income inequality. In 1987, 47 per cent of Sub-Saharan Africa's population faced inadequate access to assets (*ibid*.). By 1998, this rate had declined only marginally to 46 per cent. Sub-Saharan Africa is today the region with the highest incidence of poverty in the world. High levels of income disparities compound the problem, undermining the prospects of both a sustainable and equitable economic growth and of a significant reduction in the incidence of poverty. Moreover, the continent is not homogeneous and the aggregate figures camouflage important variations in both the incidence of poverty and in income distribution across countries and within regions in individual countries.

Non-income measures of poverty also show large variations, but overall infant mortality, life expectancy and school enrolment rates in Africa are among the worst in the world (World Bank 1999). In Sub-Saharan Africa, 151 children out of 1000 die before the age of 5, and 92 out of 1,000 die before the age of one. The life expectancy of 50 years and net primary enrolment rates of 60 per cent are the lowest in the world. Deaths resulting from HIV/AIDS alone have led to the lowering of life expectancy, and have wiped out the social gains of the last decade in a number of countries. Among eight countries where life expectancy declined by more than 3 years since 1990, six are African countries. In Botswana and Zambia, which have high incidence of HIV/AIDS prevalence rates, life expectancy has declined by 9.5 years and 6 years, respectively (*ibid*.).

The urban poor can broadly be categorised into two groups, namely the employed but earning the least incomes, and the unemployed or the underemployed. The first group comprises those earning so little income that they cannot sustain the normal urban living standards. In the economic crisis of the 1980s in Sub-Saharan Africa, many urban residents were pushed to the low-income group categories due to the devaluation of their national currencies (Mwapilinda 1998). By the late 1980s, the urban per capita incomes in many African countries had reverted to the 1970s levels while in the case of Madagascar, Congo, Mozambique, Ghana, Niger, Somalia, Zambia, Mali, Liberia, and the Central African Republic they had reverted to their 1960s levels (UNCHS 1996; World Bank 1991).

The second group of the urban poor consists of households of the unskilled, the aged, and the disabled. This group suffers from underemployment and unemployment, and its members have unreliable livelihoods (Mwapilinda 1998). As a result of the 1982 Structural Adjustment Programmes in Tanzania, many people lost their stable employments in the government sector. Today, most parastatal organisations have been privatised, and more people have had to join the class of the unemployed. The direct consequence of the retrenchment has been a reduction of incomes and the expansion of the informal sector, which, in many African countries, employs about 60 per cent of the urban labour-force (UNCHS 1996:90).

In the global context, researchers see the causes of poverty as associated with the Structural Adjustment Programmes i.e., liberalisation of trade, devaluation of currency, privatisation of major means of production, and streamlining of the public service. This, in turn, is likely to cause further polarisation between the rich and the poor within and between developed and underdeveloped regions and countries. The following quotation illustrates an extreme version of this point of view:

> The globalisation of market forces has already undermined local and regional ways of life in many parts of the world. For the Third Worlds, global free trade means the destruction of agrarian communities and peasant traditions as local farming practices are undercut by mechanised western agribusiness. This, in turn, means the accelerated migration of the impoverished agricultural workers to swollen mega cities. To both Developing and Developed Countries and the GATT, proposals are a

> recipe for social upheaval and political instability on a vast scale (Gray 1993:12).

The massive transformations taking place in the global economy resulting from the implementation of trade liberalisation and privatisation are posing a difficult challenge for rural and urban development. The challenge stems from economic shifts that dramatically affect the economic health of the local governments and the livelihoods of their residents (Gilbert, Stevenson and Stren 1996). Supporting the above view, UNCHS (1996) and Gaile (1992) documented that the recent implementation of macro-economic policies worldwide and within countries, including changes in the scale and nature of economic activities and the integration of the global market, affect the distribution of incomes and livelihoods in rural and urban areas. While the nature of these changes is global, they are also characterised by a great diversity at local levels as a result of policies and social, cultural and economic differences. For instance, as a result of the implementation of macro economic policies worldwide, rural-urban linkages have been influenced and often intensified. In Africa, the implementation of the Structural Adjustment Programmes (SAPs) has given rise to the marginalisation of small farmers who have turned to income diversification by engaging in non-farm activities (Lugala 1995; Bagachwa 1995; Tacoli 1998; Smit 1998; Potts and Mutambirwa 1998; Kamete 1998; Briggs and Mwamfupe 2000).

The need for a more efficient and effective approach to enhance rural-urban linkages so as to spread the economic growth in ways that will allow the majority of people in urban and rural areas to participate more effectively in productive activities and to obtain greater economic benefits cannot be overemphasised. This has resulted in the increasing interest and search for more feasible ways of understanding the nature, and scale of rural-urban linkages in Developing Countries. The subsequent section discusses the livelihood and livelihood strategies.

Livelihoods and livelihood strategies

As a starting point, much of the sustainable livelihoods (SL) literature adapts Chambers and Conway's (1992) definition of a sustainable livelihood as follows:

> A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Carney 1998, Ashley & Carney 1999).

In their paper, Chambers and Conway (1992) discuss not just the complexity and diversity of individual livelihoods, but also the social and environmental sustainability of livelihoods in general. They suggest a measure of 'net sustainable livelihoods', which encompasses 'the number of environmentally and socially sustainable livelihoods that provide a living in a context less their negative effects on the benefits and sustainability of the totality of other livelihoods everywhere' (Chambers and Conway 1992:26).

As such, livelihoods thinking dates back to the work of Robert Chambers in the mid-1980s, further developed by Chambers and Conway and others in the early 1990s. Since that time, a number of development agencies have adopted livelihoods concepts and made efforts to begin implementation. Drawing from Chambers, the aim of development should be to understand people and their local context in order to help to create an enabling environment in which they can use their abilities, fulfil their potential and flourish. Hence, livelihoods approach explicitly recognises the importance of physical well-being, education and the state of the natural environment to poor people and to the achievement of sustainable livelihoods.

Later on, in 1998/99 the sustainable livelihoods approach (SL) was characterised by DFID (2000a) as an improved way of thinking about the objectives, scope and priorities of development, that will better meet the needs of the poor, both at project and policy level. According to DFID, sustainable livelihoods represent an evolution in thinking rather than a revolution. DFID define sustainable livelihood as follows:

- It is a different way of thinking about the priorities for development. It puts people at the centre of development. People rather than the resources they use or the governments that serve them are the priority concern.
- It builds upon people's strengths rather than their needs.
- It brings all relevant aspects of people's lives and livelihoods into development planning, implementation and evaluation.
- It unifies different sectors behind a common theme.
- It takes into account how development decisions affect distinct groups of people, such as women compared to men, differently.
- It emphasizes the importance of understanding the links between policy decisions and household level activities.
- It draws in relevant partners whether state, civil or private, local, national, regional or international.
- It responds quickly to changing circumstances.

Therefore, the poor are central to their own development, in DFID's words 'people rather than the resources they use or the governments that serve them are the priority concern' (DFID 2000:1.3). The focus appears to be centred on individuals' rights and responsibilities. Livelihood approach is inherently responsive to people's own interpretations of and priorities for their livelihoods. This also ensures that any support to livelihoods will be built on the positives that people already have in their grasp. Though many people in Developing Countries are desperately poor, they do have strengths upon which one can, and should, build.

Conceptually, drawing from the DFID's definition of livelihoods connotes the means, activities, entitlements and assets by which people make a living. These assets are of five types. *Natural assets* refer to natural resources such as land, forests, water and pastures from which people can derive all or part of their livelihoods. *Physical assets* refer to both (a) privately-owned producer goods such as farm animals, tools, machinery, buildings and equipment that can be used to increase labour and land productivity and (b) the public goods that make up the economic infrastructure of a country (e.g. roads, market places, electricity supply) and its social infrastructure (e.g. clinics, schools, hospitals). *Financial assets* refer to people's access to cash, both in the form of income and in the form of cash savings and stocks of liquid assets that can be converted into cash in times of need. *Human assets* refer to both the health and nutritional levels necessary for sustained labour input and the educational standards and skill levels that make this labour productive. *Social assets* are the social relationships that people can draw upon in order to expand their livelihood horizons. They include kinship and friendship ties, patron-client and other feudalistic relations, membership of formal groups, various types of reciprocal arrangements and relations built up through trust, for example those between buyers and sellers (DFID 1998). In support of the above, the definition of livelihoods adopted by Carney (1998) and Rakodi (2002) suggests the need to understand the livelihood strategies and vulnerability of the poor as the starting point in a livelihood analysis.

However, Beall (2001) argue that within this literature there appears to be an assumption that the poor behave as 'strategic managers' in negotiating their livelihoods outcomes, by electing from a range of options available within a particular locality and context. It may not be helpful to view the poor in this way as it assumes that the poor always

make ‘rational’ choices in the construction of their livelihoods. Instead, it is suggested that a broader view is required that takes account of the resources that people require in order to compose a livelihood (*ibid.).* Beall goes on to suggest that mechanisms for redistribution may be more critical for the alleviation of poverty than production and reproduction. It could also be argued that extrapolating the idea of ‘net sustainable livelihoods’, to the global level, captures far more of the political trade-offs that would be entailed in the creation of sustainable livelihoods for all. As it is, Beall concludes that the idea of sustainable livelihoods has been reduced to a more benign conception of the way in which individuals or households manage their resources.

Nevertheless, the availability and accessibility of natural resources remain the major influences on the livelihoods of rural people. A high proportion of many rural populations are engaged in some form of agriculture and the poor are often reliant on common property resources. However, the increasing demands on agriculture and constraints to improvement are forcing many smallholders out of farming altogether. At the same time, opportunities available outside the agricultural sector are limited.

People living in areas where markets are poorly developed are isolated from services and relatively immobile. Even where markets are established, the cost of service provision to rural areas, together with local governance and access-entitlement issues often result in poor and marginalised people suffering disproportionately. In such situations, the productive members of the community tend to migrate to urban areas, leading to further impoverishment of opportunities in rural areas. Despite this trend, the rural population continues to grow. As competition further threatens equitable access to and sustainable development of natural resources, how can rural people increase output and achieve livelihood aspirations in the future? It should be possible for the rural and urban poor to demand services that are most appropriate to their needs thus increasing the availability of information and institutional capacity to provide it.

Many governments and international organisations acknowledge the livelihoods approach that focuses on people’s strengths and aspirations rather than on sectoral concerns as a more appropriate solution. Valuing the perceptions of local people over those of external experts leads to a focus on outcomes and therefore on products or services and the relationship between users and service providers. The sustainability of livelihoods therefore becomes a function of how members of a society utilize assets to meet their needs without compromising those of future generations. This seems to suggest that the resources owned by the poor are dependent on the wider context on institutions, economic, social and political contexts in which they live in to create the right climate for livelihoods to be enhanced. However, livelihood approach is not a discretely defined way of working that is separate from and contrasts with other approaches. Instead, it builds on other approaches and on development good practice. Accordingly, a broad commitment to the desirability of sustainable livelihoods can be found across a range of donor agencies: GTZ (Albert 2000), UNDP (Wan Mali 1999b), European Union (2000), Oxfam (Neefjes 2000), CARE (Frankenberger *et al*. 2000) and the World Bank (2000).

The second important aspect discussed in literature is the livelihood strategies. Livelihood strategies are complex, usually revolving around the incomes, skills and services of all members of the family in an effort to reduce the risks associated with living near subsistence. A family may survive by sending its children to sell goods on the street, while the father earns a small wage at a factory and drives a taxi, and the mother grows food in an urban garden. Livelihood strategies are rarely limited to one secure job in a wage-based economy.

Drawing from Rakodi (2002), the livelihood concept rests on two pillars namely *household and strategy*. A household represents a person or co-resident group of people who

contribute to and benefit from a joint economy in either cash or domestic labour or a group of people who live and eat together. This suggests that households change over time as they evolve through a life cycle, as their members' ages and their status changes in culturally prescribed ways. As a result, house composition is both a determinant of the capacities, choices, and strategies available to a household.

Livelihood strategy points to the future. Rural and urban households rely on a combination of both rural and urban-based assets and income sources, and access to these is often essential for survival strategies of many poor households or accumulation strategies of better off groups. Adequate and secure livelihoods emerge as a central concern to poor people's well being. In rural areas, much hardship is linked to reduced access to land, bad soils, adverse weather, lack of fertilizer and other inputs, deficiencies of transport and marketing, and overexploitation of common resources such as pastureland and forests. In both countryside and cities, people speak of lack of permanent employment and reliance on badly paid and unreliable casual labour and petty trades. Researchers also frequently mention harassment and corruption from officials as well as mistreatment from employers and having no recourse to redress grievances (Ellis 1998).

To cope with such precarious livelihood conditions, poor people often struggle to diversify their sources of income and food. They work on the land and in quarries and mines; they hunt down temporary jobs and sell an endless variety of goods on the streets. They do piecework in factories and from homes; they patch together remittances; and they cultivate home gardens (Ellis 1998, Rakodi 2002). This type of livelihood strategies enable rural and urban household to overcome the barrier to access assets by applying locally available means.

According to Baker (1995), a survey of households in the town of Biharamulo and in four nearby villages demonstrated the many and varied connections between them. The most economically successful and secure group of village households were those that combined crop production and marketing with a variety of non-farm and off-farm income generating activities including furniture and brick making, the production and sale of beer or spirits, or work as teachers, village medical personnel, or administrative, clerical and army personnel. Some villagers commuted to town either with permanent jobs in government offices or temporary work (for instance labourers on construction sites or road building or maintenance). Some villagers owned or rented shops or kiosks in town while others had houses in town that they rented out. In Colombia commuting between rural and urban areas following employment opportunities, often on temporary basis provide seasonal work in coffee farms for low-income urban residents while in the rest of the year they are employed in informal sector activities in the cities (Rakodi 2002).

Drawing from Ellis (1998), it is widely acknowledged that access to non-farm employment is increasingly important for rural populations and that in many cases diversification of income sources is an effective livelihood strategy for the vulnerable groups with limited access to assets. Moreover, many poor people count on local informal moneylenders, shopkeepers for credit in emergencies, and during lean times, few have access to formal credit and savings services. Besides, urban markets can be central for rural producers, while urban traders rely on rural consumers. Migration is also an important way of diversifying income for rural and urban people and to ensure access to assets. In some cases, migration is seasonal and other instances several members of the household migrate for longer periods of time but having strong linkages with relatives in their home areas (Afsar 1999, Kruger 1998, and Smith 1998).

With opportunities so limited, many are driven and drawn into livelihood strategies that are to various degrees dangerous, illegal, and antisocial, including theft, drug dealing, and sex work, trade in women and children, and child labour. A large majority of men and women

view better livelihood opportunities as distant from them and economic conditions as worsening. Having multiple sources of income is also characteristic of many people who move out of poverty.

Significance of the sustainable livelihood approach

Sustainable livelihood comprises the capabilities, assets and activities required for a means of living (Chambers and Conway 1992). This section discusses the importance of the sustainable livelihood approach to rural and urban households, researchers and policy makers.

The increased attention paid to sustainable livelihoods in both research and policy follows a wide recognition that many rural and urban households rely on multiple sources of income (farming, trade, and employment) to support themselves. To make sure that the voices and concerns of these households are heard in all that we do, policies need to be pro poor, public services tailored and projects planned and carried out in ways that respond to strengths. Men, women and children, young, middle-aged and old; all have different experiences of poverty and different skills and strengths to overcome it. Sustainable livelihoods approaches have demonstrated that it is more effective in helping to address the needs of the poor households and to reduce poverty (Chambers and Conway 1992; DFID 1998; UNDP 1997, 1998; Rakodi 2002).

Sustainable livelihoods approaches simplify the task of development planning and project design. It is true that the approach may require more factors to be considered but holistic analysis does not require holistic intervention. What it should mean is that projects are better targeted at poverty elimination while recognizing that poverty is a far wider concept than simply a lack of financial assets. It should identify where support will have the greatest positive impact. It should help people to become less vulnerable to poverty and it should mean that they have more power to shape their own lives.

The livelihood approach offers an opportunity to improve poverty reduction efforts by taking an all round view of the circumstances of the poor, as they themselves view them, rather than jumping to early conclusions and immediately proceeding to conduct isolated, in-depth analysis of particular attributes. For instance, what appears to be the mainstay of household income e.g. a cash crop such as tomato or coffee or a particular type of paid employment may make a much smaller contribution to the family livelihood than is expected from initial impressions. Asset constraints vary from place to place, group to group and across income levels. Poorer groups typically have more limited access to assets and are more constrained in their choice of livelihood strategies than richer groups. Different social groups within a community typically experience differing risk factors in their livelihoods. These need to be understood if vulnerability is to be reduced. The capability of individuals and groups to exercise choices may be constrained by social and governance factors that are not immediately obvious.

Livelihood analysis provides a holistic framework for understanding the need for, and likely focus and objectives of, subsequent to the development activity. Such activity may itself be sectoral, though its objectives are most likely to be framed in terms of overall poverty reduction. Thus, sustainable livelihood approach aims to improve the lives of the poor people and to strengthen the sustainability of their livelihoods. The approach is inherently responsive to peoples' own interpretation of and priorities for their livelihoods. The subsequent section discusses how the three concepts are linked together.

The link between rural-urban linkages, livelihoods and poverty

Drawing from the previous discussion, rural-urban linkages and poverty are closely related concepts. The barriers to the development of strong rural-urban linkages and the causes of

poverty seem to be the same. The level of access to assets and inadequate availability of assets affects both of them. In both cases livelihood strategies adopted by the households are taken as temporary remedies for the shocks and hardships such as, droughts, poor pricing, poor social services, and impassable roads. According to Moser (1998), household responses to deteriorating economic situations in terms of asset vulnerability and choice of income generating strategies help to cushion themselves and limit the impact of external shocks. These livelihood strategies include migration, relying on informal credit, income sources, diversification, and adopting high value cropping.

In this respect, the livelihood strategies ought to be the starting point for researchers and policy makers to build on instead of formulating their own strategies. Livelihood approaches seek to understand poverty and rural-urban linkages from the standpoint of the poor themselves and are people centred in that they start from the premise that the poor understand their own poverty, value self-reliance and hold many answers to their situation.

Thus, the future of settlements in rural and urban areas needs to be understood and addressed in the context of the ongoing processes and trends. Population movements, production and consumption patterns, the flow of goods and provision of services, the availability and extent of infrastructure, vulnerability, powerlessness, as well as employment conditions and environmental protection and management are key issues which affect poverty and linkages between rural and urban areas. Increasingly, the quality of these linkages will determine the living conditions of the people in the urban and rural areas. Towns, cities and villages are experiencing an economic and social transformation that is likely to intensify in the years to come. While villages are becoming better equipped with infrastructure and services and change their traditional employment patterns, the urban areas expand to the countryside, and increase their food production through diverse forms of urban agriculture.

As rural-urban linkages are weakened, poverty increases to both rural and urban households. Likewise as poverty increases in urban areas, so do the struggles of vulnerable groups in their efforts to eke out living under conditions that are hostile to their very existence the lack of social and economic opportunities. The review has shown that poverty eradication is not simply a question of providing the rural and urban poor with public goods and services to meet their basic needs. This may result in the temporary alleviation of the condition of poverty but does not necessarily provide a sustainable solution to the problem of poverty.

As discussed earlier, the framework for livelihoods that is commonly presented in diagram (DFID 1999) sees livelihoods as supported by five classes of assets (natural, human, social, physical, and finance) operating in the context of vulnerability caused by trends, shocks, and culture. People use their assets mediated and influenced by transforming structures and processes to develop livelihood strategies. The strategies in turn produce livelihood outcomes, which are more or less successful depending on their relationship with the capital asset base and the actual vulnerability of livelihoods.

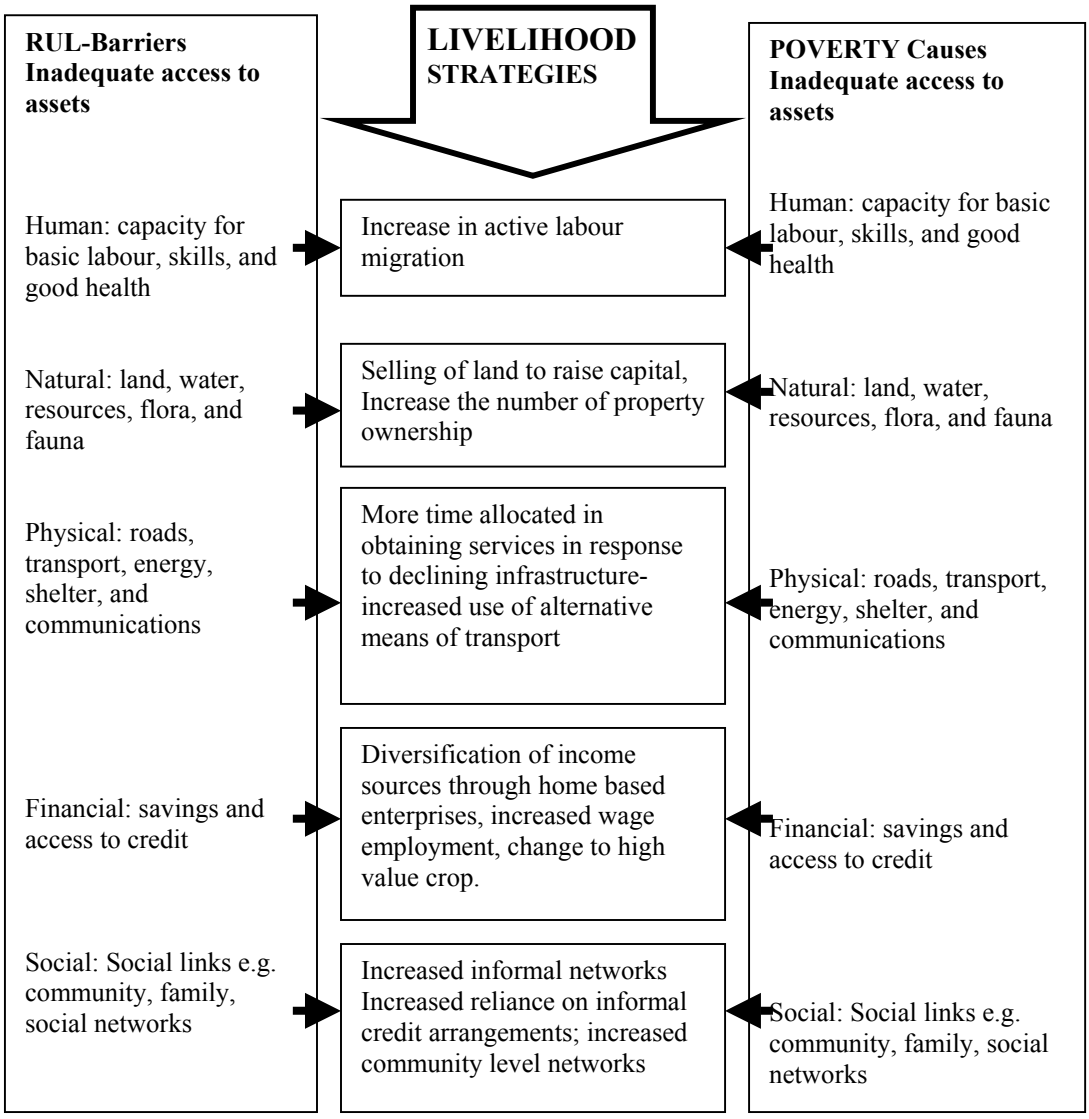
Like poverty and rural-urban linkages, livelihoods of the poor are determined by the context in which they live and the constraints and opportunities this location presents. This is because the context economic, environmental, social, and political largely determines the assets accessible to people, how they use these, and thus their ability to obtain secure livelihoods. In addition, the short and long-term livelihood aims of poor men and women are products of the context of which they are part. Livelihoods are in large part a response to opportunities and constraints available.

Therefore, the link between poverty and rural-urban linkages is through the livelihoods strategies that tend to overcome both the barriers to enhanced rural-urban linkages and the causes of poverty. This implies the need for an understanding of poverty that no longer separates rural and urban. These trends break down the traditional distinctions between urban

and rural areas, and the multiple linkages require a new appraisal and concerted action on the future of settlement patterns. Moreover, they determine essentially the scope for implementing the global goals of human development such as: social equity and social justice, poverty reduction, food security, environmental protection and sustainable development.

Drawing from the previous discussion, the barriers to the development of strong rural-urban linkages and the causes of poverty merge when the issue of inadequate availability and access to assets is brought on board (Fig 1.1). Governments and bilateral organisations are using livelihood approaches to address poverty and rural-urban linkages in order to shift policy in a more pro-poor direction.

Figure 1.1: The relationship of rural-urban linkages (rul), livelihoods and poverty



Source: author's construct

Rural-urban linkages in regional development

A region is a system of functionally diversified settlements comprising of socio-economic and physical linkages. Linkages among the settlements in the form of movement of people, goods and services shape the processes of interactions. They are the means through which people living in rural areas and in small villages obtain access to services, facilities, infrastructure and economic activities situated in towns. Through the linkages, rural people receive many of the inputs needed to increase agricultural productivity and they market the goods they produce through them. The exchange of goods and services involves the flow of income, people and capital from one place to another distributed among settlements. Therefore, regional planners and policy makers have to be concerned about the effectiveness of interactions and the degree to which settlements are linked to one another in ways that provide optimal access to people living in all parts of the region.

The linkages between rural and urban areas highlight the daily transactions that take place between farmers and traders, producers of goods and services in urban areas and consumers. Therefore, the myriads of exchanges that take place in daily transactions

cumulatively bring about enhanced livelihoods in both rural and urban areas. In this sense, there cannot be sustainable rural or urban development without enhanced rural-urban linkages because the two areas, i.e., rural and urban, are complementary to each other and cannot be separated. The villages of today will become the towns of tomorrow given that with increased availability of infrastructure, services, communication and employment opportunities outside the agricultural sector, their livelihoods will be transformed. These processes, lead to future villages and the urban settlements to gradually loss of their traditional distinctions, villages taking on urban elements and expanded urban areas becoming agglomerations of separate communities with rural characters.

There is growing awareness of the need for greater understanding and attention to the spatial dimension of regional development planning including the linkages between rural and urban areas. To date, most development theories and practices have focused on either rural or urban issues without considering the interrelations between the two. By contrast, several empirical studies show that the linkages between urban and rural areas, including movement of people, goods, capital and other social transactions, play an extremely important role in the processes of rural and urban change (Evans 1990; Tacoli 1998).

The distinction between "rural" and "urban" is probably inescapable for descriptive purposes. However, it often implies a dichotomy that encompasses both spatial and sectoral dimensions. The discussion of rural and urban development separately usually fails to recognise the extent to which the incomes and livelihoods of poor and non-poor households draw on rural and urban resources and opportunities; the multiple interconnections between rural and urban economies; and therefore, changes in urban affect the rural. For instance, increased rural impoverishment reduces the incomes and opportunities for many poor urban households and vice versa (Morgan 1969; O'Connor 1983; Mabogunje 1992; Mwamfupe 1994; Bryceson 1997 and 2000). It also reduces the importance of a high proportion of rural households accessing services located in urban areas especially secondary schools and health services (Tacoli 1998); and the importance of similarities in the underlying causes of rural and urban poverty including those relating to highly unequal patterns of asset ownership and political influence (Tacoli 1998; Wang 1997). Lastly, it affects the fuzziness of the distinctions between rural and urban populations and the extent to which changes in urban definitions can suddenly redefine a large proportion of the 'rural poor' as the 'urban poor' (Tacoli 1998; Gilbert *et al.* 1996:6).

This implies the need for an understanding of development that no longer separates rural and urban, such that solutions of urban problems do not lead to problems in rural areas. In many Developing Countries, the scale and nature of rural-urban linkages outlined above make it difficult to discuss urban and rural development separately. In this context, development policies that do not take into account the livelihood needs of the disadvantaged rural and urban populations are likely to result in their further marginalisation and unintended consequences such as increasing levels of poverty and external migration. More information is thus needed on the impacts of economic transformation on the livelihoods of the rural and urban populations.

Rural-urban linkages: a global overview

Western European countries passed the threshold of more than 50 per cent of the population living in urban areas in the early part of the 20th century. Today more than 75 per cent of the population in the developed world live in urban areas (Gilbert *et al.* 1996). Urbanisation in Europe, especially after the Second World War, was accompanied by industrialisation in urban areas and modernisation of agriculture that led to a release of the underemployed labour from agriculture to work in the urban areas (*ibid.* 1996:6). Thus, there was concomitant development in both rural and urban areas during the industrial revolution.

As a result, the mainstream of modern towns in Europe is today linked with their hinterlands through a variety of exchange processes in the form of rural-urban linkages. The level of economic development determines the intensity and the composition of these linkages. According to Kreibich and Tamakloe (1996), the urban hinterland embraces a ring of ever-growing centres and towns having very strong economic and diverse linkages with the core and as a result creating very strong multiplier economies. Kunzmann and Wegener (1991) revealed that all over Europe there are small towns, rural centres and urban belts that are well linked to their core cities. These towns remain independent with no direct administrative links with the core, but participate in decision making as political units at regional level.

In the United States, as pointed out by Fishman (1991), two thirds of the urban population, work places and the bulk of the services have shifted to the impact region. Urban sprawl is rapidly dissolving the traditional hierarchy of locations and creating new urban centres between and beyond the old conurbation's. Thus, the impact region has become a prime location for new urban development in terms of provision of services and job creation. In the developed world the symbiotic relationship, existing between rural and urban areas has proved to be beneficial for regional development.

According to Dias (1990), the transformation from subsistence to commercial farming in many Asian countries has not changed the land use significantly. Moreover, regarding the question of metropolitan growth and its effect upon the impact region, Dias found that the growth of the metropolitan centres was not dependent or associated with the hinterland. The reason given for this was that the urban-based industries were of an import substitution type, importing raw materials from outside. At the same time, high value crops were grown under intensive cultivation quite far from the large cities and transported over long distances. The continued availability of cheap labour and limited capacity of non-farm employment to absorb labour tended to delay agricultural mechanisation.

Moreover, the spread of non-farm activities to the suburban areas has not led to any significant changes in agricultural land use in the way of crop diversification and intensification. This probably reflects the lack of forward and backward linkages between non-farm activities and their farm hinterlands. The non-farm activities that have developed along the agricultural margin of metropolitan centres are often neither oriented towards serving their farm hinterlands nor processing the farm output from the region. Dias calls these industries ‘foot loose’ or market-oriented industries, which do not depend on processing the local outputs. Dias concluded that the metropolis integrates and interacts with the national and international economy rather than with the regional economy. This suggests a kind of dualism between the metropolis and the surrounding hinterlands. From the Asian perspective, it is clear how the socio-economic linkages are not felt within the immediate hinterland but more with the national and international economies. This phenomenon forces researchers to question whether import substitution is an adequate reason to explain why the immediate hinterland does not take active participation in the regional economy.

McGee (1987; 1990) making reference to research studies from Asia by Isarankura (1990), Karunanayake (1990) and Hwan Jin (1990), revealed that the extended metropolitan regions in Asia were characterised by a large population in smallholder cultivation. The presence of reliable socio-physical infrastructure enabled the smallholder cultivators to develop considerable socio-economic and institutional linkages between the urban core and the hinterland. These regions were as well characterised by the diverse growth of non-agricultural activities, including trading, transportation and industry; leading to extreme fluidity and mobility of population. The availability of cheap transport e.g. two stroke motorbikes, buses, and trucks facilitated quick movements between and within the hinterland and the urban core, and intense socio-economic rural-urban linkages. Rural households

increasingly earn more income from non-agricultural activities and create a multiplicity of income sources within the same household. This often leads to household income figures that are much higher, thus suggesting enhanced livelihood. The regions are also characterised by an intense mixture of settlement and economic activity, with agriculture and sub-urban development existing side-by-side and invisible or grey zones that urban regulations do not apply.

Observations by Dias and McGee in Asian countries show that some economies were growing fast due to the presence of the right climate for rural-urban linkages while others were stagnating or growing relatively slowly. They both highlight potentials like transportation, population movement, diversification of economic activities and the presence of the right institutional set up as crucial for the development of enhanced livelihoods and rural-urban linkages. Although import substitution is given as one of the problems prohibiting the development of strong rural-urban linkages, it does not only depend on import substitution as a sole determinant.

Consequently, the changes affecting agriculture in the metropolitan hinterlands brought about by metropolitan growth cannot be understood as simple linkages between urban and rural sectors within a particular region. It is part of the total interaction process of socio-economic, institutional and demographic linkages between the rural and urban sectors in the country. Increasing unemployment in Developing Countries puts pressure on the rural people to migrate to the cities, particularly the metropolitan centres, in search of employment opportunities. The prosperity of the metropolis has come to symbolise the opportunity to improve living conditions for people all over the countries. This is the lure of the metropolis, but in the absence of industrial growth in the cities that is rapid enough to absorb this stream of migrants, it only helps to swell the pool of the unemployed and the underemployed labour in the metropolis.

The history of urbanisation in Africa shows that ancient cities on the African continent extend back for over one thousand years. According to Mabogunje (1968), African cities can be grouped into two main categories: The first group embrace cities and towns that originated from indigenous civilisation. They include cities of Yoruba origin of West Africa (i.e. Ife, Oyo and Kano). Their populations comprised people who had been there for many generations. The towns grew in rich agricultural areas and became centres of trade and political power (Mabogunje 1968; O'Connor 1983). These towns served trade and provided services to their hinterlands. According to Swindell (1988), the towns of Hausa and Fulani in Northern Nigeria continue to be surrounded by intensively cultivated land with high population densities. Mabogunje (*ibid.*) grouped the second type of cities as those developed by the colonial government. The bulk of the African cities are in this group, and they include Nairobi, Dar es Salaam, Harare, Lagos, Kampala and Lusaka, which were established in the 19th and the 20th centuries to provide the colonial services and administration.

Largely, the indigenous cities that were started before the 16th century, like Kano, Oyo, Ife, Zaria and Mombasa grew in rich agricultural hinterlands and their prosperity depended on the agriculture of the surrounding hinterland. There is, therefore, a long history of dependence of the urban on rural areas for food while the cities provided markets for rural produce and employment. Traded goods consisted of gold, copper, sugar, pepper, gunpowder, needles, cloves and clothes. Urbanism in traditional cities was associated with the institution of divine kingship as a centre of authority (O'Connor 1983:10), and there were no sharp cultural distinctions between the urban and rural populations (Mabogunje 1968:44).

A standing army was established and an elaborate code of courts etiquette defined the precedence, uniform and privileges of the numerous officers of the state. The resulting security and stability stimulated external and internal trade and prosperity. In the 18th century,

Kano had established trade relationships with Manchester, Nuremberg, Venice, Tripoli, and Alexandria (*ibid*. p. 57). Outstandingly, the major element in the survival of the traditional towns particularly the Yoruba towns was trade based on agricultural produce (*ibid*. p. 79). Trade in traditional African towns was carried out in two levels: first, there was local trade involving exchange between the residents of the town and the surrounding rural areas. This found expression in the daily morning or daily evening markets where agricultural produce was usually exchanged for crafts and imported goods. Secondly, there was a regional trade involving the periodic markets involving travelling long distances with the purpose of replenishing the stocks of traders in the daily markets (*ibid*. p. 80). Thus, there was a clear rural-urban trade and relationship in the traditional African towns.

The infringement of colonialism in the 18th century left most of the indigenous cities declining to almost nothing as exemplified by the towns like Axum in Ethiopia, Kilwa in Tanzania, Gao and Timbuktu in Mali that are now reduced to minor settlements. There are also ancient urban settlements that were totally abandoned or destroyed as the Zimbabwe ruins indicate (O'Connor 1983:11). Moreover, most urban centres in Kenya and Zambia are entirely of colonial origin. Nairobi for example, was a sisal estate location until 18th century (Morgan 1969; O'Connor 1983) and, until recently; Europeans were responsible for most of the major decisions affecting its growth and character. The European urbanisation in Africa in the 18th century marked the end of African urbanisation in the continent, leading to the de-linking process between existing settlements and surrounding areas. Indigenous African cities were forced to give way to the European cities that served as the political, economic and religious centres for the colonial government.

The postcolonial African urbanisation, according to Mwamfupe (1994:2) had no industrial base nor was it linked to the hinterland to tap resources or agriculture products. In addition, the urbanisation process had not been accompanied by economic transformation from agrarian to industrial base either. The colonial urban systems were designed for administration and resource collection for the colonial masters. Changes in the urban economic base during the colonial administration caused many cities and towns to disappear because of the presence of imported goods and services which replaced the traditional artisans. For instance, the importation of substitutes from Europe affected greatly the livelihoods of the local artisans because numerous smitheries closed down. Soap makers, leatherworkers and calabash decorators were forced out of their traditional occupations too (*ibid*. p. 121).

There was an apparent rural-urban separation in the colonial towns and cities similar to the current situation due to lack of communication, weak infrastructure development, poor agricultural development between the cities or towns and their impact regions. This was a result of the purposeful policies by the colonial masters to alienate the urban from the rural. The sharp divisions meant that many towns and cities depended on far-away places for food supplies, especially where the colonial settlers had occupied. This helps to explain why there has been little pressure on land from the urban to fringe areas until recently.

Despite the diversity in the origin of African towns and cities, taken together, they share two major common qualities that make them discrete groups of towns and cities, as follows:

- African urbanisation was not, and is not, in any case, associated with industrialisation or agricultural development in the impact region (O'Connor 1983, Mabogunje 1968; Mwamfupe 1994).
- Cities and towns in Africa South of the Sahara have the advantage of high population growth, thus attracting markets for the impact regions' agricultural development. It is common, for instance, that there are an increasing number of green vegetable sellers taking advantage of the situation, thus bypassing the intermediaries.

The pattern of the colonial transport system also helps to demonstrate that the colonial governments did not come to Africa to enhance or uphold the traditional system. Their concern was to exploit the resources of the continent for imperial interests. Thus, from this point of view, the eight decades of colonial rule from 1880-1960 were the years of imposing new spatial integration in Africa. The Berlin Conference held in 1884 had provided the most important basis for this new integration. At the conference, the doctrine of "effective occupation" was enunciated as a touchstone of the right of any European power to enjoy a semi-monopolistic privilege in exploiting the resources in Africa. One of the most decisive ways of indicating such effective occupation was the construction of ports and railway lines in the territories. In Nigeria, there was the Lagos-Kano line and the Port Harcourt-Kaduma line, and in Kenya, the Mombasa-Nairobi line (O'Connor 1993).

In Tanzania, the colonial administration created several towns for their own purposes of administration and trade. These played a critical role in the process of colonial political domination and in the extraction of profits by colonial business enterprises (O'Connor 1983). Many of the towns that prospered were the ports developed at main points of contact between colonial powers and the local population. To simplify the progress of their resource extraction objective, they constructed the Dar es Salaam-Kigoma line with branches to Moshi (coffee) and Mwanza port (cotton and minerals).

The construction of the single railway lines very strategically linked the export port with the rich resource producing regions to facilitate transportation of raw materials and the cash crops introduced by the colonial administration (Mabogunje 1968; 1981). Thus, there was completely a de-linking process between towns, ports and their hinterlands. After independence, most African countries continued with the same pattern of urban systems and administrative functions, with little or no investment to the immediate hinterland regions. Is this historical development the cause of the existing weak rural-urban linkages between the urban and impact region areas? The situation of many rural and urban areas in the post *uhuru* policies has not succeeded in redressing this imbalance between rural and urban areas.

Drawing from Evans and Ngau 1991; Baker and Pedersen 1992; UNCHS HABITAT 1995 and 1996; and Bryceson, Kay and Mooij 2000, results of their research point out that it is through rural-urban linkages connecting villages to towns that the process of growth and livelihood enhancement takes place. Table 1.2 presents a summary of the review of various studies on rural-urban linkages that have been carried out in many countries.

Table 1.2: Literature search results about rural-urban linkages[2]

Case	Emerging issues				
	Economic linkages	Demographic linkages	Infrastructure linkages	Institutional linkages	Researcher
Europe	X	X	X	X	Kunzmann and Wegener (1991)
America	X	X	X	X	Fishman (1991)
Asia	X	X			Dias (1990), McGee (1990)
Ghana				X	Kreibich and Tamakloe (1996)
Botswana		X		X	Kruger (1998), Tacoli (1998)
South Africa	X	X		X	Smith (1998)
Zimbabwe	X		X		Kamete (1998),

2 X in the table represents presence of the activity

					Ports and Mutambirwa (1994)
Kenya	X		X		Karaska (1998) and (1999)
Tanzania		X		X	Baker (1993)
Tanzania		X		X	Mushi et al. (2001)

Source: Author and literature review

The literature investigation demonstrates complementarities existing between urban and rural areas, as will be explained briefly in the following section. In Brazil, urban housing strategies for low-income groups tend to neglect the need by such groups to diversify their incomes through, for example, urban agriculture or by producing foodstuffs for household consumption, and to maintain and/or expand their links with rural home areas. Narrow controls over settlement and land use in public housing projects restrict the opportunities provided by these interactions (Chase 1997). In Ghana, research by Kreibich and Tamakloe (1996) revealed that there was a weak institutional support between the Accra Metropolitan region and the surrounding hinterland, leading to a depressed hinterland in terms of socio-economic and physical infrastructure (Table 1.2).

Kamete (1998) studied the interactions between small towns and commercial farms in Zimbabwe, focussing on the livelihoods of the low-income people. He examined the interactions between the urban residents and the surrounding commercial farming areas, and concluded that the channels endured because they suited the circumstances of the large section of the population in both the towns and the hinterland. Besides, he found that most rural households lived from hand to mouth, while the town-based actors used the rural-urban linkages as supplementary sources of income.

In Botswana, Kruger (1998) describing the importance of linkages for the rural-urban households, revealed that a third of the urban households in Gaberone and Francis town own cattle in rural areas, while half retain land in the village from which they come. The fact that these linkages are kept up for decades confirms that there are regular movements between the town and the country, and that any change on them can affect the livelihoods of the low-income households in urban areas. These rural assets are valued in both monetary and social terms, and they serve as safety nets for the households with low incomes in urban areas.

In South Africa, rural areas and cities are linked by long-term rural-to-urban, circular, and (more recently) reverse urban-to-rural migration. For instance, in the city of Durban, Smith (1998) describes certain households as having multiple home households, maintaining both an urban and a rural base, which serve as safety nets in times of economic hardships or political violence.

In Tanzania, a review of literature on small urban centres found many detailed case studies of particular urban centres that highlighted multiple linkages with rural areas supporting livelihoods of both rural and urban households (Hardoy and Satterthwaite 1986b). In another study by Baker (1995), he found that four villages in Biharamulo District, out of the 84 village households questioned, all but two owned land while most had smallholdings less than 4 acres. Over 90 per cent produced maize and beans, for both household consumption and sale, with bananas and cassava as the next most popular crops. Biharamulo is a District headquarters with about 20,000 inhabitants in Kagera region at the time of the survey. The example on rural-urban linkages in Biharamulo in northwest Tanzania demonstrated the importance of socio-economic and institutional linkages to both rural and urban households' livelihoods. A survey of households in the town of Biharamulo and in four

nearby villages showed the many and varied linkages between them. While agriculture was the mainstay and dynamo of the district economy, non-farm and off-farm economic opportunities were, in addition to agricultural land, central components in livelihoods of most households. Furthermore, among the households that lived in the town, four-fifth of those interviewed derived all or part of their income from farm produce, implying that their access to agricultural land was an important element of the livelihoods for most urban households.

The survey also revealed that the most economically successful and secure group of village households were those that combined crop production and marketing with a variety of non-farm and off-farm income generating activities. The latter included furniture and brick making, the production and sale of beer or spirits, teaching profession, village medical services, and/or administrative, clerical and army services. Villagers commuting to town had either permanent jobs (such as working for the district council) or temporary work (for instance, labourers on construction sites or road building or maintenance). The rich villagers owned or rented shops or kiosks in town, while others had houses to let in town. Village households often preferred to sell their crops, livestock or alcoholic drinks in town for better prices, although transport costs, time and market fees had to be considered. Village households had developed specialised niches in agricultural production. One villager, for instance, had been trained as an agricultural extension officer was cultivating tomatoes, onions, carrots, cabbages, paw paws and passion fruits, specifically for the urban market while two farmers were producing and selling milk. The poorest village households were generally those that had no urban component to their livelihoods.

Baker's (1995) findings also showed that more 90 per cent of the villagers visited the town more than once a month, with more than half visiting at least once a week. Items such as rice, sugar, salt and paraffin were purchased on a weekly basis while others such as clothing, shoes and agricultural implements were purchased less frequently. Many villagers also visited the town to obtain medicines and health care. All four villages had a primary school but village children proceeding to secondary level were obliged to attend school in Biharamulo.

A different study by Mushi *et al*. (2001) in Lindi in Southern Tanzania, revealed that poor transport system was the most serious drawback to regional development, since it constrained exchange between rural producers and urban markets. However, trade liberalisation has contributed to the growth of primary non-farm activities by simplifying licensing procedures. The study also shows that urban dwellers are linked to rural areas by the following factors: reliance on seasonal employment in agriculture, purchase of rural produce for sale in urban areas, cheap food and security housing, protection of land belonging to urban dwellers and protection of crops and livestock in rural areas. On the other hand, rural dwellers rely on urban areas for remittances, educational and health services, as a last resort for economic hardships alleviation, employment opportunities and market for agricultural produce.

These linkages cannot just be taken for granted as a short-term relationship; they need to be studied in detail to understand how the varied institutions relate, how households straddle the rural-urban to enhance livelihoods and the causes for multiple population movements. The review of rural-urban linkages in this section and the brief overview of the urbanisation processes have shown that the key problems cluster around four main issues, namely: demographic, economic, infrastructural, institutional and organisational linkages. In response to the myriad of linkages between rural and urban areas, governments, bilateral and donor organisations have reacted differently. The next section discusses different responses and their implications to rural-urban linkages and livelihoods enhancement.

Rural-urban linkages and development policies

Virtually every government development policy affects rural-urban linkages in one way or another. Nevertheless, it should be noted at the outset that in Tanzania, policy making on land matters such as land tenure and natural resources takes place at national level, while implementation is handled at the local government and regional levels. Thus, national policies clearly have significant effects upon livelihood patterns of rural dwellers and the types of linkages they maintain or establish with urban areas. In the context of drastic population increases and economic crises, many African countries have applied sectoral planning policies in an attempt to bridge the gap between rural and urban development and to reduce migration pressure to large urban centres. What follows is a review of the most important development policy initiatives that help to explain the disparity between the rural and urban areas. An attempt is made to highlight the policies that most affect rural-urban linkages, a step towards formulating appropriate recommendations for interventions to enhance positive linkages and mitigate negative ones so as to improve livelihoods.

More than half of the sectoral strategies that have been applied in Africa give a high priority to agriculture and rural development, on the assumption that this will help to address the rural poverty and that the multiplier effects will be concentrated in the regions. Other policies gave higher priorities to urban areas hoping for trickle down effects. Below is a discussion of a few selected policies.

The industrialisation strategy: spatial

Following the successful implementation of the industrialisation strategy that created strong economic rural-urban linkages in Europe and America in the 1950s, the international finance institutions and the bilateral donor countries realised the need to replicate the strategy in the Third World (Perroux 1950; Boudeville 1966; Hirschmann 1978).

The growth pole concept of spatial development supports the contention that investing in capital-intensive industries in the largest urban centres will give rise to trickle down effects to the surrounding rural regions. The theory further asserts that governments in Developing Countries can stimulate economic growth in selected centres that will spread outward to generate regional development through concentrated development in urban centres. The economies of scale found in the largest towns would not only provide high rates of return on investment but also support the commercial, administrative and infrastructure services needed. It was assumed that goods produced in the growth poles would be exported to the country's big towns and free operation of market forces would create trickle down effects that would stimulate economic growth throughout the region. Thus, investment in the growth poles (centres) would act as engines of development. The rationale for the growth pole strategy maintains that with limited resources, it would be inefficient and ineffective to attempt to spread development investments thinly over most of the national economy. Rather, key urban centres should be selected for concentrated investment programmes that would benefit from economies of scale and external economies of agglomeration. The results of the implementation of the industrialisation strategy in the Developing Countries were very disappointing and this led to a change of development policies in these countries. Below is a discussion of the results.

Rondinelli (1982, 1983, 1984, and 1984b), Hansen (1981:32), and Gaile (1973) reviewed several different studies of attempts to implement growth pole strategies and concluded that the spread effects were smaller than expected, limited in geographical context and less marked than the back wash effects. They concluded that ripple and trickle down effects were not strong enough to generate regional development and that if they worked at all, growth poles often became enclaves of modern activities that drained raw materials,

capital and entrepreneurial talent from the surrounding rural areas. Moseley (1973:63) commented, it would be advisable to invest directly in these places so that trickle up effects to larger towns would take place but a trickle down situation cannot be relied upon.

The implementation of this policy in Tanzania involved a selection of nine growth centres where industrial investments were to be directed. These included Tanga (fertiliser, steel and cement), Moshi (pesticides, bags manufacturing), Arusha (tyre, tourism), Morogoro (canvas, blankets), Mwanza (beer, fish processing) and Mbeya (cement), while Iringa, Shinyanga and Tabora received nothing. The implementation of this policy had serious financial problems leading to several of the selected towns getting no industrial investment (Mosha 1989). Thus, due to the above implementation problems, one cannot point to Tanzania as the best example of the implementation of the strategy, nor has there been a successful implementation of the policies elsewhere.

Concurrent with the industrialisation strategy, conventional approaches to planning in Developing Countries set out to document a restricted long term plan which, once legally adopted, forms the basis for public sector infrastructure and services investment. The analogy of the master plan as a building blueprint was often stressed. This form of urban planning tended to echo the then worldwide spread development model of state economic planning which relied on both central government finance and on the technical capacity of public agencies to control most urban activity (World Bank 1991). The processes worked well in many developed countries, in which urban conditions were characterised by slow growth, effective land use regulations and enforcement procedures and practices. The same was true of the Developing Countries where it was exported as part of a colonial inheritance (Rakodi 1996). However, for many Third World cities, these strategies do not appear to have been helpful (Stren 1991), although they continue to be applied in many countries (Baruti *et al.* 1992). The reasons for their impracticability embrace:

Inadequate concern with financial limitations of the plan proposals;

Lack of co-ordination with sectoral, socio-economic and financial strategies for urban development;

A two-dimensional approach to urban development, the plan being seen as an end in itself rather than one component in the management of urban development;

Uncertainty about the relationship between spatial and economic planning;

Inappropriate land use regulations and development controls which often generate more costs than benefits and do not reflect the actual ability of the city residents to pay; and

Institutional shortcomings in the public sector resulting from over-centralisation of planning powers in central government and antagonism between the public and private and community sectors.

Conventional master plans have indeed not reflected the priorities, resources, constraints and programmes of infrastructure line agencies. In many cases, spatial planning has no power to co-ordinate the sectoral spending agencies, which themselves may have little commitment to the spatial plan. Planners have usually been at a disadvantage in having few or no financial resources to negotiate with, and have relied largely on persuasion to get Cupertino and support for the spatial plan with the spending agencies. As it has frequently occurred, the process of specifying development budget priorities has little to do with spatial objectives or policies (Clarke 1994). Thus, this initiative did not stimulate or enhance rural-urban linkages and, as a result, the linkages have suffered greatly in the implementation of the policies.

Rural development strategy: spatial

As a result of the failure of the industrialisation strategy, the development policies since 1970s tended to favour the anti-urban view, partly because cities were perceived to be disproportionately better off than rural areas in terms of infrastructure and services (Weaver 1981; Friedmann and Douglass 1988; Escobar 1995 and UNCHS 1999). Accordingly, since the 1970s, donors have tended to focus on rural development programmes as a means to retard the increasing rural-urban migration (Koppel 1987). In addition, the low capacity of the rural areas to sustain development and the sporadic policies that lacked vision were the major causes of failure. The outcomes of the rural-biased policies were also depressing as the rate of rural-urban migration in Developing Countries increased. Consequently, for the past 40 years, there has been a paradigmatic shift in theory and practice of planning policies and development strategies in the Third World. Thus, the development of urban and rural has centred on the changing relations between agriculture and industry and on how the resources should be allocated between the two sectors (Bryceson 1997; Tacoli 1998; HABITAT Debate 1999). Appendix 20 illustrates other types of policies that have been implemented in Tanzania since 1960.

After the re-establishment of the District Councils (Local Government Authority Act No. 7) in 1982, an important requirement for Tanzania became the preparation for Regional Integrated Development Plans (RIDEPs). The preparation of the RIDEPs was initiated by the Prime Minister's Office, as directed by the Third Five Year Development Plan (1976-1981). This meant that each administrative region was to prepare a development plan for its future growth. Donor countries from the western world prepared most of the plans, as follows: Germany (the Tanga plan), Denmark (the Kagera plan), Norway (the Mbeya plan), Sweden (the Mwanza and Arusha plans), Finland (the Mtwara plan), UNDP (the Iringa plan), and the World Bank (the Kigoma plan). The aims of the RIDEPs were to reduce regional inequalities (socio-economic), allocate resources according to sectors, involve people in generating wealth and achieve self-sufficiency in food. After the preparation of these development plans, the following criticisms were raised: Firstly, the plans concentrated mostly on the rural sector, thus neglecting the urban sector. Secondly, they neglected physical spatial planning, as most of them contained geographical analysis. Lastly, the plans focused on one region in isolation from the rest of the country (Mosha 1989). It is, therefore, very clear that the RIDEPs failed to address the rural-urban continuum. Rural development policies failed because they were ill conceived, technically deficient and grossly mismanaged in their implementation. The direct effect of policy failures has been the increase in rural-urban migration.

Economic reforms

To save most of the Developing Countries from imminent economic collapse in the 1970s, the international donor community advised them to reach an agreement with the International Monetary Fund (IMF), which would enable them to rehabilitate and restructure their economies. The policies adopted included an increase in the share of development expenditure for agriculture, increased producer prices, rationalisation of the fast growing public administration, removal of subsidies, devaluation of the shilling, and an increase in imports. The donor community also encouraged the promotion of foreign investment in agriculture, and recommended the gradual change of indigenous land tenure towards individualised land tenure through evolutionary process.

The objective of the Economic Recovery Programme (1986-1989) measures was the gradual attainment of sustained growth in real incomes and outputs. This called for higher levels of production of food and cash crops through appropriate incentives, improved marketing structures, increasing resources available to agriculture and the maintenance of the deteriorating physical and socio-infrastructure. In addition, the Economic Recovery

Programme aimed at correcting the external fiscal imbalance, reducing the budget deficits and cutting down inflation (ESAURP 1996). Policy actions undertaken by the government in pursuit of the Economic Recovery Programme reforms included regular monthly adjustments of the exchange rates, consolidation of partial import liberalisation measures, and measures to improve agricultural marketing structures.

The reforms that Tanzania has been implementing have brought about many positive and negative changes. Positive achievements include a growth of the Gross Domestic Product (GDP) sustained at over 3 per cent per annum; liberalisation of the banking sector with private banks being allowed; removal of the past restrictions and controls; a rise in exports and a decrease in the rate of inflation. On the other hand, despite the achievements recorded in the macro-economic aggregates, certain sectors of the economy have been depressingly affected. For instance, the parastatal and government sectors were bound to retrench more than 20 per cent of their labour force to restore efficiency in the government and the state owned enterprises (Malyamkono 1996).

The implementation of SAPs in Tanzania for the past 15 years has resulted in increasing authoritarianisation of the Tanzanian state whilst smallholders started gradually to withdraw from the official market, thus reducing the state revenue. Furthermore, the agricultural policy (1983) encouraged large-scale foreign investors into agriculture and privatisation of land. This was exposing smallholders not only to state intervention but also to the forces of the private sector both domestic and foreign. SAP and economic liberalisation policies resulted in excess of changes in rural productivity and marketing infrastructure that often increased rather than reducing insecurity. Many remote-farming areas experienced a decline in marketing services and the removal of subsidies (especially on fertilisers) which made peasant production unviable (Bryceson 1999; Briggs and Mwamfupe 2000).

Rural households in the past could keep poverty at bay largely by the presence of extensive family networks and access to resources especially land. The reforms in market forces and land tenure are threatening the social security. It is not always possible to turn back the hands of the clock. However, where the system improved livelihoods or removed suffering, the appropriate reforms need to be revived. The sheer size of the selective movement of people from rural to urban areas indicates that not all is well in rural areas. For many parts of rural areas, there is a disproportionate number of the very old and the very young that are left behind. The impacts of such realities to agricultural productivity (food security) and the enhancement of rural-urban linkages are crucial.

Planning system in Tanzania and its implications

The following section discusses the planning system in Tanzania. At the apex there is the central government represented by the Ministry of Lands and Human Settlements Development (MLHSD). The directorates in the MLHSD present a clear separation of rural and urban development planning as shown by the functions of the two directorates namely: the Directorate of Urban Planning Development and the Directorate of the Land Use Commission. Although these directorates are in the same ministry, they perform their duties and communicate with the local government directly with minimal or no co-ordination between them. The Urban Planning Directorate in the Ministry of Lands and Human Settlements has five divisions, one of which is the division of Strategic Urban Development Planning (SUDP) that prepares environmental profiles for different urban areas that are submitted to the local government for implementation. The Land Use Commission directorate also prepares land use profiles for different districts and important geographical areas that are also sent to the respective districts for implementation. To link central government to local government, there is a government department established in all regions called the Regional Secretariat. This is chaired by the Regional Administrative Secretary and consists of senior

representatives of different line agencies existing in the region.

Corresponding to the District Authorities and Urban Authorities Act of 1982, there is the Regional Administration Act of 1997. The Regional Administration Act bill was designed to display the decentralisation of the government administration system introduced in the country in 1972. Concomitant with the establishment of that system was the abolition of the local government system. The re-establishment of the local government system and the institution of multi-party democracy necessitated further clarification and more effective operation of local government authorities at both the regional and district levels.

The bill provides that the functions of the government will be discharged at the level of the region through the Regional Secretariat. The Regional Commissioner is a political leader in the region, and the Regional Administrative Secretary is his or her principal assistant and head of civil service at regional level. Then, there is the Regional Advisory Committee (R.A.C) consisting of representatives of local government authorities and top political leaders. This organ is envisaged to provide the discussion of all regional affairs and an opportunity for more effective consultation and co-ordination in both planning and execution of plans.

Regional planning in Tanzania at the national level is the responsibility of the National Land Use Planning Commission in the Ministry of Lands and Human Settlements. Elsewhere, the activities of the region have been transferred to the district level. However, much of the planning including preparation of the Strategic Urban Development Plans, the district socio-economic profiles and village land use plans is done at the Ministry or contracted to private consultants.

The recent restructuring of the Local Authorities (1997) is ill stocked as regards finance and qualified manpower, most of whom were transferred from the Regional Offices. Issues concerning inter-district or inter-regional planning are not at all defined as to who should co-ordinate them. Besides, at District level there is no evidence that the administration is aware of all the sectoral activities and co-ordination to promote effective development. It appears that lack of effective regional planning and implementation in Tanzania is the cause of weak rural-urban linkages. In spite of the problems and responses discussed earlier in this text, there has been a growing consciousness and acknowledgement that rural-urban linkages are important and need to be planned for not only in Tanzania but also throughout the world.

A large number of urban authorities have jurisdiction only for the core areas of the town, whilst the peripheral areas come under different local authorities that do not have adequate expertise or the resources of the urban authority. It is precisely in the impact regions where local authorities do not have the required personnel and financial resources that most of the planning is needed to avoid adverse effects of urban industrial sprawl and set the ground rules for orderly development.

Co-ordination is required for planning beyond administrative boundaries and economic regions. Joint regional planning teams, administrative reforms between urban and rural relations and spatial pattern of development in the impact region are fundamental. The local authority is not the appropriate body for this task. This should be preferably done at national or regional level. However, as the plan implementation has to be done by both the rural and urban authorities, it should be formulated in conjunction with the local authorities.

Such regional planning of inter-regional resources has been weak in Tanzania. Foreign experts formulated most of the plans like the Dodoma Master Plan and its impact region, the Rufiji Basin Development Authority, and the Kagera Basin Regional Physical Development Plan, which have generally gathered dust after their preparation. In the absence of a joint inter-regional planning commission, the planning machinery in Tanzania cannot cope with the current urbanisation.

Emerging patterns for rural-urban linkages

The review has highlighted that rural-urban linkages can be separated into two broad categories namely: spatial linkages which take place across space and include flows of people, goods, money, information and wastes; and sectoral linkages, including rural activities taking place in urban centres such as urban agriculture and activities often classified as urban. The latter include manufacturing and services taking place in rural areas. The nature and scale of rural-urban linkages vary according to location, historical, political, socio-cultural and ecological factors.

It is not the intention of this study to present a full assessment of all the research findings on rural-urban linkages. Nonetheless, it is instructive to use the already discernible variables to highlight the research issues that will be dealt with in the whole research. The review of the contextual issues has provided a basis for a more converging discussion of rural-urban linkages. It has been shown that urbanisation, on the one hand, and the mismatch between population growth and economic development, on the other, are the critical issues that affect almost all aspects of development. One salient feature that has emerged from this review is that there is an unbalanced distribution of development in favour of the major urban centres in terms of service provision and employment generation. In summary, the review of the general state of rural-urban linkages and the brief overview of the types of policies different governments have applied show that the key problems cluster around the following main crosscutting issues:

Growing / shrinking urban and rural poverty

According to McGee (1990), there is evidence of shrinking poverty in some parts of Asia as a result of increased access to assets. Despite an abundance of natural and human resources, Africa currently suffers from widespread and persistent poverty and a high degree of income inequality. Rural-urban poverty manifests itself in the lack of adequate access to assets such as physical assets as well as privately owned producer goods farm animals, tools, machinery, buildings, equipment, and the public goods that make up the economic infrastructure of a region and its socio-infrastructure. Financial assets including access to cash, both in the form of income and in the form of cash savings and stocks of liquid assets that can be converted into cash in times of need. Human assets both the health and nutritional levels necessary for sustained labour input and the educational standards and skill levels that make this labour productive. Social assets including social relationships that people can draw upon in order to expand their livelihood horizons.

In 1987, 47 per cent of Sub-Saharan Africa's population was below the international poverty line (World Bank 1999). By 1998, this rate had declined only marginally to 46 per cent. Sub-Saharan Africa is today the region with the highest incidence of poverty in the world. High levels of income disparities compound the problem, undermining the prospects of both a sustainable and equitable economic growth and of a significant reduction in the incidence of poverty.

Rapid population growth and increased migration

The rapid natural growth of population continues to place a strain on the scarce national resources. Urbanisation under poverty implies that poor households may not be able to participate fully in rural-urban linkages through the market mechanism, and that they have to pay the price of more poverty, illness and other forms of deprivation. Rapid urbanisation in the 1990s, for instance, brought about spatial expansion of towns and cities and an increase in the level of spontaneous development around African cities (Sawio 1998; TGNP 1997). Both of them (rapid urbanisation and increased spontaneous development) reflect a total inability of

most national governments and city authorities to provide adequate serviced land and infrastructure to their growing populations. Thus, declining economies in the face of continuing rural-urban migration have three major components, namely: a decline in levels of formal employment and corresponding rapid increase in informal sector activities in many key areas of the urban economy; deterioration in both quality and distribution of basic services; and a decline in the quality of urban environment, both built and natural. All these changes adversely affect the quality of urban and rural livelihoods, particularly in the low-income groups.

Unmet socio-physical and economic infrastructure demands

Rapid urbanisation has often been considered problematic because governments and international agencies have failed to ensure that infrastructure and service provisions keep up with the growth of population. In addition, governments often fail to enforce pollution control and other regulations needed to ensure sustainable livelihoods in urban and rural areas. In Tanzania, for instance, the government failed to develop institutional means to ensure sufficient funding for operations and maintenance of basic infrastructure like roads and water. It has also failed to develop capacities within municipalities, cities and regions to make the best choices over which forms of agriculture should be given priority (UNCHS /HABITAT 1996; Kulaba 1989). In addition, recent implementation of macro-economic policies worldwide and within nations has significantly affected the distribution of incomes and livelihoods in rural and urban areas. Furthermore, changes in the extent and nature of economic activities and the integration of the global market have further aggravated the rural-urban situation (UNCHS/HABITAT 1996; Gaile 1992).

Inadequate organisational structures and institutions

Today, the role of institutions in creating conditions conducive to growth and economic development is largely acknowledged (North 1990). However, the importance of institutional development for rural and urban livelihood sustainability is much less understood. For too long, development policy has laboured under the false assumption that scarce resources are the main cause of poverty and underdevelopment. There is a consensus in the international discourse on development policy that the major problem is access to assets. This applies to *natural assets* which refer to natural resources such as land, forests, water and pastures from which people can derive their livelihoods; *physical assets* to both privately owned producer goods such as farm animals, and the public goods that make up the economic infrastructure of a country (e.g. roads, market places, electricity supply) and its socio-infrastructure (e.g. clinics, schools, hospitals). It also applies to *financial assets* such as people's access to cash, both in the form of income and of cash savings and stocks of liquid assets that can be converted into cash in times of need; to *human assets* both the health and nutritional levels and skill levels that make this labour productive; and finally to *social assets* which are the social relationships that people can draw upon in order to expand their livelihood.

The major problem in the context of sustainable livelihoods is not necessarily the absence of institutions. The real issue is that those institutions that most strongly affect the lives of the poor, for instance, the banks and credit societies, generally do not serve the welfare of the poor groups in the society. An analysis of rural poverty in Eastern and Southern Africa corroborates this consideration (Carney 1998). Most of the poor in this region live in areas with medium to high potential for agricultural development, but this potential is not being exploited. If the lack of natural resources does not provide an explanation of the rural poverty, then the reasons must include the access to assets. In this part of Africa, at least, production and marketing structures were tailored to the specific interests and needs of the colonial rulers (O'Connor 1993). The native population was excluded from the independent production of marketable agricultural produce in order to meet the demand for labour on

farms and in mines. Women remained in the villages, significantly increasing the feminisation of poverty.

After independence, these structures changed in that a small politically and economically dominant elite replaced the colonial rulers. However, by utilising parastatal distribution and marketing organisations, the elite few regulated access to these structures such that primarily their own best interests were secured. Corruption and misallocation of production factors are fundamental and inherent components of this system, and they should not be seen as just undesired concomitant phenomena.

In many countries of Africa including Tanzania, state monopolies of the agricultural sector have been dismantled in the recent past. The result is an institutional vacuum that is gradually being filled by private enterprises. In this situation, the challenge consists in promoting private-sector solutions such that the interests of small farmers are institutionally secured. Yet, the vision should be wider than that, since, in the age of economic globalisation, the primary task of public investment is poverty alleviation by creating conditions that guarantee the poor access to the formal private sector. This intermediary and linking function should cater for not only access to the national and international markets, but also for the creation of an institutional and environmental framework allowing the poor to exploit the development potentials of the private sector. There is no consensus yet on how this can be achieved to improve on the present weak institutional structures that contribute to persistent weak rural-urban linkages.

The review has also shown that rapid population growth and rural-urban migration continue to strain national resources. The results from recent studies on the scale and nature of rural-urban linkages have proved such linkages to sustain livelihoods in both rural and urban areas regardless of the inherent weak institutions, poor infrastructure and population growth. The elements described above constitute essential building blocks in addressing the crucial role of rural-urban linkages in livelihood enhancement in both rural and urban areas. The various linkages i.e. demographic, economic, infrastructure, and the institutional aspects constitute fundamental entry points for the understanding of the processes involved in the rural-urban interactions. When such elements are understood and enhanced right from the grassroots level, rural-urban linkages will contribute to enhanced livelihoods in both rural and urban areas.

2. Rural-urban linkages: Dar es Salaam and Coast Regions

This chapter starts by examining the pertinent factors that influence the development of rural-urban linkages in the Dar es Salaam and Coast Regions, namely the population movement, economic, infrastructure, institutional and organisational linkages to see to what extent they inhibit or enable the livelihood development in the Dar es Salaam Dar es Salaam and Coast Regions. Besides, it will also provide an understanding of the problems stemming from the existence of weak linkages.

Despite the crucial role of rural-urban linkages in development, governments in the Developing Countries are confronted by the stark reality of ever-increasing population under poverty. As a result of the increasing poverty in these countries, rural-urban migration has also been on the increase due to the expectation of better life in urban areas. The three underlying problems (population increase, poverty and rural-urban migration) form the basis of the debates on how best these interrelated problems could be addressed. Developing Countries governments have attempted a wide range of approaches to address the problems. While some have perceived the cities and towns as agents of innovation and socio-economic transformation, others have adopted an anti-urban view which idealises rural life but regrets its disappearance. Urbanisation is seen as a destructive process leading to the breakdown of social cohesion. In the review on Developing Countries presented in the previous chapter, it has been shown that since independence there has not been an appropriate answer on how to improve people's livelihoods in both rural and urban areas in a situation of a rapidly growing population, increasing rural-urban migration and growing poverty.

The continuing failure of Developing Countries to formulate effective policies in this area forms the basis for the need to continue conducting research on rural-urban linkages, now backed by the World Bank, UNDP and HABITAT and many other international institutions. The concerted effort seems to have exerted pressure on the need for understanding the nature and scale of rural-urban linkages since the mid 1980s. Consequently, there has been increasing awareness and acceptance that rural and urban areas have strong linkages which make them depend on each other, but which also affect the livelihoods of their inhabitants. This was discussed during both the Habitat I Conference in Vancouver (1976) and the Habitat II Conference in Istanbul (1996), and the issue was consequently adopted as the Habitat Agenda (Rabinovitch 1999).

Moreover, the interrelationships between rural and urban areas is ever more acknowledged as central to the understanding of the processes of social, economic and institutional changes in the Developing Countries nations (Evans 1990 and 1991; Baker and Pedersen 1992; UNDP/UNCHS 1995 and 1996). The heated dialogue is that the resource-starved governments in the Developing Countries will no longer be able to tackle the poverty of their populace due to rapid population growth. The proposal then is for the market to fill the gap by liberalising trade and improving rural-urban linkages that will in turn, lead to enhanced livelihoods in both rural and urban areas. Such an approach requires a sizeable restructuring of household resources of people in poor countries to meet their essential requirements. The successive sections will examine the scale and nature of rural-urban linkages in Dar es Salaam impact region, which will finally guide the statement of the problem and the setting of the conceptual framework.

Dar es Salaam and Coast Region

Sultan Majid established Dar es Salaam as a trading centre in 1862. In 1891, the Germans took over the administration of the Dar es Salaam council and it became the headquarters with

a population of 400 inhabitants (Kombe 1995; Marshall 1978)[3]. By the years 1967, 1978 and 1988, however, the city population had risen to 272,821, 843,090 and 1,360.000 inhabitants, respectively. Today the city has a total population of 2,497,940 million inhabitants (2002 Census report).

The growth of the population has not been only in figures; there has also been a big spatial expansion. By 1978, the city had expanded to a distance of 15 km from the city centre in all directions, while today the built-up area of the city has expanded to a distance of between 25 and 30 kilometres along Bagamoyo, Kilwa, Nyerere and Morogoro roads. The spatial expansion and population growth have had tremendous effects on the land use, land markets, planning and environmental degradation. Dar es Salaam Region covers an area of 1350 square kilometres.

Coast Region was officially established in July 1972 when the former Coast Region that included Dar es Salaam city was divided into two regions, namely Dar es Salaam and the present Coast Region. The headquarters of Coast Region were shifted to Kibaha town, located some 40 km west of Dar es Salaam along the Morogoro highway. Coast Region is situated on the eastern part of Tanzania Mainland along the Indian Ocean coastal belt between latitudes 6 and 8 degrees south of the equator. The region engulfs Dar es Salaam Region towards the east and shares borders with Tanga Region in the North, Morogoro Region to the West and Lindi Region to the South. Coast Region covers a total area of 33,539 square kilometres that is equivalent to 3.8 per cent of the total area of Tanzania. Dry land area covers 32,407 square kilometres equivalent to 96.6 per cent of the total regional area and rivers and water bodies cover the remaining 1,132 square kilometres (CRSEP 1997). [4]

Historically, the relationship between the urban and rural areas in Dar es Salaam and Coast Region has been weak because the city was developed without an industrial base and had no link to the hinterland. The surrounding regions were sparsely populated; thus, it produced limited food surpluses for the urban area. To divert the shortfall, the city depended on food supplies from up country sources which are still largely the case today. However, as from the 1970s, there has been significant displacement of people from the urban areas and other up country sources into the impact region to the effect that 70 per cent of the people who live in the impact region are in-migrants (Mwamfupe 1994). This has resulted in a number of changes in the Dar es Salaam and Coast Regions, including mounting land use conflicts, increasing land value, densification of the region and the growing importance of rural-urban linkages, all of which exert serious pressure on the land use.

The subsequent section presents the pertinent factors that influence the development of rural-urban linkages, namely: the population movement, economic linkages, infrastructure linkages, institutional and organisational linkages to see to what extent they inhibit or enable the livelihood development in Dar es Salaam and Coast Region.

Population growth in Dar es Salaam

The local people born in Dar es Salaam constituted only 32 per cent of the 1967 population. The figure dropped to 15 per cent for the adult population (O'Connor 1983:59). The net migration to Dar es Salaam from all the regions exceeded 25,000 a year. As regards migration according to sex, men outnumber women in Dar es Salaam.

Rural-urban migration normally involves a small fraction of the population gaining a living from the land and an expansion of activities more suited to an urban than to a rural location. Dar es Salaam, in this case, is a centre of administration, trade and industrial

3 Marshal M. 1978, Dar es Salaam master plan Tanzania Government

4 Source: Coast Region social economic profile 1997 and the Planning Commission Dar es Salaam and Regional Commissioners Office Coast

development. The primary motive of rural-urban migration is the urge to increase income. However, the city cannot provide the high incomes sought and as a result, it becomes a concentrated centre of poverty as well as wealth.

Dar es Salaam Region is the most urbanised area in Tanzania and the city owes its urbanisation mainly to the concentration of people in three of its districts namely: Temeke, Ilala and Kinondoni. After independence in 1961, following the abolition of prohibitive by-laws that prevented the Africans from living in urban areas, there was a rapid increase in population in the city, largely resulting from rural-urban migration (Table 2.1).

Urbanisation has been an indicator of socio-economic development in developed countries (Mwamfupe 1994:16); therefore, a high degree of it is generally identified with a high degree of industrialisation and increased rural-urban linkages. In Tanzania, however, urbanisation is neither accompanied by a high degree of industrialisation nor agricultural development in the impact region.

Table 2.1: Rural and urban population by District in Dar es Salaam Region

District	Total population	Urban	Rural	Per cent urban
Kinondoni	621,389	565,006	56,383	91
Ilala	333,700	314,123	19,577	94
Temeke	405,753	358,665	47,088	88
Total	1,360,842	1,237,794	123,048	91

Source: Authors analysis of population census 1988

The factors causing this state of affairs are more inclined to push from rural areas due to poverty, and then pull from urban areas due to employment prospects and high standards of living. As seen from the Tables 2.1 and 2.2, the three districts of Dar es Salaam Region are the most densely urbanised compared to the districts in Coast Region.

Table 2.2: District population in the Coast Region 1988

District	Total population	Urban	Rural	Per cent age urban
Bagamoyo	177,918	49,019	128,899	28
Kisarawe	195,789	36,590	159,199	19
Rufiji	152,316	17,311	135,005	11
Kibaha	83,316	37,007	46,309	44
Mafia	33,054	7,311	25,743	22
Total	642,393	147,238	495,155	23

Source: Authors analysis of population census 1988

Table 2.1 describes the percentage of rural and urban population in Dar es Salaam Region, showing that more than 90 per cent of its population live in urban areas. This implies that most of these people get food from outside the Dar es Salaam impact region because the 10 per cent living in the rural areas cannot supply the urban population with food using subsistence[5] means of agriculture. The rural-urban separation that was and still exists between Dar es Salaam and its impact region stems from the weak development of the agricultural sector caused by inadequate provision of socio-economic and physical infrastructure in the impact region. Apparently, the colonial policies were deliberately tailored to delineate the urban-rural dichotomy (Mwamfupe 1994). This sharp division has caused Dar es Salaam to depend on distant locations like Tanga, Kilimanjaro, Mbeya and Iringa, which are well connected by all-weather roads for food supplies. This also explains why the pressure on land

5 Agriculture meant purely for local/household consumption; if some produce is sold the money so obtained is used to purchase alternative food

development in the impact region was not felt until recently i.e. in the 1980s. Similarly, settlements in the impact region draw food from the city markets, especially grain and rice that are imported from upcountry sources.

Table 2.3: Rural-urban population of Dar es Salaam Region 1967 to 2000

Dar es Salaam Population	Urban	Rural	Per cent urban	Total	Growth Rates in percentages
1967	-	-	-	272,821	-
1978	769,499	75,650	91.2	843,090	9.9
1988	1,237,794	123,048	90	1,360,850	4.9
2000	-	-	-	>3,500,000	7.2

Source: Population census 1967, 1978, 1988 and projection using past trends in environmental profile of Dar es Salaam 1992 and HABITAT estimates 1996

However, due to rapid urbanisation (Table 2.3), there have been serious land use changes, land ownership changes, land use conflicts and land use degradation in the city and the surrounding impact region, especially along the arterial roads (Mwamfupe 1994; SDP[6] 1992; Shivji 1998). Additionally, the population structure of Dar es Salaam city shows that most of the primary school going children remains in town after completion of the primary education (Appendix 1). The labour force in Dar es Salaam claims a lion's share of 59 per cent, when contrasted with the dependant age group (0-14) and (>65) that represents 40.1 per cent of the total population. This structure is very different from that of Coast Region where labour-force represents 49 per cent, whilst dependants represent 51 per cent. These figures seem to suggest that Dar es Salaam urban population exert a great pressure on the socio-physical infrastructure and services not only in urban areas, but also in the surrounding impact region. Comparatively, the population increase in Coast Region has not been growing that fast (Table 2.4), as only 37.4 per cent of the whole population presently live in the urban areas. This implies that about 63 per cent of the population in Coast Region is still rural, which is typical of many other regions in Tanzania mainland.

Table 2.4: Rural-urban population in the Coast Region 1967 to 2000

Year	Urban	Rural	Total	Per cent Urban
1978	57,281	479,303	536,584	11
1988	147,238	495,155	642,393	23
2000	307,618	514,871	822,489	37

Source: Census report 1978 and 1988

According to the 1988 census, there are 377 villages in Coast Region and 38 others in Dar es Salaam Region (City Commission 1999). For Coast Region, the proportion of urban population out of the total population is approximately 44 per cent, whereas for Dar es Salaam it is 98 per cent. The growth rate of Coast Region has been very small compared to that of Dar es Salaam Region. This may be attributed to the fact that a majority of the migrants were more attracted by the latter that had a greater comparative socio-economic advantage over the former in terms of recreation and employment possibilities. The figures in Appendix 2 show that although there was an increase in the percentage change of the population in the broad age group of 15-24 years, there was a substantial decrease in the labour-force in the following broad age group of 25-64 by 4.4 per cent. Rural-urban migration is rated as the number one contributor to the growth of population.

The main reasons for rural out-migration in the impact region are largely economic. They include for example, poor pricing of cash crops, lack of alternative activities in rural areas, poor returns from agriculture and following relatives. Consequently, rural out-migration

6 SDP: Sustainable Dar es Salaam Project 1992

leads to three main drawbacks in the rural areas; namely decreased labour-force in agriculture, decreased productivity in agriculture and threatened food security in the region. On the other hand, Bryceson (2000) argues that if poverty alleviation is the objective of development in both rural and urban areas, then the issue of rural labour displacement cannot be avoided. The rural poor in Tanzania and elsewhere are progressively being marginalised from commercial agricultural production, while trying to maintain food self-provisioning and rural subsistence as fallbacks. Their future lies increasingly in labour-force participation outside rural agriculture.

The economic linkages and livelihoods

Economic linkages are essentially referred to as the channel through which goods and services are produced and supplied. If economic linkages are sufficiently developed, the multiplier effects of investments will be reaped through forward and backward linkages.

Rural-urban trade plays a vital role in both urban and rural areas. Dar es Salaam city supplies manufactured goods to the impact region and the country at large in exchange for foodstuffs. In the process of urbanisation, the flow of foodstuffs to meet the growing urban population is a fundamental element; it is one way by which the city growth should surely be of direct benefit to the impact region. According to O'Connor (1983), the prices paid to farmers for their agricultural products often seem extremely low. In part, they reflect the transport costs, the risk of handling perishable goods and the time taken; they also partly reflect the profit margin of the urban-based intermediaries. Nonetheless, this flow of produce brings extra income to the rural farmers.

The main economic growth sectors in the study region are divided into six categories, namely natural resources, agriculture, fishing, mining, industries and livestock. The land under agricultural development is presently 299,130 hectares. The region has 2,500,000 hectares of forest area, of which 369,523 hectares are forest reserves and the remaining 2,132,477 hectares fall under open forest which can also be used for the expansion of agriculture. Appendix 6 illustrates the large potential existing in Coast Region as regards natural resources. For the past 10 years, the government collected royalties worth 288.6 millions of Tanzanian shillings, an average of 30 million shillings per year. Besides, these revenues are collected only from the registered sources, implying that there exists interconnected illegal hunting and harvesting. The revenue collection from the forest reserves is substantial and could be utilised in the region for the enhancement of livelihood conditions and maintenance of poor infrastructure. In addition, Appendix 6 highlights strong linkages of charcoal and round wood between the impact region and the city. This strong linkage in fuel wood has negative implications in terms of depletion of forest reserves. One would desire strong linkages in terms of agricultural produce rather than forest products, which are harvested without licences and are hardly replaced. The main problems facing natural resources include: First, heavy deforestation (especially for the forests surrounded by villages where trees are cut down for the daily requirements as fuel wood, charcoal, timber and building poles). Second, shifting cultivation where farmers clear forestland to expand their farms; uncontrolled forest fires; and the proximity to Dar es Salaam that makes the population depend on Coast Region for fuel wood, timber, charcoal and many other forest products.

The main types of livestock in the impact region include cattle, goats, sheep, and poultry. However, the number of livestock reared in the impact region is small compared to the city population demand. Whereas, livestock in Dar es Salaam totalled 18,286[7] in 1993, that of Coast Region totalled 111,700[8] in the same period. As a result, much of the meat sold

7 Source: Dar es Salaam city Commission 1998, Table 1.2
8 Source: Coast Region Socio-Economic Profile 1997:106

in the city markets comes from other regional sources, namely Tabora, Shinyanga, and Dodoma by train and road. As for poultry, there are enough commercial poultry keepers in the impact region. These are concentrated in the urban areas and along the all weather roads where transport is readily available.

Rural-urban linkages and livelihood enhancement

To understand the impact region, one needs to consider how the inhabitants gain their livelihood. This section looks into how the regional economy is structured and attempts to present evidence of rural-urban interdependence. A number of adults in Dar es Salaam have a rural origin, for either they were born and brought up in up-country regions and later came to Dar es Salaam in search of jobs, higher education or following relatives. Consequently, only a small proportion of the urban dwellers in Dar es Salaam originate from the impact region. Rural-urban linkages are therefore strong and more diverse with the upcountry regions than they are with the impact region.

The point that must be emphasised as regards the relationship between Dar es Salaam and the impact region is that there is no clear boundary between the urban and the rural population, especially when one travels along the arterial roads. This has very significant implications for any discussions of whether resources are fairly distributed between the city and rural areas. It also implies that explanations of urban patterns must often be sought in the rural areas. The next section discusses just a few forms of rural-urban linkages involving land ownership, land speculators and the level of development.

Land ownership and agriculture

The legal administrative machinery governing land tenure in Tanzania has its genesis in the colonial period. The British passed the Land Ordinance in (1923) which, with a few amendments is still the prime basis of land tenure aimed at declaring and defining customary tenure without titles and rights and declaring all land public under the control and subject to the disposition of the president. Thus, the system of land ownership in the impact region is governed either by the granted rights or by customary land ownership.

Agriculture is the mainstay of, and a major source of income for the people in the rural areas of the study region, but the area under cultivation is small compared to the amount of land available. Although the study region has 2,087,600 hectares suitable for agriculture, only 15.3 per cent is under cultivation. One reason that may explain this situation is that since independence, senior government, party and parastatal leaders had been barred from owning property by the ‘leadership code’. It was only in the late 1980s that the senior officials started owning big property such as houses, farms and business.

Besides, Shivji (1998) questions the issue of access and ownership of land in the rural areas by stressing that there was empirical evidence that women who are the real producers and labourers in rural areas do not own land. Consequently, they access and use land through marriage circles. Ownership is explained here in terms of interests in land that is secure, guaranteed and can be transferred (sold). In other words, the three important elements of this form of ownership are transferability or negotiability of land, security and clear definition of interests. Therefore, the issue of gender versus land is central in the impact region.

The impact region of Dar es Salaam can grow a number of crops due to the presence of flood plain valleys. The main crops include cassava, maize, sweet potatoes, watermelons, cucumbers, tomatoes, pineapples, oranges, coconuts, mangoes, bananas, onions and peas. The variation of crops grown can also be linked to the settlements along the arterial roads. Along Morogoro road for instance, the immigrants are mostly from Kilimanjaro and Arusha Regions. The types of crops grown also reflect the in migrants traditional crops in the

respective regions of origin. Along Nyerere road for example, the settlers who are mostly from Mara region also have their priority crops. These include maize, bananas and cassava.

Regardless of the recent land occupation, Kariakoo Market Corporation receives much more of its food crops from up-country regions than it does from the impact region (Table 2.5). Some of the food items received is also sold to the farmers in the impact region who could have grown the crops themselves. Suppliers from the regions such as Arusha, Morogoro, Iringa and Tanga seem to have strong food supply chains that out-match the impact region producers.

Table 2.5: Food crops received from the upcountry regions

Types of food crop	Total tons per month
Green vegetables	714.4
Coconut	102.9
Fish	45.9 (much received from Dar es Salaam)
Cereals	52.0
Potatoes	664.5
Fruits	85.5

Source: Kariakoo Market Corporation report 1999

All food recorded in Table 2.5 is received from upcountry regions as recorded by the Kariakoo Market Corporation. These products have to meet high transport costs from the regions, yet they sell at a cheaper or the same price as those from the impact region. This suggests a well-organised business chain. The agricultural production from the impact region is negligible, as it hardly reaches Kariakoo Market Corporation record books[9]. More than 75 per cent of the produce from the impact region is sold along the city streets, namely Tabata *(relini),* Mwenge, Tegeta, Mbagala Rangi Tatu and Kimara centres that are stop over markets for the impact region's produce. It seems as though the produce from the impact region cannot find its way to the Kariakoo Market Corporation easily. This is probably due to both competitions from other sources and to the type of infrastructure facilities available and used in the impact region.

Appendix 7 illustrates that Dar es Salaam receives almost 90 per cent of its food from up country regions like Tanga, Moshi, Iringa and Mbeya, with the exception of fish. According to the Kariakoo Market Corporation manager, the impact region production is negligible in relation to the city population demand. This suggests an inherent problem. Other studies including Mwamfupe (1994) and Coast Region Social Economic Profile (1997) have earlier indicated that the region suffers from low fertility. This supports another argument that Dar es Salaam, like other colonial towns in Africa, was established on low potential agricultural areas and that its establishment had nothing to do with the impact region. The town was established for the purpose of handling export-import activities of the colonial masters.

In the Coast Region, the main food crops produced are paddy, maize, cassava and millet. Paddy (Appendix 8) is cultivated mainly in river valleys, flood plains or in waterlogged areas. Rice is grown both in a small scale (subsistence level) by indigenous farmers and in a large commercial scale by private and state enterprises like the Ruvu National Service and National Food Corporation (NAFCO). According to the records by Coast Region agricultural officer, the present paddy yields per hectare range between 0.4 tons per hectare to 0.9 tons per hectare, whilst the potential yield can go as high as 3.3 tons per hectare (*ibid*.). The reasons given by the farmers for the low productivity include the use of the traditional hand hoe, shortage of labour due to out-migration of the active labour force and the non-use of fertilisers. The production of the crops fluctuates from year to year mainly as a

9 Source: Mr. Omolo Kariakoo Market Corporation Statistics Officer April 2000

result of erratic weather conditions, farm size and price margins.

Cashewnuts are the major cash crop in the Coast Region that contributes more than 30 per cent of the regional income (Appendix 9). The current average yield is 0.35 tons per hectare while the estimated potential yield per hectare is 0.45 tons. The Coast Region alone produces 20 per cent of the National total production of cashewnuts. It is estimated that the region has 100,000 hectares of farms with a total of 8,339,680 cashew trees.[10]

Production of tomatoes, another high value crop, takes place mainly along river basins, river valleys, low land areas and other areas with fertile soil and water for irrigation (Appendix 11). The main problems facing the production of these crops as recorded in the Coast Region Social Economic Profile (1997), are lack of markets for farmers to sell their produce (due to saturation in the season); and shortage of fruit processing plants as a result of which much of the farm produce is left to rot in the farm. This happens due to low prices paid to the farmers relative to the input costs and high transportation costs resulting from poor socio-physical infrastructure serving the villages.

As regards water, the impact region has an enormous potential for irrigation. There are two large-scale irrigation schemes in Coast Region both located along the Ruvu River basin known as National Agricultural Food Company (NAFCO), and National Service Ruvu. Table 2.7 shows the irrigation potential in the impact region.

The projects were developed by the Ministry of Water Development and later handed over to the Ministry of Agriculture and Livestock Development for supervision. Most of the schemes have not been sustained because of:

Lack of sound knowledge on the part of farmers on the management of the irrigation schemes;

Lack of maintenance of the irrigation systems such as pumps;

Lack of participatory involvement of the beneficiaries during the initiation of the projects; and

- Lack of clarity with regard to the ownership of the schemes.

Table 2.6: Irrigation potential in the Coast Region

Irrigation scheme	Potential capacity in hectares
Matipwili	2500
Makurunge	250
Mkoko	70
Nasibugani	75
Ruwe	60

Source: Coast Region Social Economic Profile, 1992

Irrigation activities in the Coast Region are mainly carried out in the river basins and flood plains of the three big rivers; namely: Wami, Ruvu and Rufiji. The three river basins have a potential of irrigating approximately 188,500 hectares, but only 1.2 per cent of the land is under cultivation. This raises questions that need answers not necessarily from this research. Many irrigation projects started by the Ministry of Water and the Ministry of Agriculture have either been abandoned or they are producing under capacity. After the discussion of crop cultivation, the next section examines the land ownership structure and land tenure in the study region.

Land markets and land acquisition

Land is a platform for our living and people make use of it for crop cultivation, livestock

10 Source: 1996 Coast Region Agriculture office estimates, Kibaha Regional Headquarters Agriculture Office, January 1999

keeping, industrial development, housing and forestry. A land tenure system is the conditions on which land is held, used and transacted. Since majority of the Tanzanians live in rural areas and depend entirely on land resources through agriculture, livestock and forestry, the manner in which land is owned, transacted and used is of great importance for enhanced livelihoods. The land resource is under enormous pressure due to the rapid population growth as contrasted with slow economic growth. This situation has led to the expansion of settlements, agricultural activities, interregional migration, tree cutting, livestock keeping water demands, etc.

The conflicts between agriculture and other industries such as urban use, mining and the concern for conservation of the rural environment are not the only components of the accelerating commotion over rural land use issues. For instance, urban expansion and declaration of planning areas have now moved apace. Land speculators from Dar es Salaam city and other upcountry regions have established "weekend farms" all the way to Coast region in anticipation of the expansion of the urban boundaries. The expectation is that eventually, as the town boundary expands, such a farm could yield several plots that could be sold at a very high premium. Evidences from Kibamba, Kibaha, Makongo, Kimara, Kawe, Mbezi, Boko and Bunju and villages surrounding Kibaha, and Bagamoyo all speak of the same story of casting out of the original landowners (URT 1994). This can also be seen as one move out of the city of Dar es Salaam along the four major arterial roads: Morogoro road, Bagamoyo Road, Nyerere Road and Kilwa Road. Town planning, therefore, has literally meant the expropriation of customary lands and the extinction of land rights (Shivji 1998). In trying to control such developments, the Ministry of Lands and Human Settlements has embarked on an overall residential/industrial layout plan covering a big part of the city. Evidently, the plan completely disregards ownership, property boundaries, land use and rural interests.

A typical scenario is for a bureaucrat, a businessperson, or a professional to buy a farmland from the original occupant under native law and custom evidenced by chairperson of the village or a party chairperson. Transfer of land between natives does not require the consent of the Commissioner for Lands. On the strength of the note from the village chairperson, the purchaser gets a land officer to process a survey instruction for the plot; then a letter of offer is prepared and finally a certificate of occupancy is issued. This means only the rich and the influential are successful in acquiring large plots both in urban and in the impact region.

Therefore, there is need for a scientific explanation of both how land use changes (including the displacements taking place) and the effect of the changes on rural and urban population development now and in future. It is expected, at least from theory, that the presence of a town or city surrounded by a rich impact region would trigger a speedy development of the impact region. Figures from census and researches show that it is the urban rather than the rural, which has continued to grow in various aspects such as services, population, and commercial activities (Kombe 1995; Shivji 1998, Mwamfupe 1994). Besides the studies by Kombe and Mwamfupe, there are no other detailed studies explaining the rural-urban linkage phenomenon.

Level of development of the Districts

A summary of the level of development of the impact region indicates that the development of the impact region is lopsided in favour of Dar es Salaam districts. Most of the social and technical infrastructure such as roads, posts, education, water supplies, and health are located in the Kinondoni, Temeke and Ilala districts. Although there exist regional and district capitals in the impact region, the facilities are less developed and the surrounding region is therefore less attractive compared to the city. In the absence of detailed data on the type and

spatial distribution of various social and technical infrastructure in the study region, the distribution of selected facilities in the district capitals has been used as a substitute to measure the development importance of each district. This is based on the assumption that the district capital serves as a center of diffusion of development to its hinterland. Based on scalogram analysis, apart from population, the following services were used as indicators of development: education, health (Table 2.8). The hierarchy of each of the above services was identified and scaled with relative scores to measure the level of development. The health and educational services were given weights depending on the type and level of the service existing. Following the normal hierarchy university service was given weight four while s given primary school weight two. Likewise, a National or referral hospital was given weight four while a dispensary was given weight one.

Table 2.7: Selected development indicators in the study region[11]

Area (District)	Population 2000	Education			Health		
		University/ College	Secondary School	Primary School.	Hospital	Health centre	Dispensary
1. Kinondoni	1,088,867	16	21	75	11	6	108
2. Temeke	771,500	8	13	51	3	12	193
3. Ilala	637,573	14	15	46	8	2	109
4. Kibaha	102,826	2	5	45	1	2	25
5. Rufiji	180,837	1	7	95	2	4	49
6. Kisarawe	257,110	1	4	80	1	12	14
7. Mkuranga	83,018	1	4	60	Na	Na	Na
8. Mafia	50,529	1	1	Na	1	Na	10
9. Bagamoyo	231,177	5	7	93	1	4	29

Source: Coast Region Social Economic Profile and City Commission Hand-over Report, 1999

The results of the analysis show that the development of the impact region is skewed in favour of Kinondoni, Temeke and Ilala districts (Dar es Salaam City) which is about 3 times functionally more developed than the next district centre and 2 times more developed than the most developed district towns in the impact region. Table 2.8 further shows that Kinondoni is two times more developed than Kisarawe which is just 26 kilometres away from the city centre and 20 times more developed than Mafia District. It is also apparent from Tables 2.8 and 2.7 that there is a gap in the urban systems in relation to the impact region.

Table 2.8: Level of development in the Dar es Salaam and Coast Regions

Area	Education			Health			Total scores
	University/ College	Secondary School	Primary School.	Hospital	Health centre	Dispensary	
Kinondoni	64	63	150	44	12	108	441
Temeke	32	39	102	12	24	193	402
Ilala	56	45	92	24	4	109	330
Kibaha	8	15	90	4	24	25	166
Rufiji	4	21	190	8	8	49	280
Kisarawe	4	12	160	4	24	14	218

11 The functions were allocated weights according to their presence in the district and the level of service offered. **Health**: Referral Hospital (4); Other Hospital (3); Health centre (2); Dispensary (1); **Education:** University / College (4); Secondary schools (3); Primary schools (2); other training schools (1).

Mkuranga	4	12	120	Na	Na	Na	136
Mafia	4	3	Na	4	Na	10	21
Bagamoyo	4	21	186	4	8	29	249

Source: Author

Matching (Dar es Salaam) Kinondoni, Temeke and Ilala with a total population of about 2.5 million with the next town in the hierarchy (Kibaha) with a population of 27,112, it is clear that Dar es Salaam is 92 times bigger than the next urban centre in the impact region, making it more attractive to the population in the impact region. The urban system gap has caused increased transaction costs incurred by the producers in the impact region since farmers have to travel longer distances, pay more for transport costs and face more risks in dealing with the perishable products. The outcome has been less purchasing power, despair and a search for other alternative activities. No wonder, the population of the impact region buys food from the Kariakoo market (KMC 1999)[12]. Having discussed the economic linkages, we will now focus on the infrastructure linkages and their influence on rural and urban livelihoods.

Infrastructure facilities and rural-urban linkages

Infrastructure facilities as used in this study refer to topographical features, roads, posts and telecommunications, electricity and water. This section attempts to describe the existing situation in relation to the services in the study region and their influence on the flows and livelihoods of the population.

Topography and soils

The eastern part of the Coast Region is dominated by the Indian Ocean. It extends northwards to Tanga Region, and southwards to Lindi Region. The coastal area, which rises from zero to 100 meters above sea level, is dominated by sandy loam soils, except for low land areas with heavy clay waterlogged soils suitable for paddy production. The Coastal hills and highland areas that rise from 100 meters to 500 meters above the sea level are mainly dominated by sandy loam and sandy clay soils.

There are three big rivers that traverse the region from west to east, thus discharging their water to the Indian Ocean. These are Rufiji River that crosses the region in the southern parts, passing through Rufiji District in a west-east direction; Wami River, which crosses the region in the northern parts, passing through Bagamoyo District in a west-east direction; and Ruvu River, which crosses the region through different parts of Kibaha and Bagamoyo Districts in a west-north direction. These river basins together with the low-lying areas are the main agricultural potential zones of the study region. Their soils are mainly loamy, clay, silt, alluvial and light textured clay soils. The total land under the valleys that can be cultivated is about 200,000 hectares, if all of it were cultivated, it could feed the whole country. The subsequent section will examine the physical infrastructure to see if it has a role in the performance of rural-urban linkages in the study region.

Road network

The transportation network has had a strong influence on a number of factors, which influence economic development in Dar es Salaam and Coast Regions. These include the direction of urban expansion, the settlement pattern of the migrants in the impact region, land prices and spatial cropping patterns. All these have experienced the greatest pressure along the main

12 Source: Omolo R. and Makori H. Kariakoo Market Corporation, Statistics Officer and the Commercial Manager respectively, 1999

roads. Due to limited interconnections between the main roads, the areas between the main roads have experienced less pressure from the urban expansion.

There are five main roads that connect the Coast region to the city of Dar es Salaam. The northern sector of the region is connected to the city by Bagamoyo Road, which runs along the northern coast from Dar es Salaam to Bagamoyo in Coast region. Bagamoyo Road functions also as a commuter service road for residents of newly developed sub-urban areas along this axis. The western sector of the impact region is connected to the city by Morogoro Road which also serves as the principal access to Dar es Salaam from most of the other parts of the country. The road is extremely important for regional economy in that most of the cargoes shipped into and out of Dar es Salaam port are transported along this route. According to a traffic study by Konoike Construction Company in 1993, all the traffic entering and leaving Dar es Salaam city through Morogoro Road accounts for 45 per cent, while that via Bagamoyo Road, Nyerere Road and Kilwa Road accounts for 36.5 per cent, 25.3 per cent and 16.3 per cent, respectively[13]. The southeastern part of the impact region is connected to the city by Nyerere road that extends to Kisarawe. Nyerere Road functions as a vital industrial road, with several manufacturing and distributing industries located along it. After Pugu Secondary School, this road is not tarmacked; therefore, it is not reliable during the rainy season. Kilwa and Kimbiji roads connect the southern sector of the impact region to the city. Kilwa road runs from the city to Kilwa District in Lindi Region. Today the functions of this road are becoming increasingly important due to the residential developments taking place along the road. The prospects of oil and gas discoveries in the southern regions of Lindi and Kilwa parts of the impact region have also increased the importance of Kilwa Road. All these main roads project outward from the city like the spokes of a bicycle wheel, with the city centre acting as the hub of the wheel.

If one flies over Dar es Salaam, one views a real picture of how rural Dar es Salaam looks like. The spread of the city build-up looks like a spider's web, spreading out from the city centre in different directions along relatively narrow arterial roads. Apart from the finger-like development along the major arterial roads that penetrate two to three kilometres on either side, the impact region is predominantly rural. The immediate impression one gets from the 24 surveyed villages in the preliminary study (out of 364 villages) is that they suffer in terms of social services and technical infrastructure such as water supply, roads, electricity, and health services (Appendix 11). This ties in with the results of other studies that the city infrastructure was designed to collect resources from the rest of the country, and that it had nothing to do with the immediate impact region (Mwamfupe 1994).

Along the major roads there is a very gradual shift from agricultural to non-agricultural activities, with more and more seeming people to engage in mat production, charcoal selling and supply of fresh agricultural produce such cucumbers, bananas, eggplants, pepper, mangoes, coconuts, coconut juice, and watermelons. However, this transformation from agricultural to more diverse non-agricultural activities is very slow and largely dependent on location, the type of people owning land (Swahilis or new settlers) and accessibility.

The general road condition in Dar es Salaam today has improved significantly after the existence of the City Commission for three years during which many roads were repaired (Table 2.9). The inner city roads have been resurfaced (tarmacked) and most of the District roads have also been either newly constructed or resurfaced, but neighbourhood and feeder roads are still of gravel quality. There is, nonetheless, a rapid decline in urban roads that are tarmacked and drained and many un-tarmacked roads turn into quagmires during the rainy season. Public transport has improved after private buses called "*daladala",* literally meaning

13 Source: Konoike construction company traffic survey 1993

"dollar", have entered the business. Previously, (UDA) or *"Usafiri Dar es Salaam",* a public parastatal, had monopolised the business. By the late 1980s and 1990s, however, the company had proved incapable of meeting the city transport demands.

Table 2.9: Distribution of road network in the Coast Region by surface and mobility

Road type	Tarmac		Gravel		Earth		Total	
	Length kilometres	Per cent	Length kilometres	Per cent	Length kilometres	Per cent	Length kilometres	Per cent
Trunk road	349	85.7	58	14.3	-	-	407	100
Regional road	-	-	115	13.5	740	86.5	855	100
District road	-	-	-	-	753	100	753	100
Feeder road	-	-	-	-	1,798	100	1,798	100
Total	349	9.4	173	4.7	3,191	85.9	3,713	100

Source: Regional Engineers Office, Kibaha, January 1999 and Coast Region Socio-Economic Profile 1997

The road network in Coast Region forms an important link in the national road network linking Dar es Salaam with other regions of Tanzania Mainland. All road communications between Dar es Salaam and other regions in the country pass through Coast Region, as the following examples show:

The Dar es Salaam-Chalinze-Tanga-Arusha trunk road links Dar es Salaam with the northern zone. This is a very good asphalt quality road and regularly maintained.

The Dar es Salaam-Morogoro-Dodoma road links Dar es Salaam with the central and western parts of the country. This is also of asphalt quality.

The Dar es Salaam-Tunduma Highway links Dar es Salaam with the southwestern parts of the country, and it is of asphalt quality.

The Dar es Salaam-Kibiti-Lindi trunk road links Dar es Salaam with the southeastern part of the country. This road is tarmarcked up to Kibiti from Dar es Salaam while the rest is now under construction.

There is a total of 3,713 kilometres of roads in Coast Region, of which 407 kilometres are trunk roads, 755 kilometres are regional roads, 753 kilometres are district roads and 1,798 kilometres are feeder roads. Eighty five per cent of the trunk roads are tarmacked while only 20 per cent of the regional roads are tarmacked. The rest of the roads in the region are either gravel or earth. Thus, the general condition of roads in Coast Region is poor except for the trunk roads that are of asphalt quality and the regional roads that are of gravel surface. The road density per square kilometre in Coast Region in January 1999 was 0.115 kilometres / square kilometres (CRSEP 1997).[14]

Itinerant traders travel from village to village to collect agricultural crops, namely tomatoes, cucumbers, bananas, oranges, potatoes and watermelon. There are also several collection centres in the rural areas where rural people can organise and get better prices. Moreover, travelling along the major arterial roads, one observes some collection and selling centres operated mainly by youth. Examples of these are Bunju bus station, Bunju A, Ununio fish market, Mkuranga market and Mbezi Temboni bus stop. Bicycles, pickups and lorries are used to ferry rural produce to the wholesale centres before they are further transported to intermediate centres like Kimara, Mbagala, Tegeta, Ukonga and Kigamboni ferry.

14 CRSEP: Coast Region Social Economic Profile

Socio-economic infrastructure and services

As the city continued to increase in size (in population and spatially) in the 1980/90s, its declining economic situation led to a precipitous fall in the rate of supply of basic infrastructure and urban services. In Dar es Salaam, a study of the city's garbage collection vehicles showed that in 1985 about 20 functioning trucks were able to collect only about 22 per cent of the estimated 1,200 tons of garbage produced every day. As a result, the city suffered a serious shortage of garbage collection services (Baruti *et al.* 1992), causing huge piles of decaying waste in the streets and in vacant plots. Additionally, other unresolved problems included a declining proportion of tarmacked roads; overcrowded health facilities; overcrowded school; and more and more squatters living in un-surveyed plots including those in the impact region, i.e. Mbezi, Kimara, Kiluvya, Bunju, Tegeta, Kigamboni and Kongowe particularly along the all weather roads.

Falling incomes resulting from devaluation of the shilling and retrenchment of the civil servants since the 1980s have also forced most city inhabitants to look for farmland in the impact region. Quite a number of rich urban residents and civil servants have bought farms in the impact region in anticipation of compensation arising from the city expansion programmes, while others have resorted to urban agriculture (Mangeout and Sawio 1994). In so doing, they can grow their own food to top up their meagre salaries, build weekend houses and practise farming, since most of them come from areas where agriculture is the main occupation. As a result, much of the land between Dar es Salaam and Bagamoyo, Dar es Salaam and Kibaha, Dar es Salaam and Kisarawe and, recently, between Dar es Salaam and Mkuranga town has been bought by the urban elites (Shivji 1998).

From these facts, it is clear that transport condition between the impact region and the city is the determinant of the level of interaction between rural and urban areas. Inter-regional road condition in the impact region is poor. Though 85.7 per cent of the trunk roads linking the region with other far off regions are tarmacked, none of the inter-regional roads have been tarmacked (Table 2.9). This makes it difficult for the settlements within the region to access each other or to link with the city, especially in the wet season. Roads are passable mainly during the dry season and with special four wheel-drive vehicles or trucks in the wet season. Thus, the city is functionally well linked to the upcountry regions in terms of markets and transportation facilities but it is poorly linked to its impact region. It is no wonder that it is cheaper and easier to transport agricultural produce all the way from Iringa, Arusha, Tanga and Moshi (500-600 kilometres) and sell it at a price sometimes cheaper than that of the same produce from the impact region.

The situation in the study region resembles perhaps the Accra-Tema Metropolitan Region in Ghana and its hinterland, as described by Kreibich and Tamakloe (1996) with reference to weak institutional linkages. The reason for the weak linkages is that the hinterland was not functionally integrated into the metropolitan structure. This was because households in the hinterland depended on other towns to fulfil their basic needs. On the other hand, the work on rural-urban linkages in Kenya by Karaska (1999) demonstrated that rural-urban linkages in Kutus Region of Kenya were significant and contributed to the overall development of the region. Kutus Region practises subsistence agricultural production, namely coffee, maize and tomatoes as cash crops. Maize and tomatoes are, however, sold through private traders in the town market with significant volumes destined to Nairobi, about half an hour's drive by vehicle over good paved roads. These findings suggest that the availability of social services in the impact region has a part to play in enhancing rural-urban linkages that in turn have a multiplier effect on livelihoods.

Information flow

The exchange of visits between Dar es Salaam City and Coast Region is very significant for millions of people living in the regions. Through such visits, information of various types constantly flows both ways. The migrants bring with them their ideas, attitudes, and knowledge, which may influence the longer settled residents, irrespective of the settlements location. In Tanzania where more than 75 per cent of the population is still rural, a city like Dar es Salaam is a meeting ground of cultures from all over the country. Likewise, those who return to their homelands after a city career or unsuccessful job search are often extremely important agents of change there. Other groups such as itinerant traders, soldiers, extension officers, teachers and nurses working in rural regions play vital influential roles there.

Gould (1970) found that information and innovation do not necessarily cascade down the urban hierarchy, but through proximity and the linkages with the urban centres. While proximity to Kampala city in Uganda and Abidjan in Ivory Coast appears to influence strongly the rural areas surrounding them, proximity to Dar es Salaam has had little marked effects on the rural districts of the Coast region. This could be largely a result of the historical development of the city.

Information and innovations that are diffused from cities when migrants return or visit their rural districts are very beneficial. The returnees' experiences have a high potential for increasing the villages' awareness of the city and the differences in life in the two places. Such information may also contribute to the gradual change of rural dwellers' diet, health improvement and world outlook. The reverse flow is also important as the rural dwellers remind the urban ones of the things they left in rural areas. This keeps the latter up to date. Thus, rural-urban information flows largely represent forces of preservation of cultural traits rather than for change. These realities suggest that the existence of strong social, economic and physical linkages between the settlements is crucial for enhanced livelihoods. The subsequent section discusses the existing formal and informal institutions in the Dar es Salaam and Coast Regions and their effects on rural-urban linkages.

Institutional and organisational linkages

The term "institutions" as applied in this study refers to the so-called "rules of the game", i.e. rules governing human behaviour within a given society, and reflected in the structure and disposition of organisations. Chambers (1999: 66) defines institutions as:

- rules or procedures followed in a given society in order to make decisions;
- legal norms, traditions and other behavioural rules; and
- organisations like the state, associations in the private sector or civil society and families.

A strategically significant shift in focus is currently taking place in development co-operation, a shift away from conventional project promotion towards institutional development. This is because the development co-operation of the last 30 years was all about promoting projects of limited duration with a sectoral or regional focus. It was claimed that these projects generated broad-based impacts, and were replicable but it was only in relatively few cases that this claim borne out. The proclaimed aim of development was asset creation for poverty alleviation, rather than the creation of structures for enabling the poor to gain access to resources. In recent years, there have been discussions on how projects might also address the problem of structural constraints to development. Nevertheless, the attempt to use projects as a lever to change such structures has not proved successful, because it has adhered too closely to conventional approaches with limited outreach[15]. On the other hand, structural adjustment

15 Source: D+C Development and Cooperation (No. 6, December 2000, p. 21-24)

and sector investment programmes did not meet the high expectations placed in them, primarily because they failed to create the necessary institutional structures for policy reforms.

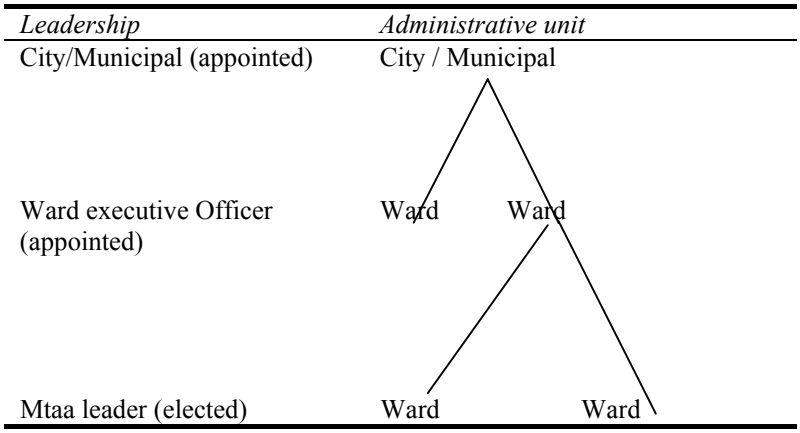
There has been gross inefficiency on the part of the state in managing rural and urban development in Sub-Saharan Africa, and the search for a more viable alternative remains a riddle (HABITAT 1996). In the fast-growing urban agglomerations like Dar es Salaam, the private sector has been perceived as a promising alternative in the provision of socio-economic services like water, road maintenance and garbage collection [16]. In the rural communities, the twin problem of poverty and the issue of economies of scale serve as a critical restraint to the private sector. The issue, then, is how the rural peasants might be organised so as to enable them to have access to the critical socio-economic services that they require to liberate themselves from poverty. There is also the question of institutional arrangements required to provide the basis for governing the organisations.

Formally, Dar es Salaam Region is divided into three administrative districts, namely Kinondoni, Ilala and Temeke, with a total area of 1,350 square kilometres. The three districts are further divided into smaller administrative units known as wards and villages. Dar es Salaam has a total of 52 wards and 38 villages[17]. Temeke district has 16 wards, Ilala has 18 wards and Kinondoni has 18 wards. Whilst 28 villages are located in Temeke District, 9 are in Ilala District and 15 are in Kinondoni District. The total urban population is 1,205,443 inhabitants and the total rural population is 139,695 people,[18] only 10 per cent of the region's population.

On the other hand, Coast Region is divided into six districts, namely Bagamoyo, Kisarawe, Rufiji, Mafia, Kibaha and Mkuranga. The six districts are further divided into 71 smaller administrative wards and 377 villages. Wards are constituted by a number of sub ward areas which are called *mtaa* (meaning street). A Ward Executive Officer is the government representative at the ward level, as such Ward Executive Officers are appointed by the Government. A ward is further divided into sub-ward areas which are in turn subdivided into ten cell units. Subsequent to the adoption of a multi-party system in the country in the early 1990s, the ten-cell unit in the administrative hierarchy has been abandoned because it had strong ties with the ruling party, *Chama Cha Mapinduzi* (CCM). However, in places where the ruling party is dominant, the ten-cell units continue to operate. On the other hand, where there are mixed party affiliations, the sub-*mtaa* leadership operates. The ten-cell leaders are elected. At the lowest levels, the ten cell and the *mtaa* leaders make important socio-economic decisions that may affect the population positively or negatively.

16 Source: SDP=Sustainable Dar es Salaam Project
17 Source: C. N. Keenja 1999, Dar es Salaam City Commission hand over report, November, 1999
18 Source: 1988 Census Population

Figure 2.1: The administrative structure of local government in the Dar es Salaam and Coast Regions



Source: Adapted from Kombe and Kreibich, 2000:45

The formal administrative structure presented in Figure 2.1 is hardly relevant as regards rural-urban linkages. This may be largely due to the poor economic infrastructure that links the farmers and the urban traders through small towns and ward centres. As a result, much of the produce coming from up-country regions does not necessarily go through the Regional or District towns. Trade between Dar es Salaam City and the Coast region is dependent on the informal arrangements and agreements between the urban traders and rural farmers rather than what the hierarchy portrays.

The formal leadership hierarchy presented above also lacks the informal component that makes up a large part of rules and norms that shape choices in the development of both rural and urban areas. In our daily interaction with others, whether within the family, in external social relations, or in business activities, the governing structure is overwhelmingly defined by codes of conduct, norms of behaviour and conventions. Underlying these informal constraints are the formal rules. However, it is much easier to describe and be precise about the formal rules that the societies devise than to describe and be precise about the informal ways by which human beings have structured human interactions (North 1990:36). Since informal constraints come from socially transmitted information and are part of culture, the study of cultural influences in Dar es Salaam and Coast Regions is essential.

This being the case, it follows that in order to enhance rural-urban linkages, the focus must be on developing institutions that the rural and urban inhabitants can use to assert their interest, and organise access to resources. To achieve this, two conditions are essential: Firstly, the grass roots stakeholders in rural-urban areas must understand and utilise their local institutions for empowerment. This will enable them to participate in decision-making issues, i.e. those pertaining to rural-urban linkages. Secondly, they should take part in defining the rules that affect their lives. Yet, local empowerment and the development of institutions of the rural-urban inhabitants alone will not be sufficient. Only when their interests are represented in institutions at the regional and national level will there be a policy for the enhancement of rural-urban linkages.

Delimiting the impact region

The discussion above has shown that Dar es Salaam region has the highest population growth rate and concentration and therefore acts as a hub in the study region. From the level of development, Dar es Salaam is over 92 times as developed as the next urban centre in the

region making it a primate city. This also implies that the forces of economic attraction are far greater to Dar es Salaam region than to any other town in the impact region.

Problems of delimiting the impact region

The impact region refers to the zone larger than the peri-urban zone and smaller than the hinterland region where initial subdivisions of lots can be observed, and daily commuting to the city centre for shopping and employment is affordable. According to Lupala (2002:88), peri-urban refers to the transitional zone of the city where land for farming competes with land for urban-related functions such as housing. In the peri-urban zone, the future of the city and expectations of the adjacent rural communities interact and portray the phenomenon of new development and urban growth (Kreibich and Tamakloe; Murphy 1966; Della 1992). Defining the impact region in such a way that the boundaries can be drawn in an empirical way is not an easy task. Most probable reason is that we are dealing with a region in geography whereby the urban built up area can be identified quite easily but it is hard to mark its boundary and give way to other regions. While trying to delimit the peri-urban and the Central Business District of Cape Town and Mombasa, Davies (1965) and De Blij (1968) also acknowledged this reality.

The purpose of delimiting an impact region is to compare the extent and shape of this zone of urban influence under different economic, social, physical and institutional conditions. After delimiting the impact region, it becomes easy to identify spatial patterns in relation to demographic variables and housing conditions, to study the rural-urban livelihoods and rural-urban linkages between the impact region and the urban core. In this way, we can depict the tentacular morphology of the linear extension along the highways and infill at the apexes of rural wedges. This seems to be a realistic approach in defining Dar es Salaam impact region than concentric bands would have been.

Important characteristics of the impact region

According to Islam *et al.* (1992), the factors that can be taken as indicators of urban influence to the surrounding impact region are heterogeneous due to city topographical features and the rate at which the rural is changing. The impact region of Dar es Salaam can be distinguished from other regions using the following characteristics:

- An initial subdivision of rural land can be observed as increasing in intensity and decreasing in size as one approach the city:
- An incomplete range and penetration of services is evident;
- Absence of planning regulations making it a grey area;
- Leap frog development along the arterial roads;
- Land ownership and land use changing fast;
- Observable increased mixed rural-urban functions;
- Daily commuting to and from the city; and
- New types of high value crops can be observed and some sold on the road reserve.

Criteria for delimiting the impact region

Researchers have used different methods and criteria to delineate the impact regions and peri-urban zones with difficulties and until today, there is no universally acceptable distinction between urban and rural due to different cultures and space economies (Van den Berg 1984; Mwamfupe 1994; Islam *et al*. 1992). After a pilot study in the region, delimitation of the impact region was tailored based largely on the spatial extent of the land uses and the

availability of urban functions in rural areas such as kiosks selling agricultural produce along the highways and the daily commuting to the city. Using the aerial photographs, it was evident that the highways leading out of Dar es Salaam city influence land use changes, land development and the city spatial structure.

Within the impact region, the prices for agricultural products differ remarkably, increasing or decreasing with the distance from the city and or the type of road connecting the two places. Due to the diverse spatial economy, the ratio between freight and production costs varies widely between villages. Thus, transportation costs have a direct impact on production costs that lead to a spatial differentiation of the production structure. As a result, a good road has a far-reaching impact on the whole system of linkages, as it influences land use patterns along it and increases the service area and thereby increasing the distance of the impact region along the highway from the hub. All these cascading effects within a spatial unit and between villages are of major concern to policy makers and planners. The following characteristics form the basic criteria to delimit the impact region arranged in order of importance:

1. Daily commuting from rural-urban-rural and vise versa;
2. Initial subdivision of rural land into smaller lot by selling or hiring especially along the highway;
3. Observable increased mixed rural-urban functions;
4. New types of high value crops can be observed and some sold on road reserve; and
5. Leap frog development along the arterial roads.

Daily commuting from rural to urban and urban-rural

There is a zone around the city from which people commute daily. This zone is the impact region. The daily commuters can be seen each morning from as far as Kibaha, Mlandizi, Kisarawe, Kongowe, Boko and Bunju, to mention a few. Some of the commuters move on foot while others use bicycles. However, a large number of them travel by saloon cars, trucks or buses. Resorting to the impact region offers a clear economic advantage over residence in the city, as there is a saving on both rent and foodstuffs since one can produce the latter from one's farm. Thus, residing in the impact region represents a fuller employment for the family as a whole than would be possible with an urban residence. Besides, it offers a much greater security in case a man loses his job.

Drawing from O'Connor (1983) the flow of daily commuters can be seen each morning on any of the roads leading into Kampala and Jinja starting with those moving on foot, followed by those on bicycles, who do not need to set of so early, and finally by those travelling either by bus or private cars. Those on foot commonly come from homes seven to eight kilometres from the edge of the city and twelve kilometres from its centre, the others from places up to thirty kilometres distant. Clearly, the extent of such movement around each urban centre depends on the density of the rural population.

The city plays an important role as the provider of services for the rural population that travels to it for shopping, entertainment and medical services. The concentration of high quality services in Dar es Salaam makes it necessary for the people in the impact region to travel to procure them. Other services include obtaining licences, scholarships, and passports, all of which often require a personal visit or indeed several.

Besides, settlements located along arterial roads, whether large or small, act as hubs or rural clusters, and have comparatively stronger economic and demographic links with Dar es Salaam city than those not accessible because their roads are seasonal. This implies that demographic and economic links become supportive with improved infrastructure, as high

rate of commuting is evident along the settlements on the all weather roads.

Initial subdivision of rural land

Travelling along the highways, one notices initial subdivision of the rural land that represent the first change in the urban potentiality and an expression of urban intent based on the land speculator's estimate of the saleability of the lots. These subdivisions increase in size as one moves away from the highway or from the city centre.

The observation on the daily commuting and initial subdivisions of land were made during the pilot study using focus group discussions. Therefore, after the pilot study, the daily commuting distances observed and reported along the arterial roads and were plotted as shown on Map 3. The daily commuting distance of the residents to the city for employment or shopping along Morogoro Road is up to Chalinze. Daily commuting distance along Bagamoyo Road is up to Bagamoyo town, while along Nyerere road is up to Kisarawe town. Finally, along Kilwa Road the daily commuting distance is up to Mkuranga town. Beyond these distances there is commuting but not on a daily basis.

Leap frog development along the arterial roads

Dar es Salaam city is expanding so fast that it is linking with smaller towns which were once quite separate or were designed as industrial satellites as in the case of Kibaha town. As indicated earlier, the pattern of urban growth in Dar es Salaam has depended mainly on its historical role as a resource collection centre for export and administration, rather than resource-based industrialisation. The result has been relatively even linear spacing of development especially along the main arterial roads. The evolving relationship of the city to its rural hinterland is vital and needs to be understood. Along the arterial roads, there are emerging settlements that harbour the migrant population both from the city and far off regions. As the settlements grow, there develop frequent leapfrog bus stops at very short distances one to two kilometres apart. These bus stops are more frequent within the daily commuting distance to Dar es Salaam. Beyond the daily commuting distance, the bus stops are further apart to the tune of five, ten or even twenty kilometres. Therefore, the impact region is also delimited by looking at the frequency of leapfrog bus stops along the major arterial roads. Along Dar es Salaam-Chalinze, it stretches up to 107 kilometres; along Dar es Salaam-Kibiti Road, it stretches to 79 kilometres; and along Dar es Salaam-Bagamoyo, it stretches to 60 kilometres. These distances were measured on the respective roads to delineate the impact region as plotted on Map 3. However, the land use is more intensively developed along the arterial roads implying that as one moves away from the main road the intensity of development diminishes. As a result, the true picture of the impact region is finger like land use.

Significance of studying the impact region

Dar es Salaam is a unique region which has more than 90 per cent of its population living in the urban area, planned and unplanned. All the other regions in Tanzania Mainland have more than 70 per cent of their population living in the rural areas (Census 1988). It is, therefore, worthwhile to study the linkages between Dar es Salaam and its impact region since the linkages are expected to be stronger here (theoretically) than elsewhere. Appendices 2.1 and 2.2 show evidence of the volume of food supplied from far off regions as opposed to that from the impact region. This justifies the need to study the region and understand what inhibits the residents from participating in rural-urban linkages. Besides, the rate of growth of the city of Dar es Salaam is the highest in the country. It thus, exerts tremendous pressure on the impact region in terms of rising land value, land markets, depletion of natural resources and on socio-economic and physical infrastructure in the city.

In addition, the relationship between the urban and the impact region of Dar es Salaam has been weak because the city was developed without an industrial base and had very weak link to the surrounding region. Dar es Salaam being a postcolonial town was developed to serve as the colonial government administrative centre, collection centre of agricultural resources and raw material for export. The impact region was sparsely populated; thus, it produced limited food surpluses for the urban area. To divert the shortfall, the city depended on food supplies from up country sources which are still the case largely today. However, as from the 1970s, there has been significant displacement of people from the urban areas and other up country sources into the impact region to the effect that 70 per cent of the people who live in the impact region are in-migrants (Mwamfupe 1994). This has resulted in a number of changes in the impact region, including mounting land use conflicts, increasing land value, densification of the region and the growing importance of rural-urban linkages, all of which exert serious pressure on the land use.

By examining the rural-urban linkages at various locations in the impact region, the study will contribute to the existing literature by documenting the great diversity of rural-urban linkages at the local level. In so doing, it will further our understanding of rural-urban linkages and their effects on livelihoods. The empirical review and conceptual framework will provide a sound basis for recommendations in this field where policies of this nature (rural and urban) are rare.

A further motivation for this study is the issue of informality in the rural-urban linkages. Institutions both formal and informal play a fundamental role as determinants of the performance of both urban and rural economies. Understanding how the informal institutions operate in rural and urban areas, because of either failure and or low performance of formal institutions, will be a great contribution to knowledge. If we truly understand informal institutions in the context of culture, values, norms and rules, we can overcome the poverty trap by providing solutions to the inherent problems in the society. For instance, although women are the real food producers in rural areas (Shivji 1998), indigenous cultures do not allow them to own land. They only access land through marriage. Solutions to such problems can increase food security and enhance livelihoods.

Emerging issues for rural-urban linkages

In this Chapter, an overview of the performance of rural-urban linkages was documented in Dar es Salaam and Coast Regions. In addition, various approaches that have been applied by different governments in Sub-Saharan Africa were reviewed. The problems emanating from the earlier policies were also identified and discussed, to provide the basis for understanding the current problems of weak rural-urban linkages in the impact region.

It is clear from this Chapter that linkages have not received the priority they deserve that enables them to play their role in rural and urban livelihoods enhancement. The fundamental focus of the pre-independence approaches was to satisfy the colonial government's interests, whereas the post independence policies have been seriously confronted with rapid urbanisation under poverty. This has led to the government's incompetence in planning, management and implementation of different policies. From the above discussions, the following emerging issues from Dar es Salaam and Coast Regions necessitate more research on rural-urban linkages to be carried out so as to understand their characteristics, nature and scale.

Insufficient income sources, increasing poverty and rural out migration

Dar es Salaam is a hub in the impact region. The impact region is depressed in terms of socio-economic infrastructure and as a result, the city is well linked to distant towns and regions more than it is linked to its surrounding settlements. This has led to the absence of alternative

activities in rural areas and together with poor pricing policies that have negatively affected the traditional cash crops like cashewnuts; the livelihoods of the rural population are also despondent leading to increased poverty. Drawing from Rakodi (2002), the falling crop prices and declining rural production also mean a sharp rise of both rural and urban poverty and also a falling demand of goods and services supplied by urban enterprises to rural households. An increase in urban poverty also implies that there are fewer job opportunities for the rural migrants in urban areas. Besides, an increase in rural poverty implies that there is increased rural-urban migration that increases dependency burdens in rural areas. The effect of increasing poverty is the out migration of the active labour force from rural areas, which in turn, affects negatively the productivity in agriculture.

The steady decline of real income in both rural and urban areas in Tanzania is one of the most significant changes for rural and urban residents since the mid 1970s. The drop in real wages resulting from the fall in cash crop prices like coffee, cashewnuts, sisal and cotton reflects a difficult position of the Tanzanian economy as a whole (Malyamkono and Bagachwa 1990). As a result of globalisation policies, the poor in both rural and urban areas have not been participating adequately in rural-urban linkages. However, there has been an increased rural-urban migration and more participation in non-farm activities as livelihood strategies.

Inadequate supply of socio-economic and physical infrastructure

The level of socio-economic infrastructure services in the impact region is depressed. Schools are overcrowded, they have one or two teachers, and there is hardly piped water in the villages leading to water borne diseases during rainy season. Moreover, the transportation system has a powerful influence on a number of factors that affect the development of livelihoods in the impact region. These include the direction of urban expansion, the settlement pattern of the migrants in the impact region, land prices and spatial cropping patterns. All these have experienced the greatest pressure along the main roads. Due to inadequate interconnections between the main roads and the areas, the main roads have experienced more pressure from the urban expansion. Besides, the rural-urban separation that was and still exists between Dar es Salaam and its impact region stems from the weak development of the agricultural sector caused by inadequate provision of socio-economic and physical infrastructure in the impact region. Apparently, the colonial policies were deliberately tailored to delineate the urban-rural dichotomy a sharp division causing Dar es Salaam to depend on distant locations like Tanga, Kilimanjaro, Mbeya and Iringa which are well connected by all-weather roads for food supplies (Mwamfupe 1994).

Institutional deficiencies

Beyond the developed parts of the city, the peri-urban, and the impact region, the city or district authorities do not largely control the processes (land use changes) taking place there, though, these regions are administratively responsible to the district or city authorities. Therefore, this areas lack planning advice and control from the city planners, district planners and they are more or less grey areas.

Increased land use and land tenure changes

Land tenure is quickly changing hands from the indigenous landowners to land speculators, and land developers from both urban and the country at large. As a result, the land value along accessible roads and the highways in the impact region is increasing rapidly

3. Rural-urban linkages for enhanced development: A conceptual framework

This chapter describes the conceptual framework within which the study of rural-urban linkages can be best understood. The chapter starts with a presentation of the research issue in the light of a specific context of the impact region. The study objectives and the problem are further defined in a more focused manner, followed by a review of the contextual issues that have been presented in the preceding chapters. This sets the stage for the presentation of the conceptual framework. It then introduces the concepts in the form of a general scenario of the likely problems militating against rural-urban linkages. From this scenario, the key concepts are derived and then placed in the appropriate theoretical framework for a more elaborate discussion. In the course of this discussion, the relevant variables are identified to serve as a basis for evaluating the specific case of rural-urban linkages in the impact region.

The research issue

Based on systematic empirical literature, theoretical review (Rondinnelli and Ruddle 1978a, 1978b; Rondinnelli 1982, 1983, 1984a and 1984b), the pilot study and experience, the main problem this research addresses is that:

Despite its proximity to the city, the impact region experiences weak (physical and economic) linkages with the core city that affect rural and urban livelihoods.

There is evidence of uncontrolled movement of people from both the city and other regions to the impact region, causing significant land use changes and creating intense pressure in terms of resource ownership and management. This, if left unplanned, will lead to a loss and degradation of valuable agricultural land and ecological assets and deforestation.

There exists weak institutional machinery in the impact region to control and shape land use changes taking place.

Consequently, there seems to exist an urban bias/dualism between the city and its impact region, which leads to rural-urban separation rather than convergence. This constitutes a contradiction in regional development (Fisher 1967; Friedmann and Weaver 1979; Kammeier and Swan 1984; Friedmann 1986; Mosha 1989; Becler *et al*. 1994; and Pedersen 1997).

The absence of rural development policies that recognise and seek to take advantage of positive aspects of rural-urban linkages in the impact region is a constraint to rural and urban development in Tanzania. This is a policy vacuum that requires a study to unveil how such deficiencies have affected the rural-urban linkages and in turn livelihoods in both rural and urban areas (Rabinovitch 1999; Douglas 1998; Karunanayake 1990). The relationship between urban and rural areas in the country seems to have been left to destiny, as sound policies for this fundamental field seem rare. Besides, practitioners in each of the two areas (rural and urban) remain with polarised visions and practices. What is needed most for economic growth and improvement of rural and urban livelihoods is an approach that promotes mutual benefits of urban-rural rapport, which is what people actually live off in both rural and urban areas.

Research objectives

The overall objective of this research is to investigate the rural-urban (functional and spatial) linkages between the city and its impact region and how they affect rural and urban livelihoods. Functional linkages on the one hand represent the socio-economic relationship among settlements in terms of social interactions, production flows, educational and health services and distribution of goods and services. Spatial linkages on the other hand represent

the actual trips that are made between the city and the impact region to obtain the goods and services.

More specifically the research seeks to:

Identify types of rural-urban linkages in the impact region.

Evaluate the strength and weaknesses of rural-urban linkages in the impact region.

Formulate a policy framework for effective rural-urban linkages and enhanced livelihoods.

This implies that the research goes beyond just the impact of rural-urban linkages on livelihoods, since it examines and assesses the emerging livelihood strategies in reaction to the recent policy reforms. The recent rural-urban changes that include demographic, economic, institutional, and infrastructure linkages will be of a central concern in this study. They will enable the reader to understand the extent to which rural-urban linkages can be relied upon for the development and sustainability of rural and urban livelihoods. A livelihood comprises the capabilities, assets (including material and social resources) and activities required for a means of living (Carney 1998; Mukangara and Koda 1997). Carney (1999) adds that it involves working with people, supporting them to build their own strength and realise their potential, while at the same time acknowledging the effects of policies and institutions, external shocks and trends. Doing this will require examination of the inter-relationships between different aspects of rural-urban linkages that are usually studied in isolation from each other, their impacts on cash crop production, non-farm incomes, land tenure and land markets.

Research questions

The questions to be answered in this research are:

What linkages exist between Dar es Salaam city and the impact region?

1. Is there any strength in rural-urban linkages in the impact region?

What hinders the development of these linkages?

How can rural-urban linkages be forged ahead in order to enhance rural and urban livelihoods?

Research propositions

The research propositions are derived from a systematic review of literature that includes rural-urban migration, deteriorating economic conditions in Sub-Saharan Africa and responses to the poor conditions by African governments (Potts 1995; Sawio 1998; Kyessi 1998; Potts and Mutambirwa 1998). The study is based on the observation that the impact region of Dar es Salaam is depressed such that where poor socio-physical infrastructure dominates weak rural-urban linkages is evident. On the contrary, settlements along all-weather arterial roads exhibit strong rural-urban linkages that contribute positively to the enhancement of rural and urban livelihoods.

The critical issues that will be studied in the Dar es Salaam impact region are the correlation between rural-urban linkages and social, economic and physical infrastructure. Thus, this notion may be related to the main propositions guiding this research that:

Enhanced livelihoods in the impact region are largely a function of rural-urban linkages.

Locally designed institutions in both rural and urban areas provide a sufficient and acceptable basis for enhanced rural-urban linkages.

Rural-urban linkages are strong where there is better and reliable socio-economic and physical infrastructure.

The above propositions form the basis of investigation in the case studies in the impact region of Dar es Salaam.

The setting

In the previous chapters, the problem of weak rural-urban linkages was examined in the light of changing periods, the institutional capacity and paradigms that have shaped the development patterns of Sub-Saharan Africa. It was argued that the diminishing public resources vis-à-vis a rapid increase of population, weak institutional support, absence of socio-physical and economic infrastructure and rural-urban migration were the important variables that contribute to weak rural-urban linkages. These realities necessitate major shifts from the present project-oriented policy approaches in the development of rural and urban locations towards pro-poor strategies that tackle the structures which constrain development.

The implication of this swing is that the alternative approaches have to be able to address the very pertinent problems that the centralised approaches were not able to unravel. The issue of income generation to meet the cost of rapidly growing population at household level, the provision and maintenance of an efficient socio-physical infrastructure are now the fundamental issues, and will continue to be in the coming decades in Sub-Saharan Africa. Besides, the question of rural-urban linkages is highly complex. A brief glance through the literature reveals the multiplicity of concepts and hypotheses applied to them at various times, the variety of interpretations (from urban bias to rural bias) and the extent of the disagreements between the experts on the subject.

One reason that makes it hard to conceptualise the rural-urban linkages is that, for convenience sake, the real world is divided into sectors (farm, non-farm) and areas (rural, urban) that consider each component separately. In this way, we lose sight of both the complexity of the real world of which rural-urban linkages is an aspect, and of the systematic nature of development. Most causal relationships between the variables we consider in our models such as the correlation between household income and expenditure, or between population growth, urbanisation and food security are only valid on a particular geographical scale or within a particular period, and need to be reversed for other scales and time frames.

Another basic reason is that development economics has tended to develop in a manner that is utopian, ignoring the spatial dimension and the neighbourhood relations between agents; dis-incarnate, with no consideration of people (the aggregates produced by macro-economic models are virtually independent of population size and distribution); and "demo static" taking settlement patterns as given, rather than a variable. In practice, rural-urban linkages are obviously heavily dependent on the physical space, consider the individuals who take part in the process and the perception each agent has of their neighbours.

A third reason is connected to our dislike for disequilibria and disparity. If the average per capita urban income is twice or three times the rural income, we see this as the consequence of a bad policy and "urban bias". To level out such regrettable imbalances, better policies ought to be sought. Nevertheless, relations between towns and their hinterlands, like the real world, are structurally and durably unbalanced and disparities are one of the driving forces of structural change.

Examining a sector, one area at a time may be convenient, but it is not always sufficient or reasonable. There are practical advantages in dividing reality into sectors to fit our organization charts relating to these sectoral divisions. Resulting from these techniques the system under study appears as if it were in or approaching a state of equilibrium. In this way, it is easier to construct and handle major aggregates, define policies, design and implement straightforward projects and allocate precisely defined responsibilities to each stakeholder or institution. However, these advantages come at a cost: the world these policies and projects

are designed for does not necessarily correspond to the real world. Errors in analysis and strategy may be made, and the real stakeholders in development at the grassroots may not recognise themselves in the generalisations of which they are part. For instance, in Regional Integrated Development Projects, the virtually total lack of reference to the urban side of the real world undermines the value of the analyses and proposals for the agricultural sector and rural development (Mosha 1989). The urban strategy policies do refer to the rural environment and rural-urban linkages, but fail to draw operational conclusions from these linkages.

The literature on development errors and failures demonstrates that the latter are found in all development organisations, namely: bilateral donors, host governments, Non-Government Organisations and Banks. Following Robert McNamara's speech in Nairobi, for example, rural poverty and rural development became priorities for the World Bank lending in 1973. Smallholder farming and farmers were identified as the main target. Since rural development and smallholder farming had many related aspects, it was considered that many of these should be tackled simultaneously (World Bank 1988). To make these manageable, bounded geographical areas were identified for Integrated Rural Development Projects (IRDP).

Between 1973 and 1986, the Bank lent US$ 19 billion for 498 rural development projects (Mtafitikolo 1994; Lugalla 1995 and World Bank 1988). The outcome was a large proportion of failure (*ibid*.), especially in Sub-Saharan Africa. In the words of the Bank's own self-critical evaluation, the Bank apparently lost sight of the reality that the cost of failures in what were identified from the outset as risky experiments would be borne by the recipient countries and not by the Bank (*ibid*.). From the evaluation, many lessons can be learnt, namely: problems arising from institutional and managerial capacity; lack of viable technical packages which had been assumed by the supply driven lending; high targets and urgent large-scale action without pilot projects.

In order to overcome these difficulties and achieve enhanced rural-urban linkages, the first thing to be done was to adopt a conceptual framework that was suited to the context of the study region and to the understanding of the phenomena under study. The framework suggested below was designed for settlements in transition, i.e. subject to rapid population growth and massive migration. Then, as in any discipline, the framework was used to construct models of the phenomena which were required to be explained and understood. Modelling was both necessary and legitimate, since it would be used to confront the predictions with observations on the ground in a series of iterations in the cases.

Given the large number of parameters involved in rural-urban linkages and the diversity of local situations, these "variables" (models) are expected to provide only statistically valid estimates. Yet, instructive conclusions may be drawn from the analysis of the discrepancies observed in the detailed cases between the real situation and results of the models.

Theoretical tenets of the concepts

The preceding section has discussed the problems of conceptualising rural-urban linkages and the various approaches that have been applied in Sub-Saharan Africa. The mismatch of rapid rural-urban migration, inadequate socio-economic and physical infrastructure provision in rural and urban areas have been identified as the main causes of weak rural-urban linkages in the impact region. The former donor intervention strategies like the Growth Pole and the Regional Integrated Development Plans equated rural people's welfare with agricultural growth, neglecting the existing rural potentials and alternatives (Tacoli 1998; Douglass 1984, 1989, 1998; Dick 1997 and Mosha 1989).

The complexity of a variety of economic, social and political factors that influence

regional development makes the formulation of a single comprehensive regional development theory that is generally accepted to be very difficult. As part of literature review, the study re-examines several theories which include the aggregate growth models by Glasson (1974), the dependency theory propounded by Perroux (1955) and Santos (1979). Other theories reviewed were the central place theory by Christaller (1933), Lösch (1954) and the agropolitan approach as put forward by Friedmann and Douglass (1988). Finally, the economy of affection model as put forward by Hyden (1983, 1985 and 1986), and the theory of institutional economics by North and Williamson (1984 and 1989) and North (1972, 1989, 1990).

After a scrutiny of the theories, it can be summarised that researchers agree that theories in regional economic development are often at such a general level that they do not provide a direction for the exact specification of the test. There is more or less an arbitrary jump from theoretical specifications to empirical implementations (Bryceson 1997; Chambers 1997). As Chambers (1997:194) argues, the chaos theory has now shown more clearly how patterns and directions of change can be sensitive to small differences in preliminary conditions. This underlines even more the importance of quick learning, adjustments and personal responsibility. The regional development theories and models like the central place theory; the growth pole model and the agropolitan model are built on fundamental assumptions that have been criticised for a long time (Gore 1984; Hirshmann 1958). This is not a place for the discussion of all the aspects of the probe of the past models and theories. However, a few remarks were discussed in Chapter Two, since the purpose of this research is to investigate the role of rural-urban linkages in the process of economic growth.

The concepts of development and civilisation are being challenged, because the prevailing notion of development has been expressed in economic and technical terms alone for too long. Many years' experience of international development programmes with their successes and failures have taught us that it is a far more complex process. Development is the outcome of numerous factors, but human aspirations and yearnings are its mainspring (World Bank 1999).

Roe (1995) argues that the more experts disagree among themselves or change their views the more we all can be certain that things must be fundamentally wrong and increasingly desperate or why else would the experts be warning about so many different things? What is fundamentally wrong if everything depends on how local people themselves see their rural and urban development or poverty? The fact that experts increasingly suggest that their perceptions are undeniable and that they differ in important respects from those of other experts is also undeniable. One thing is clear that these perceptions have evolved and they are evolving.

Subsequently, there is no single theory from all these theories that can be applied directly to the African situation without requiring any modification. The rapid pace of change and the lack of clarity about the nature and scale of rural-urban linkages demand an emphasis on understanding dynamic processes rather than merely slotting such change into theoretical development models that have prevailed for the past 40 years. Besides, the diverse differences in social cultural, political and physical settings demand a closer look at the conceptual model to be developed that will guide an investigation.

According to Miles and Huberman (1984), the conceptual framework of a scientific investigation can be viewed as the crucial building block with which one is able to create sound knowledge. Going by the same figurative explanation, one can argue that the conceptual construct serves to ground the study in an on-going research tradition (Miles and Huberman 1984). This linkage has several merits such as defining the boundaries of investigation to guide the researcher against a wild goose (*ibid*.). A research undertaking will

be of no use if it does not achieve a definite output that contributes to either on-going academic debate, issues of significant policy or practical endeavours (Miles and Huberman 1984, Marshall and Rossman 1995).

Based on the above explanation, the key concepts of this study are presented and discussed from theoretical and empirical perspectives. Four key concepts surface from the foregoing discussions in Chapters One and Two. These are the *infrastructure and accessibility, demographic concern, the economy, and institutional and organisational issues* (Fig. 3.2). In order to reinforce the weak rural-urban linkages the likely issues that will be addressed are as derived in the previous chapters on the context and the empirical review. The relationships that are of concern to this study will be as follows:

It is argued that the improvement of the infrastructure linkages between rural and urban areas will provide steadfast accessibility and enhanced human communication between groups, individuals, organisations and societies to capture the gains from the trade.

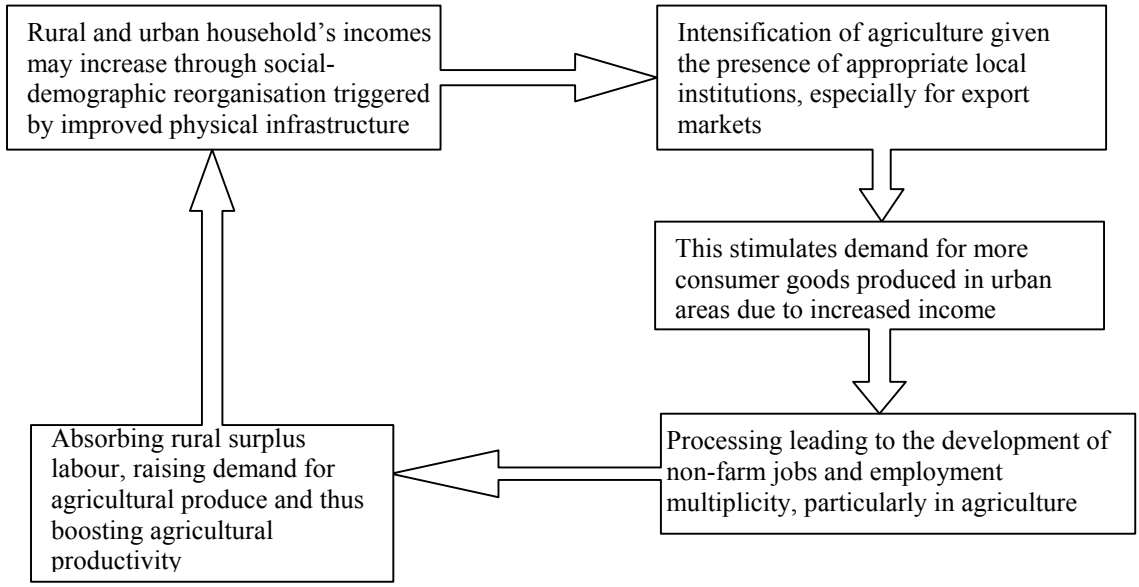
Due to the improved infrastructure, the household economy will be enhanced through capital formation and circulation at household level such that the rural economy can acquire capital and goods that are necessary for initiating non-farm jobs and small-scale industries.

The presence of alternative employment in rural areas attracts much of the youthful population who previously were targets for migration to urban areas. Consequently, innovative and quality labour is retained in rural areas.

All the above processes need to be guided by the presence of local formal and informal institutions where the poor are represented. Local institutions can create an enabling environment for enhancing rural-urban linkages for the majority rural and urban populations. Such an environment ensures sustainable livelihoods.

The four issues mentioned above are interrelated and they start at the household level. The advantage of starting from where people are, rather than where we would place them, serves two purposes: first, inappropriate or misplaced development initiatives cannot be anticipated, since many programmes have been unsuccessful due to a lack of sound understanding of local strategies. In this respect, a framework encourages the inclusion of often-overlooked aspects of people's lives. The second reason for building on existing strategies is to make use of untapped resources and ideas. Institutional linkages, for example, are central to the livelihood strategies of many households and communities hitherto marginally considered in policy and development programming. Figure 3.1 presents the issues in a logical sequence.

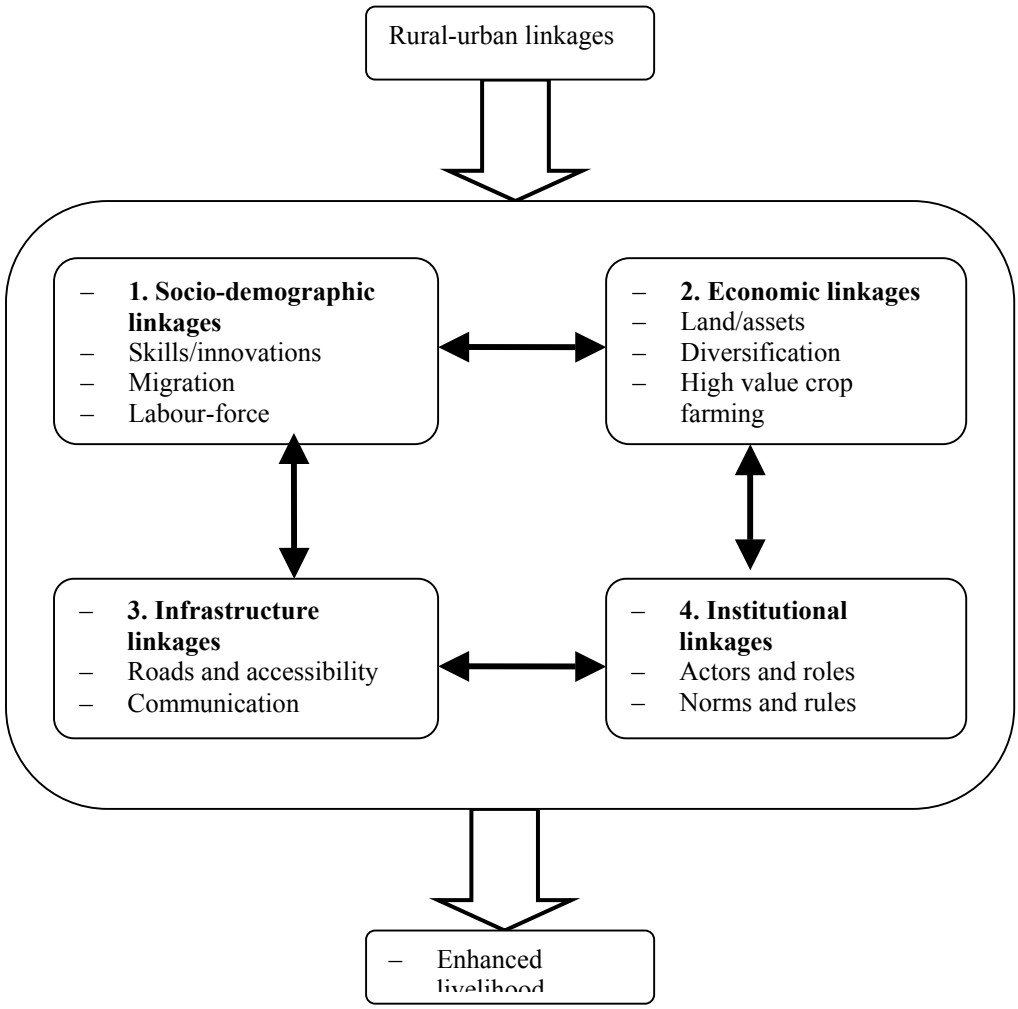
Figure 3.1: The cyclic process of rural-urban linkages



Source: Author and Turabian (1987:48)

Essentially, the strong points of the framework are the recognition that people are resourceful and have their own forms of assets and strategies. The underlying assumption behind many income generation or employment schemes is that people need something to do that is more productive in order to bring them out of poverty. This framework assumes that people are already doing a number of creative and productive activities. They have over generations developed coping and adaptive strategies appropriate to their context and culture. The problem is that structural causes of poverty such as unfavourable terms of trade, unequal power relations, racial and ethnic conflicts and poor socio-economic infrastructure have eroded native resourcefulness, assets and resilience to shocks. The goal of the conceptual framework is to build on existing assets and resourcefulness in order to expand peoples' choices, capabilities and their potential to make choices.

Figure 3.2: Rural-urban linkages for enhanced livelihood



Source: Author's construct

Thus, the concept of rural-urban linkages and sustainable livelihoods entail strengthening the four interrelated components, namely the socio-demographic, the economic, the infrastructure and the institutional linkages as depicted in Figure 3.2. The factors and the variables used to evaluate the specific cases are briefly described below.

Socio-demographic linkages

Socio-demographic linkages represent the population's education, skills, labour potential and good health, without which people cannot pursue their different livelihood strategies. At household level, it is the amount and quality of labour available that varies according to skills, leadership potential and health status. Thus, socio-demographic linkages are the means of achieving livelihood outcomes.

Education and skills

In the context of socio-economic development, governments view education, like health, as an investment on human-capital formation. The quality of education provided largely determines the skills and productivity of the labour-force. More importantly, governments see the

educational level of the labour-force as a major determinant of a country's capability to utilise and develop new and cost-effective technologies for the development of physical and technical infrastructure. They also see education as a key component in strategies for reducing population growth rates. Literate people take better advantage of family planning, and educated women tend to have fewer children. Thus, providing educational opportunities for women may not only promote greater productivity, but may also help reduce population growth rates.

Innovation and change call for departure from detrimental traditions. Innovation can be introduced internationally or locally. Sometimes change happens by accident because of the ways individuals cope with and internationalise the culture of communities. Cultural continuity and innovation are equally necessary for the survival and prosperity of the community over time. Besides, innovation is closely related to knowledge and education indicators are easier to assess. It is relatively simple to determine the average number of years a child spends in school or the percentage of girls enrolled in school or the age at which they start school. Similarly, the quality, impact and value of the livelihoods of the years in school can be determined.

Formal education is not the only source of knowledge; it is important to understand the existing local knowledge and innovation capabilities. For example, knowledge such as the use of fertilisers can be highly useful for production, but very destructive in terms of environmental sustainability. Specifically, the use of certain types of fertiliser may have very negative long-term effects on the soils and environment. Therefore, if the poor do not know about such types of fertiliser, it can be very costly in the future as regards productivity, peoples' lives and plant life.

Migration and labour-force

Migration is both a cause and effect of change in Sub-Saharan Africa agriculture and rural life, a symptom full of surprises. It is argued that migration is one of the most important methods of diversifying rural livelihoods, and it takes several different forms. Migration means that one or more family members leave the resident household for varying periods of time and in so doing are able to make new and different contributions to its well-being. Migration is best understood as one of the strategies adopted by individuals, households or communities to enhance their livelihoods. This strategy is much more complex than it is often assumed and it has been so throughout history.

This section focuses more explicitly on the literature which examines the relationship between migration and agricultural development, discussing the negative effects in terms of absence of the productive members of the population, and the possible positive effects of remittances and ideas brought back by returning migrants. The evidence suggest that migration does not usually lead to radical transformation of agriculture, but that it often occupies a central part in the maintenance of rural people's livelihoods. There are three different types of migration commonly discussed in literature as follows:

Seasonal migration, denoting temporary migration according to the agricultural season. It is typically associated with a movement away in slack season and the return of migrants for the peak periods of labour input in the agricultural calendar.

Circular migration refers to temporary migration that is not necessarily tied to agriculture and that may be for varying duration. Circular migration implies that migrants routinely return to the resident household and regard that as their principal place of domicile. In view of this, they do not set up permanent living places in the places where they go for temporary work.

Permanent migration implies that a family member makes a long-duration shift to a different

location, typically an urban or a suburban area and sets up a domicile there. In this instance, the contribution to the rural resident takes the form of regular or intermittent remittances.

All these types of migration are common in Tanzania, but they vary depending on the location and the cultures dominant in the area. The impact of migration on agriculture is dependent also on the context, on seasonality of movement, educational levels of migrants, the length of time spent away, assets, and social structures and institutions allowing in case of single male migration women and others to pursue activities previously reserved for men and household heads.

Effects of out-migration depend to some extent on an ability to maintain labour inputs and to invest remittances productively. The literature does not provide much information about the conditions under which this happens. With respect to family's strategies, however, out-migration is a productive and essential strategy to deal with shortages and seasonality at the homestead.[19] According to Roberts (1997: 265), keeping a foot on the farm is integral to diversification strategies of both Mexican international and Chinese internal migrants. He describes the strategy of 'twin cultivation' in southern Ethiopia as a response to overcrowding, land shortage and land depletion. Out-migration may have negative effects on agriculture, but overall, it seems likely that when the right incentives for agriculture exist and this is not the case. Therefore, migration is not necessarily an alternative to agriculture, but it can be a complement.

Poverty, inequality and movement

As indicated in the above sections, poverty is not necessarily the main cause of movement. Poverty and migration links are complex and context-specific. The literature reviewed has not solved the question regarding how migration and development in general are related. Some stylised facts show that there is consensus that migrant tend to help to increase welfare in the areas of their destination. Migrants often contribute much to the economy of the host society, have high rates of labour-force participation and tend to be skilled (Francis and Haddinott 1993; Gugler 1997). However, there is little evidence that migration helps to reduce economic inequalities between area of origin and that of destination. Economic expansion may be dependent on cheap migrant labour, while the areas of origin may suffer a decline in agriculture in the face of the loss of young wage-earning men (World Bank 1999). With the development of the home area, migration does not necessarily decline since development and migration may very well accompany each other.[20]

Research on the effects of migration on areas of origin is relatively scarce, but it is clear that out-migration usually does not radically transform poor areas. Remittances are thought to contribute relatively little and the absence of the most productive members of households might have negative repercussion for agricultural development. However, contributions of migration are more significant than this suggests. First, analyses of continuing poverty in areas of out-migration need to consider the counter-factual: it is assumed that migration keeps the home area in poverty, but poverty could be worse if migration opportunities did not exist. Second, macro-level studies do not necessarily match with evidence at micro level. Empirical studies show that migration reduces the uncertainty of a family income, provides investment

19 This is in agreement with the conclusion by Russell et al. (1990: 83) that migration needs to be seen as complementary to African agriculture.

20 The argument about continuing and increasing inequality has been put forward, for example, by Cordell et al., op cit., for migration from Burkina Faso to Côte d'Ivoire during the 1950s and 1960s. However, the migration history of the Punjab in India suggests that relatively successful development does not preclude out-migration (combined with in-migration from poorer Indian states). In Japan emigration continued during industrialisation and urbanisation (Skeldon, op. cit., 1997a, p.95), and most East Asian countries are net emigration countries, despite being among the richest economies (Singh and Donecker, op. cit).

funds and livelihoods for those with small plots. Even though poor households have less access to opportunities, and income from migration may form a more important part of their income than that of the better off, as research in Kenya showed (Knowels and Anker 1981; Collier et al. 1986; Cooksey 1994), returns are often hidden, and may well go straight into paying off debts spent during annual festivals.

Migration helps to reduce poverty, even though in many cases it does not radically improve living conditions. Nevertheless, as accesses to opportunities are not randomly distributed, it may also contribute to increasing inequality. The research in Kenya quoted above does not contradict this; though remittances are less important for the rich, they might still contribute to increasing inequality. In the case of Indian rural-urban migration, it has been emphasised that better-off migrants are 'pulled' towards better job prospects, while the poor are 'pushed'. 'Push' and 'pull' migration are twin children of inequality in the same sort of village; but they are also sources of new inequality (Lipton 1980).

An extreme expression of how migration helps to reduce vulnerability was encountered in a research near Mafikeng in South Africa, where the father of a successful household moves between his two sons' and his brother's houses: When you have a family, they should not be clustered in one place because, when they die, they all die. When they are in different environments, trying to make a living, they will not all die at the same time (Francis 1999).

As the amounts of remittances tend to be small, it is common to find elderly people dissatisfied with young migrants who go out and come back with nothing except clothes, having spent their income just to feed themselves. The potential of migration to transform social and economic situations radically should not be overstated. However, a focus on tangible monetary returns neglects other aspects that help to reduce vulnerability. Young men who are absent and therefore excluded from meals may enable households to cope with periods of food insecurity. In addition, earnings by young women may not contribute directly to the household income, but the accumulation for marriage expenses implies significant household savings. Circulation of labour, for example that of young women between households, also provides necessary labour during harvest times. Finally, the out-migration of youngsters may help to reduce tensions within households, thus keeping them together in the long run.

This section has explicitly discussed the literature which examines the relationship between migration and livelihoods development, negative effects, in terms of absence of the productive members of the population and the possible positive effects of remittances and ideas brought back by returning migrants. The evidence suggests that migration does not usually lead to radical transformation of agriculture, but that it often occupies a central part in the maintenance of rural people's livelihoods.

Croll and Ping (1997) summarise results from a series of field studies centred on villages of migrants' origin in four different provinces in China (Jiangsu, Anhui, Sichuan, Gansu). High rates of out-migration are caused not only by land scarcity but also by rising costs of agriculture and a strong desire of villagers to leave agriculture. In fact, in a number of cases out-migration caused a shortage of labour. Croll and Ping (1997:143) believe that though remittances might benefit individual families, they do not contribute to village income and development or to the establishment and maintenance of village services including those for facilitating agricultural development. Hence, the impact of migration on agriculture is also dependent on the context, seasonality of movement, educational levels of migrants, length of time spent away, assets and social structures and institutions allowing, in case of single male migration, women and others to pursue activities previously reserved for men and household heads.

The migration's undesirable effect that is often quoted is that it destroys social bonds

which unravel the social fabric. In Southern Africa, where the links between migration and apartheid and uneven capitalist development have been central issues in debates, this theme has been particularly strong. Adepoju (1999), in the introduction to his edited volume on family, population and development in Africa, states that migration is eroding day-to-day mutual support among family members. This view of declining social structures is consistent with conceptualisations of migration that focus entirely on economic motivation.

Many studies now emphasise that migration need not be associated with such a decline of social structures and values (Barros 1990; Chant 1998). Van Velsen (1959) showed that absent male workers played an important role in sustaining traditional practices in the rural areas because it was in their interest to counteract the instability of a temporary urban existence through continued ownership of land and maintenance of social networks.

Thus, migration can be socially embedded in many different ways and the changes in social structures that arise from migration can vary greatly. It may be important to emphasise that such cultural changes and inventions cannot arise in situations of insecurity and discrimination. Nevertheless, the changes can have negative effects, for example, on women. On the other hand, this suggests that it would be wrong to perceive migration as an occasion that disrupts social structures. Migration is embedded in social norms and structures, and it in turn reinforces them. Partly because of this, it is possible for policies to support migration. The arguments discussed above indicate that migration contributes both negatively and positively to rural-urban linkages. It is for this reason that the impact region will be studied seeking to understand people's movements, their know-how and how this affects rural-urban linkages and livelihoods (Fig. 3.2).

Economic linkages

The level of incomes in terms of purchasing power and the ability to access basic services is the cornerstone of enhanced rural-urban linkages. It is argued that rural-urban linkages are a function of the economy of the villages in the impact region. The nature of the economy, the level and the composition all influence the success or failure of rural-urban linkages.

The economy and, in particular, the level of income are important for the rural and urban households' livelihoods and diversification, but there exists insufficient understanding of the relationships with the contribution to gross national product. There is also a neglect of local knowledge and experience in research and implementation. The economy as used in this section comprises incomes (including assets ownership), diversification (denoting the number of different activities especially non-farm activities performed at the household level), costs of production and the technology used.

Capital is probably the most versatile and least available to the rural people. However, even when it is available, it is difficult for the rural people to put their financial resources into good use because of lack of knowledge or because of underdeveloped markets and policy environments. Thus, when planning for support for rural areas one needs to consider the way in which existing social structures and relations can help to facilitate community based financial assistance to capacity building. Consequently, available stocks including cash, savings, liquid assets such as livestock and houses, regular inflows of money in the form of pensions and remittances appear to be the main components of the rural-urban economy (DFID 1999).

Land, other assets and regular cash flows

Financial capital includes financial resources that are available to the people, whether through savings, supplies of credit or remittances that provide them with different livelihood options. The assets may be in the form of houses, land, and cash in bank, liquidity assets like livestock,

jewellery and regular flows like income. Financial capital is very important because it is readily convertible to other types of capital. It can also be used directly to achieve livelihood outcomes. In order for people to put good use to the financial resources, it is vital that they have knowledge about markets and policy environments that hinder development. In order to build financial capital for the poor, development agencies cannot give money directly to the poor. Instead, there is need for indirect support through means such as overcoming barriers associated with lack of collateral forming groups; training and having collective responsibility with close supervision from the agencies, Non-Government Organisations, Community Based Organisations; identification of the existing savings and financial flows that can help them to build effective and tailored financial services.

Diversification

Farming alone rarely provides a sufficient means of survival in rural areas and, for this reason; most rural households tend to depend on a diverse portfolio of activities and income sources (Ellis 1998). Diversification occurs for many different reasons such as rural population growth, farm fragmentation and declining returns on farming compared to other activities. Diverse income portfolios often include income from Agriculture (own farm, tenant, or labourer); migration (seasonal or permanent) and remittances; daily commuting to nearby urban employment and local wage opportunities (construction or manufacturing). Household survival strategy reasons include reducing risks, overcoming income instability caused by seasonality, improving food security, taking advantage of opportunities provided by nearby or distant labour markets and generating cash in order to meet family objectives such as education of children (Ellis 1998; Tacoli 1998).

In addition, an efficient flow of income directly increases welfare at a constant level of income (making the standard assumption that utility functions are concave in consumption). It is common to see households deriving income from multiple sources. In Botswana, for instance, most urban employees maintain very close ties with the rural families where they retain a farm and earn incomes from it (Kruger 1998). Both seasonal smoothing and risk diversification can be very important in environments where agricultural output varies greatly over the year and across years and where mechanisms for smoothing income, such as credit and transfers are either costly or absent. A study by Morduch (1993) of ten Indian villages in the semi-arid tropics over the period 1976-1984 indicated that villagers are concerned about risks. He found that households that were estimated to be more constrained in their ability to obtain consumption credit when faced by a bad harvest were more likely to minimise the possibility of a bad harvest in the first place. This was possible as they scattered their plots more widely and chose a more diversified cropping pattern (*ibid*.).

The opportunity to earn a non-farm income can lead to higher average agricultural incomes in two ways. First, if there are several production technologies or crops with higher average productivity being associated with greater variability in output, having an alternative source of income which does not fall with a bad agricultural outcome makes farmers more willing to choose the high risk/high return options. A similar rationale is posited to explain why larger and wealthier farmers are often the first to adopt new agricultural technologies. Furthermore, in the absence of low cost credit, additional income from outside farming facilitates the purchase of costly inputs when they are required to take advantage of high return options.

This suggests that wealthier and more diversified farmers were making higher productivity cropping choices. It was found moreover that non-farm income not only contributed directly to household resources available for input purchases, but also significantly facilitated credit acquisition (Holms 1992). In another study in the Kenyan town of Kutus, (Evans and Ngau 1991 and Karaska 1998) found that farm revenue was positively

correlated with the proportion of land devoted to coffee (as opposed to maize), and that the proportion of land given to coffee was positively associated with non-farm revenue. It is worth noting that even the wealthiest farm families still diversify risk by continuing to grow maize.

Certainly, to the extent that the non-farm sector depends on demand derived from local agricultural incomes, it will co-vary and will only effectively smooth idiosyncratic risk. For example, the North Arcot District of Tamil Nadu, Sri Lanka, suffered a severe drought in 1982/83 with a fall in over 50 per cent from normal rice yields. Non-farm business income also plummeted as a result. For non-agricultural households in the surveyed villages, average non-farm business earnings were 493 rupees in 1973/74, fell to 19 rupees in 1982/83 and rebounded to 1,094 by the following year (Hazell, P. *et. al.* 1991a). Clearly, in this case, non-farm income was very sensitive to levels of agricultural income. On the other hand, Reardon, *et al.* (1992) reported that for three regions in Burkina Faso, the ratio of the coefficient of variation of total income to that of cropping income was 0.61, 0.76 and 0.69, indicating that total income was considerably more stable than cropping income alone. In most situations, non-agricultural income will probably be a stabilising force.

From the above discourse, diversification is an ongoing process which involves occupational adjustment, income earning orientation, and spatial relocation of rural dwellers away from strictly peasant modes of livelihoods. Not all facets of diversification unfold simultaneously. Most Sub-Saharan countries have experienced rapid urbanisation leading to marked changes in rural life, whilst others have experienced slow urbanisation. However, in all these cases, noticeable diversification into non-agricultural activities is taking place, leading to measurable differences in individuals and household sources of income. Thus, there are innumerable permutations of a diversification process as will be illustrated in detailed case studies.

By the way, diversification is a strategy adopted by the poor as a means of risk reduction to cover instability in various seasons and improve food security. This research looks at diversification as an inevitable component of the conceptual framework; since it is the way rural areas generate forward and backward linkages that constitute development.

Gross return to the farmer is dependent on the cost of inputs, the physical returns to inputs and the output price. In order to understand the farmer, we need to understand the constraints that are faced by him. These include the costs of inputs, labour, seedlings, risks involved like the vagaries of weather and the selling price. Such indicators are essential to determine whether the farmer will be willing to improve his/her farm or look for another alternative. According to Tacoli (1998), a combination of participatory methods and small-scale sample surveys is likely to prove the most cost-effective means of determining the livelihood strategies of rural households.

High value crop farming and livelihoods

The growth of metropolitan centres must be set within a wider context of agricultural change at the National level. The changes affecting agriculture in their hinterlands brought about by their metropolitan growth cannot be understood as simple interactions between urban and rural sectors in a particular region. It is part of the total interactions between the rural and the urban sectors in the country.

As a result of the growing urban market, the farmers in the hinterland may grow new types of crops for the urban consumers or urban-based processing plants to take advantage of the crops grown in the rural hinterland. Because land value is rising as a result of urban growth, farmers may intensify their cultivation through crop diversification, intensive methods of cultivation or switching to high value farming system.

Thus, many fast growing cities are within areas with the most rapid increase in the value of agricultural production. For instance, the urban centres serve their rural hinterlands as markets for their high value fruit or vegetables, coffee and cashewnuts. Factors relating to agriculture influencing the prosperity of most such urban and rural areas include:

the value per hectare of the crops grown (the higher the value, the more local urban development);

the potential for local value added (and the scale of forward and backward multiplier linkages); and

the land owning structure (the perfect stimulus to local urban development is lots of prosperous relatively small farms growing high value crops).

It is not enough for a crop to meet a need for it to be grown commercially; it must also provide an income that is competitive with alternative employment locally. This is particularly true for irrigated areas: irrigation, which requires inputs, farm equipment and loans, presupposes good technical skills. Farmers who possess these skills are not usually the poorest and are already tending towards economic optimisation. They will only start farming a crop if it is competitive with the alternatives.

The growing profitability of farm assets on the fringes of towns at first increases the pressure for exhaustive use of resources, and local residents are not always equipped to handle this. This situation destabilises or radically alters customary land tenure practices. When urban market signals are reliable and supply can develop to meet demand, restructuring occurs, with the total disappearance of "free" land and the beginnings of a market paradigm, either via an "updated" traditional arrangement or via official property deeds (World Bank 2000). The transition is from a customary system to a "modernised" one driven by economic rationality, often including a phase of de-structuring before restructuring occurs under new market forces. In this way, the maximum pressure from urban demand on natural resources (deforestation, extensive market farming) is usually to be found in an outer fringe around towns; it then tends to improve in the inner fringe. These areas are of great economic and environmental importance and should receive particular attention.

The influence of towns causes farming to adapt in ways directly linked to urban demand, in not only the immediate neighbourhood of the town but also further out along highways, the distance increasing with the size of town. Location also affects space-consuming non-farm activities such as housing and storage. These hinterland areas, often officially classified as rural, are seeing rapid population growth, either by net in-migration or by lower out-migration. They account for a significant proportion of the rural population. The specific conditions of impact region farming need, therefore, to be understood:

- Hinterland farming has certain advantages: services and capital available in town, advantageous location with respect to urban markets or export circuits for fragile products, a supply of organic waste from the town, a young and educated labour force, a melting-pot of ethnic and cultural groups that encourages exchange of experience and innovation;
- However, there are also major constraints: labour costs are high because of competition from employment in town. Land is dear because of competing uses; as traditional land tenure regulation collapses it is not always replaced by an official system, and tenure becomes insecure: There are health problems related to water quality and the use of city wastes as organic fertiliser; and the town continues to grow, so that some inner fringe farmers have to move out.

The result is a high degree of farm specialisation: perishable high-value-added products (market garden produce, fruit, milk, flowers and vegetables for export); heavy high-yield produce (cassava); small industrial units for products suitable for economies of scale

(chickens, eggs, pigs) or for technological change (pasteurised/packaged milk), fresh fodder for backyard livestock in the town. Benefiting from seasonal differences or by highly effective marketing, some more distant areas manage to occupy market niches by developing 'marks of origin' (i.e. oranges from Muheza or carrots from the Arusha).

Daily commuting from rural to urban

When rural dwellers shift into urban areas occupations this generally involves a change of residency, but the distance people are willing to travel daily for work and returning is crucial. The flow of daily commuters is seen each morning on any of the roads leading into Nairobi, Dar es Salaam, and Kampala (Karaska 1999); starting with those moving on foot, followed by those on bicycles, and those travelling by bus, taxis or personal cars (Brandt 1972).

Clearly, the extent of such movement around each urban centre depends in part on the density of rural population. From the individual's point of view, travelling involves expenditure of either effort or cash; offers clear economic advantages over residence in town. Besides, there is a saving on rent, and few foodstuffs have to be bought since much of it is grown locally. There are also many advantages in non-economic terms such as benefiting from urban employment without either upheaval of moving from familiar social setting, or the prolonged separation of husbands and wives.

There can be many types of rural-urban commuting and vise versa, including rural children attending schools in areas that have become urbanised; or because of urbanisation, new schools might have become accessible. Such changes could also have taken place with regard to other services such as banking, shopping, recreation and health. Rural children with some education may become employed in industries or services in the growing metropolis; even adults may get seasonal or part time work there.

Large numbers of rural people travel to town to do business. This ranges from obtaining licence, selling agricultural produce, buying shop commodities, to attending employment. Similarly, urban traders travel to rural areas to sell commodities, or buy agricultural produce to sell in urban areas. World Bank studies in Sub-Saharan Africa show that in Benin traders make an average of 250 trips a year to purchase and sales markets, while in Malawi, traders make 92 trips a year. The high frequencies of travel suggest that the linkages that exist between urban and rural areas are fundamental and cannot be taken for granted. Many households both rural and urban depend on these linkages to sustain their livelihoods (World Bank 2000). Therefore, studying how different households both urban and rural use these linkages to make a living will enrich our knowledge on the scale and nature of rural-urban linkages.

Infrastructure linkages

To a large extent, the adequacy and efficiency of infrastructure provision determines the success or failure of the relationship between cities, towns, and their impact regions. This observation extends to the management patterns (both agricultural and non-agricultural), the growth of commerce and trade, the response to population movements, the reduction of poverty, and the coverage of education and health services. In principle, good infrastructure raises productivity, lowers production and consumption costs and increases equal access to social services.

The qualities of infrastructure within and between urban and rural areas are very important in attracting investments. Thus, high quality infrastructure increases the capacity to attract service enterprises and industries that can operate successfully in external markets. In order to cope with the challenges of future infrastructure, appropriate strategies to tackle inefficiency and waste both in investment and in services delivery are essential. This is done

in response to user demand. Basic infrastructure comprises things such as roads, communication facilities and producer goods that people use to pursue their livelihoods. Infrastructure involves the physical environment that helps people to meet their basic needs and become more productive. Producer goods are the tools and equipment that people use to function more productively. Thus, infrastructure makes a crucial difference in the ability of the urban and rural people to overcome poverty.

Inappropriate producer goods constrain people's productive capacity and therefore the human capital at their disposal. This, in turn, causes more time to be spent on meeting basic needs production and gaining access to the market. Development of physical infrastructure must be demand driven. Without a perceived need for service, it is unlikely that the required infrastructure maintenance will be carried out. In this way, rural-urban linkages approach focuses on helping to provide access to appropriate infrastructure that enables poor people to achieve their livelihood objectives.

The extent and pattern of transport networks determine the physical size and shape of settlements. With high population growth rates and concentrated urbanisation, large cities in Sub-Saharan Africa need a responsive infrastructure network. The state in Sub-Saharan African has been the key player while the citizens have been the users in the physical infrastructure realm. This has caused high transaction costs such as inefficient information flow, a high level of corruption and mismanagement, all of which have contributed to poor and unsustainable physical infrastructure provision and maintenance. The last factor has led to the existence of weak rural-urban linkages.

Roads

Transport helps an economy in two basic ways. First, it gives consumers access to places where they can engage in income-generating activities, facilitates the delivery of consumer goods and access to services (e.g. education and health care), and expedites leisure and social activities. Second, transport enters the economy as an intermediate input into production, either directly or as a complement to other factors (for instance, securing inputs or getting output to market). In the case of rural agricultural production, improving transport may lower input prices and hence production costs, improve access to credit, facilitate technological diffusion, increase the area of land under cultivation, or increase the availability of "incentive" goods. A study on Nigeria (Singh 1986) reported substantial costs to farmers due to inadequate transportation facilities connecting rural areas to market towns.

On a national level, improved transport may increase trade and competition from imports, which in turn may lead to improved production efficiency. This trend exerts pressure on consumer prices which in turn reduces seasonal fluctuations in price. In urban areas, the price and quality of transportation and socio-infrastructure significantly affect firms' decisions in relation to location of factories. In Kinshasa, Zaire, for example, which has expanded fourfold physically since independence, a deteriorating infrastructure forces residents in districts developed after 1960 to walk long distances to catch a bus to their workplace? This affects the productivity of workers and the wages they are likely to demand (Hamer 1986). Transportation costs are a significant part of total costs, affecting the survival of small firms and the entry of new firms into an industry or market. National output can increase if inputs shift to uses that are more productive. By attracting inputs from other regions, transport can help shift a region's production outward.

Physical infrastructure, and in particular roads, is expensive and thus requires not only the initial capital but also an ongoing commitment of financial and human resources to meet the operation and maintenance costs of services. Thus, the emphasis is to provide the level of infrastructure service that meets the immediate requirements of users and which is affordable

in the long run. Infrastructure in this context is having a permissive effect that enables the poor people to meet their basic needs and not as a means by itself. For instance, if the key constraint in an area is access to the markets in the rainy season, a likely response to this would not only be the repair of the roads and bridges but also the introduction of affordable transport service using the existing means. Provision of efficient transport that is not affordable to the indigenous people will be wastage of resources.

Infrastructure such as roads and rails are key to the integration of remote areas where many people live. Not only will the people move freely between rural and urban areas, but also they will more likely be better informed about good opportunities elsewhere. An efficient transport is one that provides a motive for an entrepreneur to maximise net gains as a result of, among other factors, reduced production costs. The opportunity cost associated with poor infrastructure precludes the stakeholders from education, access to health and income generation. For instance, an efficient transport infrastructure makes possible the supply of cheap inputs like fertilisers and the transport of limited produce to the market. The increased costs of production and transport imply that producers operate at a comparative disadvantage in the market. Consequently, affordable infrastructure and not just infrastructure is required in order for the rural and urban economy to take off. The research investigates the types of roads serving the impact region, addresses the issues of seasonality and the cost of transport in both the wet and dry seasons.

Accessibility

Accessibility denotes ease of contact with relatively little friction i.e. less wastage of time and energy. The cost of overcoming distance is a basic factor in all human activities. Concentration of economic activities exists because of the advantages of proximity of contact and exchange. Activities are usually located in places where the friction costs are minimised and the process of growth tends to lower the total cost of distance to the economy. Thus, in this study, the direct cost and time incurred to travel and transport goods and services will be used to express the level of accessibility.

Communication

Human communication is a process through which individuals in relationships, in groups, in organisations and in societies creates, transmit and use information to organise the environment to their advantage (Ruben 1988). Individuals, relationships, groups, organisation and societies develop and maintain themselves by engaging in communication with their environment and the people in it. For individuals, communication is our link to the world, our means of making impressions, expressing ourselves, influencing others and giving ourselves. It is also our means of learning about the world and other people, becoming who we are, being entertained, persuaded and deceived (Reuben 1988).

Communication is the activity through which we join together to form these units and the mechanism through which the goals and needs of individuals who compose them are co-ordinated. Communication in larger societies allows for collective action, the establishment of a common identity and leadership (*ibid*.). In most settlements in Sub-Saharan Africa, it is very difficult to access information because of lack of communication which has been hampered by poor transportation linkages between settlements. Communication through the mass media like newspapers takes long to reach the rural settlements. As a result, the settlements get information either too late or they do not get it at all. It is the intention of this study to look into the factors that influence communication, namely: needs, attitudes, values, goals and capability.

Obtaining adequate market information and understanding how to use it effectively is

key to the establishment of better and more reliable relationships. However, access to sound information is frequently a problem for many farmers, especially those remote from market centres. Market information needs to include more than just current prices. It should also forecast future trends in supply and demand, changes in specification and quality, as well as give indication for future prices. The aims and value of market information lie in the fact that it complements production planning, facilitates negotiation that is more equitable and offers the choice of where and to whom to sell. Experience shows that rapid dissemination of market information can result in improved farm gate prices. This, in turn, means that supplies enter the market in a more orderly manner.

Interpreting information correctly and devising or adjusting farm business plans accordingly is obviously essential, but it is a skill that has to be learned. There may be a case for various reorientations of the extension services, where this has not already happened, to provide interpretative guidance to farmers and assist in identifying and evaluating farm management options. Even though the extension service may remain an arm of the state, the guiding principles of such advice must serve the best interests of the individual farm and family. A set of complex elements works together to influence our decision on what information to attend to and how to interpret and retain it. These include the needs, attitudes, beliefs, values, goals and capacity.

The above arguments make communication and infrastructure a *sine qua non* for enhanced rural-urban linkages in Sub-Saharan Africa. It is on this basis that the conceptual framework has significantly featured the primacy of appropriate and affordable infrastructure on the one hand, and information dissemination on the other.

Institutional linkages

Institutions are contractual arrangements between principals and principals, and principals and agents to maximise profits by realising the gains from trade as a result of specialisation (North 1989). Principals are the employers, managers, commission agents, transport agents and traders; agents are the workers or farmers. Thus, institutions provide the framework and the structure to perform certain kinds of exchange. This section discusses institutions in the context of the norms and rules employed and the organisation set up.

According to North (1989), contractual arrangements may be explicit or implicit and they must be defined and enforced. It is the cost of defining and enforcing them that makes up transaction costs. Thus, summing up, North (1989) described institutions as follows:

a set of constraints on behaviour in the form of rules and regulations;

a set of procedures to detect deviations from the rules and regulations; and

a set of moral, ethical behavioural norms which define the contours that constrain the way in which rules and regulations are specified.

Chambers (1997:220) defines the term "institutions" as often referring to the so-called "rules of the game", i.e. rules governing human behaviour within a given society, and reflected in the structure and disposition of organisations. Chamber’s definition provides three basic elements that define institutions as follows:

rules or procedures followed in a given society in order to make decisions;

legal norms, traditions and other behavioural rules; and

organisations like the state, associations in the private sector or civil society and families.

Today, the role of institutions in creating conditions conducive to growth and economic development is largely acknowledged. However, the importance of institutional development

for poverty reduction is much less understood. For too long, development policy has laboured under the false assumption that scarce resources are the main cause of poverty and underdevelopment. Today, a consensus exists in international discourse on development policy that the major problem is access to resources (Chambers 1997). This applies to natural resources (water and land), means of production, financial resources, marketing infrastructure, technical expertise, education and training. Nonetheless, this consensus still has to be translated into the practice of development co-operation.

The traditional project approach, which prevails to this day, sees the elimination of resource scarcity as the point of departure for development. Although there is growing acknowledgement of the significance of the policy and institutional environments, the majority of projects still view these aspects as "frameworks", and not as starting points per se. The conventional project approach is based on a misleading concept that perceives the relationship between input and output as a linear one. By contrast, modern understanding sees development as a sequence of interrelated and open processes. This concept of development seeks to reconcile the interests of different social groups competing with each other on an essentially equitable basis. Those actors' capability to act is reflected in institutions that define the rules stipulating who has access to resources, on what scale and on which terms. These institutions can help eliminate poverty or contribute to its maintenance.

Thus, institutions provide the basic structure by which human beings create order and attempt to reduce uncertainty in exchange. As a result institutions together with the technology employed have determined transaction and production costs and hence the probability and feasibility of engaging in an economic activity (North 1989). The study of institutions, therefore, should be critical for further understanding of economic history. Institutions consist of formal rules, informal constraints and enforcement characteristics.

Institutions that arise because of uncertainties associated with human interactions provide a structure and the rules of the game. It is costly to make exchanges because it takes resources to define and enforce exchange relationships and agreements. Even if every one had the same objective function such as maximisation of the firm’s profit, transactions would take substantial resources.

If the rules and norms are bent at lower levels of bureaucracy or used in ways not intended, but the outward form is respected, giving a sort of liturgical pleasure to those who master their sequence and observances, then whatever success is there is short term. Institutions involved in rural-urban linkages between the city and the hinterland have different behaviour, norms and rules that affect the functioning of rural urban linkages. These may include formal or informal institutions and enforcement characteristics. The basic question often asked is how are formal and informal institutions related or different? The analogy with the football match competition will illustrate several aspects of institutions. Formal rules and codes of conduct and the degree and effectiveness of enforcement of the rules determine the way the match is played. Together, they define how the game is played. Therefore, changes in any one of the rules will change the game. Likewise, formal and informal institutions play the same role in the performance of the society.

It is not easy to define informal institutions precisely because they consist of the variety of ways by which people extend formal rules and apply them to specific situations (North 1990:3). They are ways of co-ordinating human interactions in which all parties have a stake, thus, ensuring that they obey certain types of exchange such as greeting older people or taking part in the feeder roads repair. Norms and behaviour are socially sanctioned types of activity which are agreed upon and usually enforced by the community members of the society. Individuals who do not live up to those agreements are punished. Informal institutions are important because they are the ways by which communities carry out and execute specific

kinds of exchanges and agreements (Chambers 1997).

Recently, institutions have come to be seen consistently as the missing link in development co-operation. There has, of course, always been institution building and organisational development, but rather within the framework of projects and programmes and not as a strategic approach to development co-operation per se. Currently, the issue of promoting political, social and economic institutions in the context of poverty alleviation is arising as a matter of top concern. New approaches are necessary if the process of globalisation is to be taken into consideration. However, a process should not be taken as a given fact; it should be influenced. This calls for the establishment and interplay of democratic institutions that go beyond national borders. Institutions are, therefore, of prime significance for continued economic and social development.

Pro-poor development strategies must tackle those structures that constrain development and cause poverty. To achieve this, development assistance must be turned upside down. It must get away from the policy-project approach and aim at local empowerment and the development of institutions in which the poor are represented. This is based on the fact that the development co-operation of the last 30 years was all about promoting projects of limited duration with a sectoral or regional focus (Chambers 1997). It was claimed that these projects generated broad-based impacts, and were replicable. Yet, only in relatively few cases was this claim borne out. The proclaimed aim of development was asset creation, especially in poverty alleviation; it was not the creation of structures enabling the poor to gain access to resources. Nevertheless, the attempt to use policies and projects as a lever to change structural constraints to development has not proved successful because it has adhered too closely to conventional approaches with limited outreach. On the other hand, structural adjustment and sector investment programmes did not meet the high expectations placed in them, primarily because they failed to create the necessary institutional structures for policy reform (Bryceson *et al*. 2000; Tacoli 1998).

Why are the economic and social opportunities that allow a small proportion of humanity a high standard of living not available to all? At the beginning of the 19th century, the ratio of per capita income between the richest and the poorest countries was around three to one. At the beginning of the 20th century, it was ten to one. Now at the beginning of the 21st century, it has reached ‘sixty to one’. Today, one billion people in the industrialised countries control close to 60 per cent of global income, one-and-a-half billion people in the middle-income countries earn 20 per cent, and the three-and-a-half billion people in the poor and poorest countries share the remaining 20 per cent. In other words, while the global average Gross Domestic Product (GDP) is around $6,000 per capita, the figure for the richest countries is $29,000 and for the poorest countries $500 per capita (World Bank 1999). How do we account for this enormous and growing disparity? One explanation can be found by analysing the institutional resources of a country. Resources make the process of economic development possible in the first place and, once it has begun, steer it in the right direction. Institutions promote political stability, effective and responsible administration, and good governance. They also secure property rights, activate the presence of a competitive financial sector, and ensure the provision of basic health care and education.

Michel Camdessus, the former Managing Director of the International Monetary Fund (IMF), has made a number of points concerning the task now faced by the Fund, namely linking the goals of stability, growth and poverty alleviation. He has stated that viable social, political and economic institutions are a necessary, albeit not the sole precondition for macroeconomic stability and growth. Furthermore, in his view, institutions and economic policy frameworks are the common denominators that need to be incorporated into all further development efforts, in addition to macroeconomic stabilisation and reform.

Organisational culture

As interaction takes place through the networks of the community, organisation, verbal or non-verbal like advertisements, behaviour pattern develop and become standardised. Over time, they become important social realities for the community or organisation. Thus, an organisational culture of a community is the sum of its symbols, events, standardised verbal and non verbal behaviour patterns, folk tales, rules and rituals that give the community or organisation its character or personality (Reuben 1988).

The verbal and non-verbal behaviour that individuals collectively show create the organisations to which they belong. To become a member of an ongoing organisation, the individual must adapt to the culture of the organisation. It is, therefore, essential to study what organisations exist (formal and informal) and how they are managed because they play a central pervasive role in the dynamics of organisations of all kinds. Functions of organisations include: providing people (in organisations) with a sense of individual and collective identity such that they can say yes or no to decisions together, helping with the socialisation of members, and fostering cohesiveness among members of the organisation.

Chambers (1997) and the World Bank (1999) raise two key issues in the institutional argument: The first is that the role of institutions is to create conditions conducive to growth and economic development in determining both production and transaction costs and the probability of engaging in an economic activity. The second role of the institutions, relates to its importance in poverty reduction. Only when the poor and their interests are represented in institutions at the national level will there be a policy for the poor.

Sustainable livelihoods and rural-urban linkages

The overall aim of the study is to investigate ways of enhancing rural-urban linkages as a means of reducing vulnerability and generating sustainable livelihoods. This implies the need to find ways to enhance rural-urban linkages by adapting to what people are already doing. The literature in the previous chapters has shown that households in Sub-Saharan Africa are either facing outright poverty or continuing to encounter vulnerability to poverty. For many of the households there is limited access to education, health care, reliable sources of income, reliable physical infrastructure, shelter, energy and clean water.

Hence, the livelihood approach attempts to identify both the most important constraints faced and the opportunities open to the people regardless of where these occur. It then builds upon people’s own definitions of these constraints and opportunities and, where possible, it supports people towards realising them. This implies that adapting the livelihoods approach is expected to make a direct real life contribution to the achievement of enhanced rural-urban linkages. The approach will also facilitate the identification of practical priorities for sustainable livelihoods that are based on the views and interests of those concerned. Thus, livelihoods are sustainable when they are resilient in the face of external shocks like drought, fall in the prices; are not dependent upon external support; and maintain long-term productivity of natural resources.

The reality is that livelihood systems comprise a complex and diverse set of economic, social and physical strategies. These strategies are realized through the activities, assets and entitlements by which individuals make a living (Singh and Lawrence, 1998). Sustainable livelihoods are derived from people's capacities to exercise choice, and to access opportunities and resources, and use them for their livelihoods in ways that do not exclude options for others to make their living, either now or in the future. The broad goal of poverty eradication is to develop individual, family and community capacities to improve their livelihood systems. To understand these systems, people's coping and adaptive strategies are important entry points for analysis. A sustainable livelihood system can only be understood and

promoted if the matrix of interactions between policy, science and technology and investment is approached in an integrated manner and used to augment what local people already do well and the assets to which they have access.

Household livelihood strategies will differ from rural to urban settings. Rural strategies often involve a variety of different household members in such activities as home gardening, exploiting common property resources, share-rearing livestock, and family splitting, and stinting which remain largely unseen by professional interviewers and thus are difficult to measure through traditional surveys. Urban strategies may involve substantial transportation/travel back to rural areas of origin, and may involve complicated remittance aspects involving other family members. It is important to recognize that the sustainable livelihoods approach is not rural centred but addresses livelihood issues in both urban and rural areas.

Sustainable livelihoods thinking and action in a participatory systems manner therefore is a long-term vision that in the short-term requires capacity development, networking and collaboration on macro-micro linked cross-sectoral policy analysis, the design of development programmes, and a shift in implementation strategies. Household livelihoods are enhanced through participation in rural-urban linkages. Then, through continual participation in rural-urban linkages using different strategies, multiplier effects are accumulated, thus creating enhanced and sustainable linkages. This also implies an accumulation of capital that provides a basis for sustainable livelihoods, especially for poor households.

4. Research design and methodology

This chapter presents a systematic account of the research process, methods employed to generate the answers to the research questions posed earlier and the paradigms and arguments underlying the choice of the research strategy. Discussion of the methodology starts with the choice of the research strategy and the units of analysis. Subsequently, different data collection methods are presented as used in both the pilot study and the main fieldwork. After that, the discussion of issues pertaining to internal, external validity and generalisations are presented. The final section discusses the extent to which the data collected can be relied upon and the need for multi-method data collection procedures. Additionally it explains the meaning of replication in the cases selected.

Choice of an appropriate research strategy

In social sciences research, there are five main research strategies commonly used, namely experiments, surveys, archival analysis, histories, and case study. According to Yin (1994), each strategy has peculiar advantages and disadvantages depending on:

The type of research questions;

The control a researcher has over behavioural events; and

The level of focus on contemporary events versus the focus on historical events.

The nature of the research questions influences the researcher to select a suitable research strategy. The strategy selected simplifies the work of the researcher to reach valid findings and meaningful conclusions and recommendations, which will provide a basis for policy action. According to Berry (1993), one needs to select a research strategy on the understanding that African cultures and institutions are fluid, dynamic and ambiguous. In addition Flyvbjerg (1995), cautioned on the limitations of social science research methodology. He urges, 'after more than 200 years of attempts, one could reasonably expect that there would exit at least a sign that social science has moved in the desired direction, i.e. toward a better prediction. It has not'.

This suggests that social science methods are not capable of making predictions in the same way as natural science. Besides, the available methods cannot ask all the right questions. To make a distinction among the five research strategies one needs to make reference to the strategies using their basic classification scheme for the types questions asked such as *who, what, where, and why* as will be briefly discussed below.

Research questions, focus, and researcher's control of events

The first and the most important condition for differentiating among the various research strategies is to identify the type of research questions being asked. In general, What questions may be either exploratory or about occurrence or frequency. If the questions are explanatory, the researcher may need to develop pertinent hypothesis and propositions for further inquiry and any of the five research strategies can be used, whereas, if they were prevalence, survey and analysis of archival records research strategies would be preferred.

The How and Why questions are likely to favour the use of case studies, experiments or histories. This is because the Why and How questions deal with operational or active links needing to be tracked over time. For instance, if one wanted to know How a village successfully implemented a water project, he would likely rely on a survey of archival records or case study research strategies. In contrast, if one wants to know Why the water project was not implemented, he would require more documentary information and may need to administer more interviews. In this regard, a case study strategy will be more appropriate.

Therefore, defining the research questions is the most important step to be taken in a research study, which requires patience and enough time. One way to do this is to review the literature on the topic (Cooper 1984). Such a literature review is therefore a means to an end, and not an end in itself. Literature review helps the investigator to develop sharper and more insightful research questions about the topic.

The second important consideration in the selection of research strategy is level of control a researcher has over behavioural events and the extent of the focus on historical or contemporary issues. If one has decided that the Why and How questions are to be the focus of the study, one need to further distinguish the investigators control and access over behavioural events. For instance, when no relevant persons are alive to explain or report retrospectively why was the water project not implemented, the investigator relies on primary, secondary documents, and cultural evidence. Thus, a history is a preferred strategy in this regard.

In contrast, when one wants to deal with contemporary events, the case study research strategy is preferred. The case study strategy uses many of the same techniques as the history research strategy, but adds more issues namely, observation and systematic interviewing. The strength of the case study strategy lays in its ability to deal with multi sources of evidence namely, documents, artefacts, interviews and observations.

Thus, in some situations all the research strategies can be relevant, particularly when the research questions are explanatory in character. In other situations, two or three strategies can be equally attractive. Sometimes, it is also possible to use more than one strategy in a given study. Finally, there can also be a situation where a specific strategy is preferred. For a case study, this is when How and Why questions are being asked about contemporary set of events, over which the investigator has little or no control (Yin 1994; Robinson 1993).

The preferred research strategy

Based upon the nature of the research problem, the research questions and the propositions that exhibit causal relationship, the case study approach was considered the most appropriate strategy among the other four traditional methods, namely survey, experiment and analysis of archival records. From the How question we benefit from the power of social science methods; for instance, we can capture the process of decision-making. From the Why question we can explain the phenomenon under study. The concern with human decisions and actions entails interpretations of values, interests, judgements and choices that are varied and context dependent.

A case can be an individual, a group (a family), an institution such as a school, a factory, a community, a town, an industry, or a link between two settlements. It all depends on what one wants to find out. A case study is one, which investigates the above to answer specific questions that seeks a range of different kinds of evidence, and which has to be abstracted and collated to get the best possible answers to the research questions.

The case study method involves a detailed intensive knowledge about a single or a small number of related cases. It focuses on the investigation of a contemporary phenomenon within its real life context. Moreover, it addresses a situation in which the boundaries of the phenomenon and context are not evident, and it uses multiple sources of evidence (Bell 1993; Silvermann 1993). Instead of drawing on universal principles, the case method uses cases as examples where practitioners working in similar situations can relate to those made in the case or examples. Similarly, practitioners will normally go to their counterparts and ask how they did things. The person asked will give his or her own experience. From the experience, the practitioners will relate to their own situations. They will learn from that example whether to avoid or to enhance a particular outcome.

As regards the phenomenon under study, i.e. the rural-urban linkages as observable in real life and context, it is hard to set boundaries between the context and the phenomenon (Bell 1993; Silvermann 1993; Yin 1994). Since the study phenomenon is complex, it will require a multi-method data collection instrument that encourages convergence lines of enquiry. In this way, triangulation and construct validity will be achieved while data can be collected from the lowest levels of the population. To achieve this, it was necessary to define correct measures of rural-urban linkages by identifying the bottlenecks that inhibit development of rural livelihoods. These comprise the economy, infrastructure, institutions that hinder increased production, use of modern technology and physical assets that may constitute high transportation costs.

In addition, the integrity and identity of the case cannot be preserved by using statistical analysis and inference, because the individuality of the case may be lost. The need to preserve the identity and the uniqueness of the case and to systematically examine the processes that made it what it is requires an individual case approach (Robinson 1993; Yin 1994). Based on the above explanation and the earlier set research questions, the use of a case study research strategy was essential as it necessitated an understanding of processes, actors' interests, values and judgements.

Research process

The research problem originated from the researcher's background as a regional planner, and from personal intuition and interest in regional development. Through literature review and discussions with colleagues, the focus of the research was directed towards rural-urban linkages, which have remained a research agenda for many international agencies, e.g. UNDP, World Bank, UNCHS/HABITAT, GTZ, IIED, and DFID for a long time. After these stages, a research proposal was written. This was then followed by the preparation of a preliminary fieldwork design. A pilot study was conducted to ascertain the nature and extent of the rural-urban linkages. The results of the fieldwork are presented below.

The exploratory study

The preliminary fieldwork was undertaken from December 1998 to February 1999, and involved villages in two administrative regions, namely Coast and Dar es Salaam. Evidence was collected from the district and village officials by direct observations, participatory discussions and physical artefact. At this institutional level, a checklist of open-ended questions was used for discussions with the officials. Besides, a lot of information was obtained in the form of documents, reports, maps, profiles and written discussions that later became very useful. The overall aim of the pilot study was to unveil the preliminary insights into the phenomenon of rural-urban linkages in order to:

Establish the significance of the study to the planning profession, the public and research institutions.

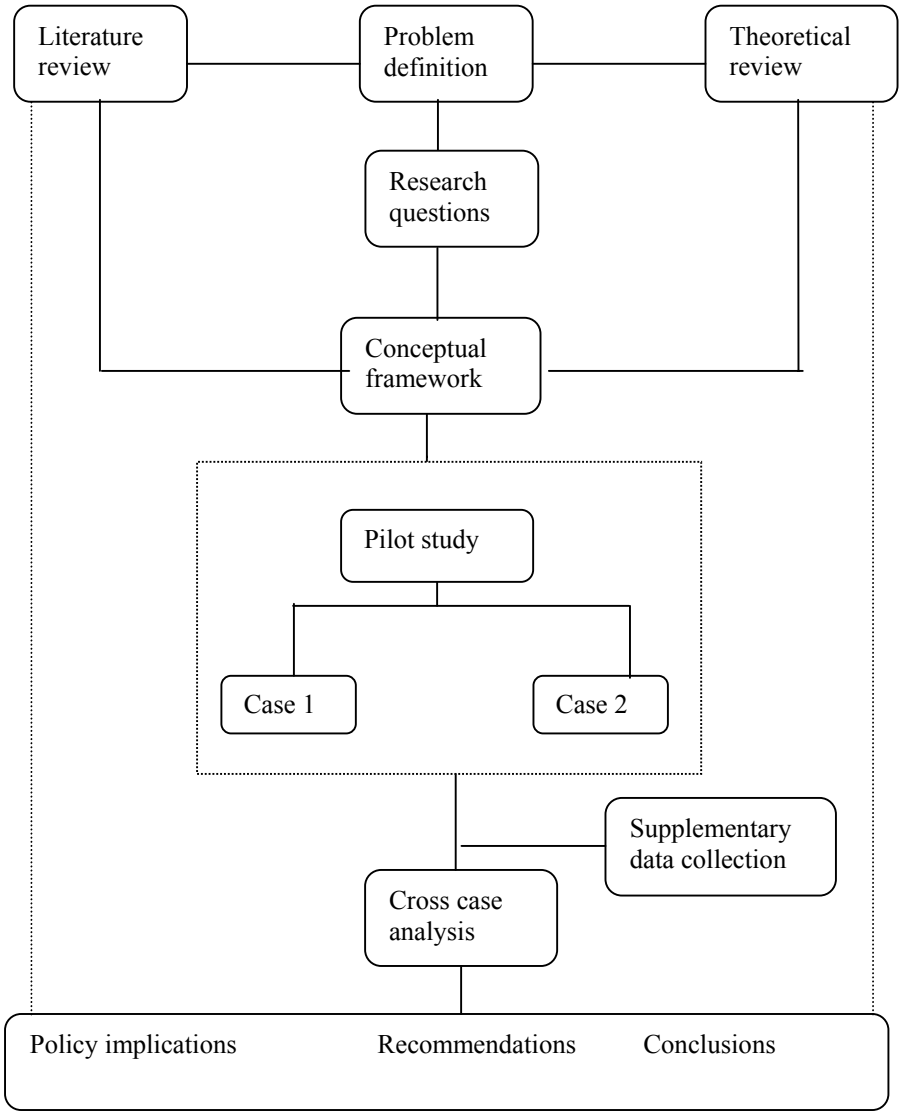
Delineate the study area based on a coherent functional economic region and on the extent and intensity of the different types of linkages.

Refine the research questions and propositions that were previously set from the literature and experience.

Formulate the criteria for selecting the detailed case study villages in phase two.

Select phase two data collection instruments that would capture the desired results.

Figure 4.1: The research process



Source: Author's construct

Institutional survey

Extensive reconnaissance exercises had to be performed at institutional level in the impact region and, occasionally, using participatory tools to understand the types of linkages and of socio-economic services existing. The information collected in this phase was used to establish relations with the local leaders at the district and village level, and to sharpen the research questions. This was then followed by the preparation of a map that would show all the villages in the impact region. In the end, a random selection of villages to be visited was made to ascertain the intensity of rural-urban linkages adjacent to Morogoro, Kilwa, Bagamoyo and Nyerere roads. The following is a brief account of the outcomes.

Dar es Salaam city impact region can be accessed only through the four major arterial roads that radiate from the city centre to upcountry regions. Travelling along each of these four arterial roads, one gets an impression of the different kinds of activities taking place

along each of them[21]. It is vital to note here that an intensive development along the road does not necessarily radiate inwards with the same intensity, and if it does, it is just for a short distance. Thus, in between the arterial fingers, there are pockets of underdeveloped land (i.e. land with scattered houses and often farms with little attention).

Morogoro Road constitutes an intensive and continuous development all the way from Dar es Salaam to Kiluvya, a distance of 40 kilometres from the city centre. After Kiluvya, scattered developments start to dominate until one reaches Kibaha town. The intensity of development is mainly along the road and diminishes as one move away from the city centre and the road.

Along Bagamoyo Road, there is also a continuous development up to Boko. After Boko, scattered development starts with frequent breaks of bush area often consisting of un-attended cashew farms. Further north from Bunju, cultivated farms start to appear with small and medium size agricultural plots which produce fruit crops such as cucumbers, onions, watermelons, okra, eggplants and bananas. At some points along this road, there are numerous small markets for selling agricultural produce. Along the other arterial roads, namely Kilwa and Nyerere Roads, one cannot see stalls for selling agricultural produce as is apparent along Bagamoyo Road. This activity distinguishes the road from the other arterial roads, as it suggests a unique characteristic-perhaps reflecting the nature, culture and traditions of the new migrants in the area.

Along Kilwa Road, there is a continuous belt of development up to Kongowe after which bushes and frequent large farms break it. Thereafter, villages interspersed with bushes often consisting of un-attended cashew farms and natural savannah grasslands are common. Along Nyerere Road, one comes across intensive development up to Pugu Kajiungeni. From this point to Kisarawe town, scattered development interspersed with forests and bushes emerges. Thereafter, there are frequent bushes and villages adjacent to the main road up to Masaki village.

This knowledge, together with the data obtained from the discussions with the district officials, was used to prepare a map showing the existing villages[22]. The 1988 census reports were employed to select 28 ward centres that were all plotted on the map. Many villages were initially selected and mapped in order to establish a wide pool from which appropriate cases would be picked during the second round.

Preliminary visits to the villages (ward centres)

Extensive visits to the earmarked villages were conducted and participatory methods such as mobility matrix were used in mapping the flows. The focus group discussions facilitated in getting the reasons behind the flows and patterns identified. In the focus group discussions, the information arose organically, rather than being directed by the processor. The Venn diagram was used occasionally, which enhanced understanding of the type, quality and efficiency of the socio-economic services available in the villages. Moreover, where possible, interviews with the medical officers, agricultural extension officers, education officers and members of the village assembly were conducted.

Destination studies and traffic counts

Traffic surveys and destination studies were carried out along selected cordon points on the main trunk roads with the help of Traffic Police officers. Five cordon points were selected

21 Activities along the road may have close linkage to the immediate surrounding villages. Shops and services that are found along these roads often reflect what is produced or needed by the farmers in the immediate surroundings.

22 Village: A village is the lowest classification of human settlements in Tanzania (usually with 250 families)

namely Mbezi Louis along Morogoro Road, Tegeta along Bagamoyo Road, Kigamboni ferry along Mjimwema Road and Pugu Secondary School along Nyerere Road (Map 3). The traffic surveys were executed on 16th February 1999. As the weather condition was good and no adverse or detrimental events were encountered during the survey period, the traffic data obtained then were deemed "traffic on a normal day". The survey was carried out over a twelve-hour day (6.00 am-18.00 pm) on a weekday.

For the destination study, vehicles passing through the survey points were stopped in every half-hour with the help of traffic police officers. Their drivers were then interviewed about their origin, destination, purpose of the trip and the kind of commodity carried. This information helped to develop deep insights on rural-urban linkages. Additionally, the team was able to map several flow diagrams with various intensities that highlighted the weaknesses and the strengths of rural-urban linkages between the impact region and the city.

Issues arising from the pilot study

The following issues generated from the pilot study based on the research design are as presented below:

In the study, area rural-urban linkages constitute a source of both rural and urban livelihood affecting many households.

The seasonal and poor roads to the villages have significant effects on the livelihoods, especially in rural areas where access is only during the dry season.

The linkages between the city and the study region are weaker than those between the city and the far-off regions in terms of supply of agricultural produce. Much of the food feeding the city population comes from far-off regions, rather than from the impact region. Besides, the inhabitants of the impact region buy food crops from the city market; the converse should be the case.

Linkages across space include flows of people, goods, money, information and wastes.

The types of crop grown in the impact region determine the intensity of the linkages.

Linkages between agricultural and non-agricultural sectors i.e. backward and forward linkages exist in the study area.

The proximity of rural villages to urban centres does not necessarily imply a high level of interactions; physical accessibility and socio-economic conditions are important.

Access to markets is important but physical infrastructure is essential. Access to urban markets is often controlled by intermediaries and urban-based traders who may enforce monopolistic practices.

Lack of information on prices and demand can result in production surplus and lower prices. While access to general information, for instance, through the radio and television has greatly increased in rural areas, access to local information for farmers is not equally available.

For rural producers to benefit from urban demand, access to land is critical. Equally important are other factors such as quantity, quality and accessibility.

The above issues from the impact region shaped the course of the research as they helped to explain, the nature and scale of the rural-urban linkages. They also brought to light the disparities between rural and urban areas. Furthermore, the information collected in this phase was also used to establish rapport with the local leaders at the district and village levels. Rapport is essential for optimal respondents' co-operation.

The main study

This section is an explanation of how the research was carried out. It further accounts for the methods used in the main study and presents details of the unit of analysis, the case selection criteria, the main fieldwork and the difficulties encountered in the data collection analysis and processes. The main fieldwork was conducted from August 1999 to May 2000. The intention of the study was to conduct a detailed empirical inquiry and to obtain intensive knowledge about the selected cases using the four conceptual variables discussed in Chapter Three. One of the major challenges in phase two was timing of the data collection to coincide with the peak agricultural season when many peasants take part in various activities leading to rural-urban linkages. Hence, the months ranging from August to March proved the most appropriate for all the cases because they constituted the harvest and peak season for most of the agricultural activities.

Rationale for selection of multiple case studies

The selected cases were to address all the conceptual categories identified in Chapter Three, namely the infrastructure, the economy, the demography and the institutions. The case study method views a phenomenon under study as a unique case within a given context i.e. physical, socio-cultural, economic, political, among others (Flyvbjerg 1989, 1998; Marshall 1989; Bell 1993; Silverman 1993). Thus, this method has been used because this study seeks to collect concrete data in order to explain patterns and relations under a specific context. Selection of cases in different geographical regions will provide an explanation as regards certain processes, how they occur and the way they behave in different contexts. Marshall (1989:49) has argued strongly for the case study method for this type of study:

> Human behaviour is significantly influenced by the setting in which it occurs, thus one must study that behaviour in situations. The physical setting e.g. schedules, space, rewards and the internalised notions of norms, traditions, roles, and values are crucial contextual variables.

It is in this regard that the multiple case study approach becomes a valid strategy. This approach allows the principle of individuality or peculiarity of factors and circumstances surrounding each case to be more appropriately investigated in depth. The complex linkages of the various actors and processes in each case study will also be better identified than in an "all-encompassing" survey or in a phenomenon focused on experimental approach. Bell (1993:8) emphasised this point as follows:

> The great strength of the case-study method is that it allows the researcher to concentrate on a specific instance or situation and to identify, or attempt to identify, the various interactive processes at work. These processes may remain hidden in a large-scale survey but may be crucial to the success or failure of systems or organisations.

Based on the above discussion and the large number of villages in the study region, the most obvious question was what criteria will be used for the selection of the study cases? How many case studies would meet the requirements of the research propositions and the research questions? The research questions and propositions generated in this study guided the selection of the final cases to be studied as follows: The first question attempts to establish linkages that exist between rural and urban areas. The second question tries to assess the strength of the linkages and their effect on livelihoods. The third question looks into the strategies the households adopt as a result of weak or strong linkages. This requires that any case selected should attempt to provide information either negating or substantiating the propositions generated from the conceptual framework based on the theoretical and contextual review. As a result, the selected cases should fulfil the following conditions:

They should demonstrate in advance exemplary outcomes of intensive rural-urban linkages relative to the other cases in the area.

They should be able to prove how the past policies failed to improve livelihoods in the impact region or vice versa. For instance, a look at the implementation of some policies may reveal that certain groups of people in the impact region are worse off or better off.

They should be geographically distributed such that the stakeholders can experience different economic conditions in terms of socio-physical infrastructure, and culture.

With this in mind, two districts with varying socio-economic conditions were considered sufficient.

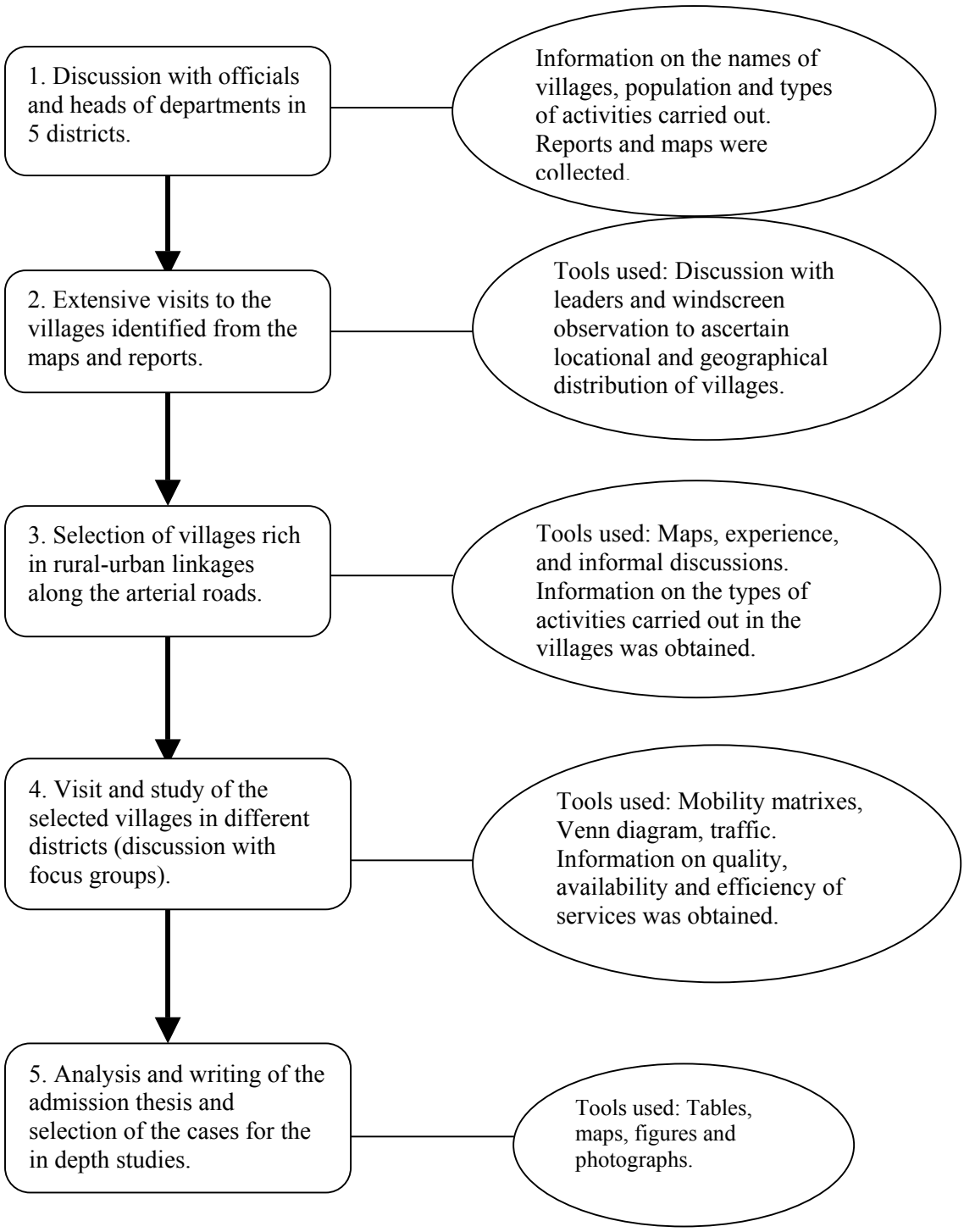
Definition of a case and unit of analysis

Given the large number of linkages existing between urban and rural areas, the first challenge was to devise a rational way to be used to guide the case selection. This is because without a clear definition of the case and the unit of analysis[23], it is difficult to set limits or boundaries of the case study (Yin 1994; Bell 1983; Silverman 1993). In this study, the generated research issues and the policy implications of the findings guided the selection of cases. With regard to the issue under investigation, the guiding question concerned the type of linkages[24] that exist between the city and the impact region. The first question is how can these linkages be strengthened. The second question first asks how rural-urban linkages affect the livelihoods of different groups. Then it asks how people in different groups cope with weak rural-urban linkages. The case thus selected should eventually provide the necessary data either to prove or disapprove the generated propositions from the conceptual framework based on the theoretical models on which the framework was fixed. The *exemplary case* selection approach was adopted based on this judgement. The implication therefore is that the cases selected should reflect the conceptual issues under study. For that reason, the case in this research focuses on the *individual linkages* (flows of commodities between urban and rural-areas). Information regarding the whole chain of crop production and marketing will be collected in accordance with the limits set by the propositions and the research questions.

23 The unit of analysis helps to limit the boundaries of the study since case studies permit the collection of data from several sources and using multiple inquiries.

24 Linkages implies actual trips and their purposes, their costs risks involved, time taken, types of goods traded if any, sources of goods to urban and from urban in different times of the year. These include the marketing of the agricultural produce, access to the urban produced goods and services, access and availability of technical infrastructure and access to resources (land).

Figure 4.2: Diagrammatic representation of the case selection process



Source: Author

Based on the research questions and propositions, the fitting unit of analysis is the *commodity* rather than the households. The commodity is defined as the value crop that is grown in the selected village and sold to merchants and traders who operate between Dar es Salaam and the village.

The justification of the unit of analysis selection lies in the following two factors: In the first place, the existence of the commodity in the villages is the cause of the existence of

rural-urban linkages between the village and the city. It is through rural-urban linkages that rural and urban areas are linked and the households become worse off or better off. Secondly, commodity production and marketing involve a chain of rural-urban activities and formal and informal institutions that need to be explored. The contextual issues and how they impinge upon the research are also relevant in this study. Figure 4.2 presents the process followed in the case selection, showing the types of the information collected and the tools used.

Due to the nature and purpose of the study, the cases selected had to reflect rural and urban or semi urban setting as a prerequisite. This necessitated that some cases had to be 'rural' while others were urban. Urban in this case refers to the urbanised population and not the designation. As a result, the villages selected for the detailed studies were ward centres so as to address the criteria best. The determination of who was to be contacted, what information to be collected, and what observation requirements were necessary was much influenced by the propositions of the study. Table 4.1 and Map 8 present a list of villages that were earmarked from the pilot survey results from which the final cases were selected.

Table 4.1: The selection of the study settlements

Area	Criteria	Outcome
Bagamoyo and Kinondoni Districts along Bagamoyo Road	Exemplary outcomes: A case that is rich in rural-urban linkages	Kerege, Kiwangwa, Bunju, and Ununio
	Accessibility: Inaccessible cases (difficult/seasonal murram or earth road)	Mlingotini, Fukayosi and Mabwe Pande
	Highly accessible cases (tarmac road-all weather)	None
Kibaha and Kinondoni Districts along Morogoro Road	A case that is rich in rural-urban linkages	Mlandizi, Chalinze and Mboga.
	Inaccessible cases (difficult/seasonal murram or earth road)	Mwendapole and Soga
	Highly accessible cases (tarmac all weather road)	Mbezi Louis, Mlandizi, Chalinze and Kiluvya
Kisarawe and Ilala Districts along Pugu Road	A case that is rich in rural-urban linkages	Masaki, Chanika and Chamazi
	Inaccessible cases (difficult/seasonal murram or earth road).	Masaki, Msanga, and Mbande
	Highly accessible cases tarmac-all weather.	Chanika
Temeke Rufiji and Mkuranga Districts along Kilwa Road	A case that is rich in rural-urban linkages	Kibiti
	Inaccessible cases (difficult/seasonal murram or earth road)	Vikindu, Jaribu Mpakani and Bungu
	Highly accessible cases tarmac road-all weather	None

Source: Author's construct

As a result of the above considerations, two cases with maximum variance were selected. The first was one with good physical access to the city, thus fulfilling criteria 1, 2 and 3 set earlier. The second was one with poor physical access to the city. Besides, the two cases were required to be located in different geographical districts. Thus, the selected cases were Masaki-Dar es Salaam link and Mlandizi-Dar es Salaam link where all the propositions and research questions will be tested and answered. The selected cases are shown in Table 4.2

Table 4.2: Cases selected for the detailed study

Area/Districts represented	Criteria	Outcome
Kisarawe and Ilala Districts along Nyerere Road	Case with rich information on rural-urban linkages; Poor accessibility earth road / seasonal; Case serving other villages (hub)	Masaki Dar es Salaam link
Kinondoni and Kibaha Districts along Morogoro Road	Case with rich information on rural-urban linkages; Good accessibility tarmac road all weather; Case serving other villages (hub)	Mlandizi Dar es Salaam link

Source: Author's construct

Data collection methods

At the outset, there was a follow up of information collection subsequent to the preliminary data analysis to update the data collected, fill information gaps and to compile the case reports on site. This was then followed by systematic data collection using the four main methods of qualitative research. These are observation, analysis of texts and documents, interviews, recording and transcribing. These methods were repeatedly combined in the two case studies.

Table 4.3: Different methods of data collection used in this research

Method	Quantitative research	Qualitative research
Observation	Pilot study prior to framing questionnaire	Fundamentals in understanding nature and scale
Literature review	Content analysis	Important to understand the study phenomenon context
Interviews	Survey research: questionnaire Participatory tools	Open ended questions and guided discussions
Key informants	Triangulating the collected information	Used to understand the different perceptions of the participants

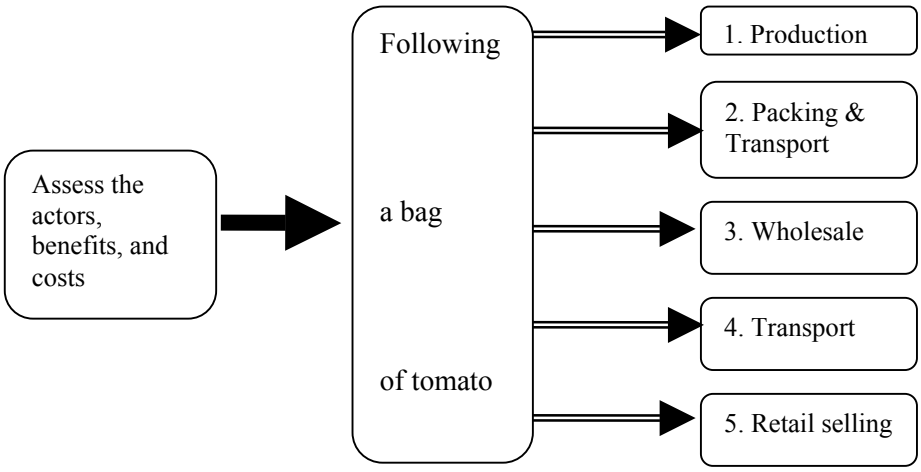
Source: Author's construct

Several researchers have suggested their own methodologies for investigating rural-urban linkages. Of particular significance to this research is the methodology suggested by Tacoli in 1998. Tacoli suggested a combination of participatory methods, small-scale household surveys and interviews with key informants. This study adopted the participatory methodology tools such as mobility matrix, Venn diagrams, and small-scale household surveys. It also used semi-structured interviews, in both the pilot phase and the main study, a method suggested by Silverman (1993).

The commodity chain analysis

All the tools were put to practice in the commodity chain analysis from the production stage to the consumption stage in urban areas. The combination of tools helped the initial mapping of the diverse linkages, while focus group discussions provided a simplified account of the reasons behind the patterns identified. Stratified household surveys allowed a clearer understanding of how the nature of rural-urban linkages affects the livelihoods of different groups in the village. Key informants provided useful information on policies and practices that could not be obtained from the household interviews. This helped in triangulating the collected information. The subsequent section provides details of the data collection procedures.

Figure 4.3: The commodity chain analysis



Source: Author's construct

Structured household interviews

Household interviews were the main sources of information providing data on incomes, physical-economic infrastructure and the type of activities performed. At the village level, all together, 52 questionnaires (Appendix 23) were administered in Mlandizi and Masaki. Interview households were identified with reference to the objectives and the research questions set earlier. The intention was to get households, which were rich in the information required. The overall objective of the research was to identify and analyse the deficiencies and the potentials of the existing socio-economic linkages and their impacts on rural livelihoods.

Household heads, traders, transporting agents and farmers were interviewed on site, either on the farm or on the street, by the help of village officials in rural areas and market authorities in urban areas. The interviews were administered to farmers and labourers in the villages, transporting agents, intermediaries, commissioned agents in urban markets in Dar es Salaam (Tandika and Kariakoo) and retail traders in the neighbourhoods in Dar es Salaam to trace the changes in prices of the commodities being studied. It was important to time the transporting agents on site because it would not be easy to stop them on the road or categorize them in the urban markets. In the Mlandizi-Dar es Salaam case, 24 questionnaires were administered, whilst in the Masaki-Dar es Salaam case 28 questionnaires were administered. The questionnaires consisted of closed and open-ended questions (Appendix 23). Return visits were organised in the completed case study areas to enable the research team to observe the processes in their natural form as the research progressed through the changing seasons (from busy harvesting season to the farm preparation season).

Table 4.4: Sources of data and number of interviews in the study areas

District	Case	Respondents	Number of interviews
Kibaha	Mlandizi Dar es Salaam link	Farmers	24
		Key informants	6
		Traders/commissioned agents	2
		Transporting agents	2
Kisarawe	MasakiDar es Salaam link	Farmers	28
		Key informants	5
		Traders/commissioned agents	2
		Transporting agents	1

Source: Author's construct

The use of commodity chain analysis was particularly useful in understanding the direct production costs and all the transaction costs involved as required by the proposition. This tool-involved discussion with the farmers to get information on input costs and then follow up on, for instance, a bag of tomatoes from the time of harvest to the end-consumer in urban areas.

In order to demonstrate the relationship between investment patterns, rural-urban interactions, production costs and people's livelihood strategies, the selected value crop was studied, showing who was involved, how the resources were mobilised and the dynamics in the context of changing socio-political environments. The tool involved the following steps:

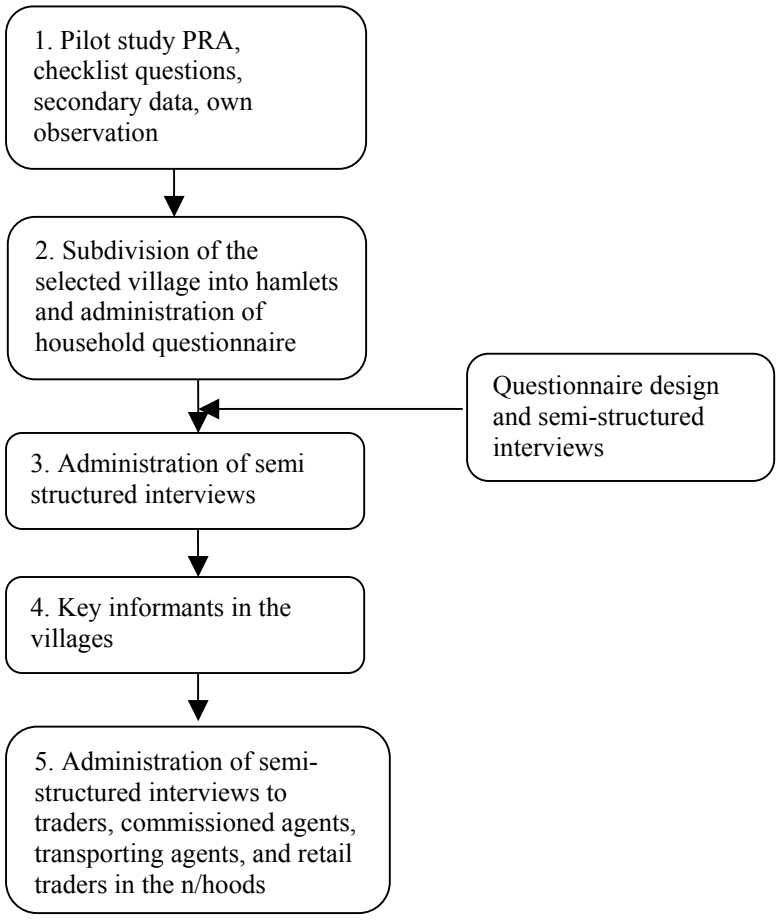
Identifying all the actors involved in the different stages of the chain (production, processing, exchange, transportation, distribution, final sale and end use);

Interviewing each of the stakeholders in the process to evaluate the income, profit, and loss at each stage through the analysis of prices and quantities of goods handled by the different actors.

Evaluating the distribution of income and profit within each group along the chain, and determining where the benefits were invested whether in the rural or urban areas.

Finding out the mechanism by which access to benefits is sustained at each level.

Figure 4.4: Data collection procedure



Source: Author's construct

Key informants

While administering the questionnaire survey, several key informants were identified both in rural and urban areas. These provided information to clarify issues that were not clear in the household interviews and, in this regard, served as a means of triangulation. Heavyweight key informants were selected and interviewed. These comprised the village chairpersons, *mtaa* leaders, market officials, tax collectors, religious leaders, retired civil servants, district education officers, ward education officers, village extension officers, forest extension officers, head teachers and prominent farmers. Moreover, the key informants provided useful information on the policies and practices that might not have emerged directly from interviews with the village respondents and the farmers. They were also useful in providing deeper knowledge on issues such as land markets, crop prices, taxes and land ownership. Six key informants were interviewed at the Mlandizi-Dares Salaam case and 5 at the Masaki-Dares Salaam case.

In each case, the following procedure was followed in rural areas: The village chairperson and the local government representative's in the pilot study were consulted and briefed about the outcome of the pilot survey. Areas of further data requirements were indicated and their assistance sought. Then the explanation of how the research would proceed was explained. This proved useful because some members of the village administration were permanently attached to the researchers in data collection to iron out some fears from the interviewees who were not willing to give information to 'strangers'. The target hamlet was then visited and the village member attached to the research group introduced the team to the respondents. Interviewees were identified randomly by listing the names of the people who had attended the meeting while one of the team members picked the names randomly. Appointments were made and closely adhered to by the team.

The principle of triangulation was built in the whole process that involved multiple sources of information using different data collection techniques and tapping varied experiences by including in the research team former students of the Urban and Rural Planning Department of the University of Lands and Architectural Studies (UCLAS) who had prior knowledge of participatory methodology.

Validity, reliability and generalisations in field research

Validity means truth interpreted as the extent to which an account accurately represents the social event to which it refers (Hammerssley 1990). The extent to which the collected data may be relied upon was also thought of in advance. This research was designed to use the case study strategy and a variety of data collection instruments. By using this methodology, it would be possible to triangulate the collected information at all stages. Thus, if the item is unreliable, then it must also lack validity since validity tells us whether the item measures or describes what it was supposed to measure. However, a reliable item is not necessarily also valid (Bell 1983). The main challenge in this research was to design the research such that if another researcher used the same instruments under the same conditions, he/she would be likely to get the same results.

Since internal validity is a concern of casual case studies, that is, to determine whether "x" leads to "y", the problem can be dealt with by pattern matching of the individual case results so that one is sure that "x" is the only one that leads to "y" and no other possibility of "x" leading to, say, "z". In order to address internal validity, explanation building of one item after another and time series analysis (population changes, land prices) were employed, and the combined effect of the issues were considered. A convergence of such results would confirm and strengthen the internal validity (Silverman 1993).

The multiple data collection process was one of the ways used to check validity. Silverman *(ibid.)* defines participant observation as a field strategy that simultaneously combines document analysis, respondent and informant interviewing, direct participation and observation. Such a method makes a great deal of sense, for it goes beyond the recognition of the partiality of the data to a more general practice of "method triangulation" which serves to avoid partial views and presents something like a complete picture.

Reliability and generalisation

Reliability refers to the degree of consistency with which instances are assigned to the same category by different observers or by the same observer on different occasions (Hammerssley 1992a). Kirk and Miller (1986) identify three types of reliability, namely quixotic reliability i.e. the circumstances in which a single method of observation continually yields an unvarying measurement: diachronic reliability, i.e. the stability of an observation through time (*ibid*.); and synchronic reliability, i.e. the similarity of observations within the same time frame. A standard way of assessment is through triangulation of methods comprising interviews, key informants, observations and reports. This is the type of reliability used in this research.

In order to improve reliability in observation, Silverman (1993) suggests that observers need to keep three sets of separate notes, namely: Short notes made at the time of observation; expanded notes made as soon as possible after each field session and a field work journal to record problems and ideas that arise during each stage of the fieldwork and a provisional running record of analysis and interpretation. The reliability of interview schedules is achieved if the respondents are made to understand the questions in the same way. This may be achieved through pre-setting of questionnaires, training of interviewers and use of ABC answers as much as possible.

As regards generalisation from cases to populations, a case study research does not follow a purely statistical logic. The issues should be understood in terms of generalisability of cases to theoretical propositions (using the identified variables), rather than in terms of populations or the universe (Yin 1994; Silverman 1993). The two cases were studied to enable replication of the findings and draw conclusions across them. The case studies were embedded such that apart from examining the global nature of the activities taking place in the case, attention was given to certain sub-units using a specific tool (commodity chain analysis) in order to understand and get clear measures of the facts. Although each case had a specific purpose, each of them was examined separately using the same procedures and methods in order to preserve context.

Thus, the three propositions formulated earlier guided the analytical generalisations. Using the propositions that were broken down into measurable sub-units, the findings of the two case studies were contrasted and compared. The outcome of the synthesis was used to assess whether the results of the two cases replicated each other or were divergent. If they replicated each other, then the issue of external validity would have been addressed and the results could be accepted for a much larger number of cases. From these propositions, generalisations could be made about the findings of similar case studies using the same unit of analysis.

A portrait of respondents

There are two reasons that make it important to formulate a portrait of respondents. First, such a devise assists in the justification of the validity and reliability of the results of the research. The results of this research need to preserve Mlandizi as Mlandizi and Masaki as Masaki as explained by resident respondents. Secondly, it enables the reader to understand the types of problems faced by farmers whilst providing pointers to the success or failure of policies pertaining to rural and urban linkages. A portrait would also enable us to understand the

ethnic composition of the residents, which has a very strong relationship to patriarchal norms. This is important, as it would inform us about their culture in relation to the type of agriculture practised.

Of the 24 respondents in Mlandizi, 8 household respondents originated from Kilwa and had migrated to the area more than 20 years ago, whilst 4 respondents were born in Kibaha (Ruvu) and in Bagamoyo Districts. Four respondents came from Morogoro, three from Liwale, two from Tanga, two from Dar es Salaam and one from Kilimanjaro Region. Most of these respondents had shifted to the village more than 10 years ago.

In Masaki 28 respondents were interviewed, of whom 20 were Zaramos claiming to be born in the village, and four were in-migrants from other regions, for instance, Kilwa and Lindi; 4 respondents lived and worked in Dar es Salaam, but they owned land in Masaki. Masaki seems to be a typical Swahili village with very little influence from outside. One reason for having few in-migrants could be the poor access road to the village.

The composition confirms that there is substantial in-migration originating from Dar es Salaam and other regions into the villages, especially those villages with good access such as Mlandizi. Indeed, most of the people are not indigenous, (not Zaramos and the Kweres), because during the villagisation programme, there was no selection of who belongs to which tribe.

Data management

The information collected from each case study area was set-aside separately in files. Photocopies were made from secondary data material and reserved in files. Besides, subsequent quality control measures were instituted such as post-field discussions, crosschecking information and sieving out issues that were not properly addressed for further investigation. Although the exercise was terribly time consuming and tiring, it proved really fruitful. Furthermore, multiple data collection techniques minimised errors and contradictory evidence.

Challenges

The study faced several challenges ranging from methodological to logistical, as follows: First, the selection of a large study area proved to be challenging and costly in terms of transport and time constraints with regard to data collection. For instance, travelling from Dar es Salaam to Masaki in a rainy day gave the study team a real experience of a seasonal road, as the vehicle was stuck several times on a muddy road. Second, the analysis of the data and the choice of what data to be included and what to be left out posed a big challenge. Third, maintaining the research focus because of the complexity of the phenomenon under study required a balance of what is and what is not relevant with respect to the phenomenon under study.

In spite of these challenges, the research process proved to be very useful to the team because of the knowledge acquired in carrying out a detailed qualitative research. The lessons learned include the following: a pilot study is extremely useful in research especially if the lessons learned experienced in the main study; a systematic field methodology is important and should be planned prior to the fieldwork and improved upon during the fieldwork; and information triangulation in the field is very important as it cuts down the follow-up trips and offers a handy counterchecking base.

5. The Mlandizi-Dar es Salaam tomato chain: The role of socio-economic infrastructure

This chapter focuses on the availability of affordable infrastructure as a crucial determinant of enhanced rural-urban linkages. It also demonstrates how intermediaries and urban-based traders inhibit or enhance the development of rural-urban linkages by controlling access to urban markets. Besides, the chapter illustrates how infrastructure alone is not a sufficient condition to sustain rural-urban linkages, it goes on to reveal that economic, demographic, and institutional factors are also essential.

In this case study, the propositions set out in Chapter Two will be answered, first, by the general context of the case and then by using the commodity chain analysis. The chain analysis will account for issues pertaining to rural-urban linkages and enhanced livelihoods by addressing the conceptual variables, namely the infrastructure, the economic, the demographic and the institutional linkages. The reader is introduced to the nature of the case, which provides the basis for an understanding of the issues in the subsequent discussion on how affordable transport, financial capital, people's movement and local institutions (formal and informal) provide a basis for sustained rural-urban linkages. The key issues generated through these discussions are summarised at the end of the chapter.

Mlandizi was selected because it exhibits strong rural-urban linkages due to its strategic location on a good all-weather road which is in agreement with the selection criteria set earlier. Its location on fertile alluvial soils, the presence of both Ruvu River valley that can be cultivated throughout the year and of a high value crop that is cultivated by the majority of residents were all taken into account. Besides, Mlandizi serves as a hub to the surrounding settlements (Map 9). Consequently, the two criteria merit the sub case (tomato trade) to answer the questions earlier posed in this study.

Village profile and the tomato chain analysis

Mlandizi village is located along Morogoro road, 67 kilometres on the west of the Dar es Salaam metropolis, in Kibaha District (Coast Region). The village is bordered by Vikuruti village to the north, Mwanabwito village to the south, Disunyara village to the east and Ruvu river valley to the west. The Ruvu River flood plain can be cultivated throughout the year because of its fertile alluvial soil deposits that make it one of the richest agricultural potential areas in the village and the ward as a whole. Mlandizi village is subdivided into five hamlets, namely Kilangalanga, Msongola, Janga, Kisali and Mlandizi Kati (Map 8).

The village experiences two rainy seasons in a year: the long rainy season starting from March to June and the short one in October and November. The amount of rainfall per annum is between 600 mm to 2000 mm. The long rains are enough to support both short-range crops and perennial tree crops. However, the short rains have not been evenly distributed for the past fifteen years, thus, making them not dependable. The village also experiences years with paucity of rains, which causes a serious shortage of water that affects agricultural production on high altitudes. The area in the flood plain is not affected by water shortage, and irrigation using water from the river is possible. Agriculture is therefore, practised all the year round.

The population of Mlandizi village has been growing at a rate of 2.2 per cent per annum between 1978 and 1988 compared to the growth of the district population that was 2.1 per cent in the same period (Appendix 16 & 17). The total population in the year (2000 during the time of the survey) was 13,424 persons. The population change by 1988 and 2000 was partly a continuation of the situation between 1978 and 1988 although at a slower rate. This period seems to represent a reduced out migration of youths from Mlandizi (Appendix 18), probably

due to the presence of alternative activities that were created by the increased population.

An efficient transportation system has been the leading contribution to the positive development of Mlandizi village. Put simply, the location of Mlandizi along Morogoro highway has acted as a catalyst for its economic development and attracted potential "farmers" from other parts of the country, particularly Dar es Salaam. Besides, the time taken to travel from Mlandizi to Dar es Salaam for a direct non-stop traffic is 45 minutes. As a result, mobility is remarkably high at Mlandizi as 20 out of 24 respondents were immigrants from other parts of the country. It is no wonder; therefore, that 15 out of 24 of the respondents showed that they had a preference of doing their shopping once or twice a month in Dar es Salaam.

One of the main objectives of this research is to recommend ways of enhancing rural-urban linkages so as to improve the livelihoods of the rural and urban residents. The basic question addressed by the commodity chain analysis is to identify the most important value crop that can help us to understand the factors that inhibit or contribute to the enhancement of rural-urban linkages. In order to demonstrate the relationship between the socio-infrastructure, the economy, the movement of the people and the formal and informal institutions, the selected product is studied by showing those involved, the resources that are mobilised and the dynamics in the context of changing socio-political environments. The technique involves two steps: First, it identifies all the actors involved in the different stages of the chain (production, processing, exchange, transportation, distribution, final sale and end use). Second, it evaluates the income, profit and loss at each stage through the analysis of the prices and quantities of goods handled by the different actors and time taken. In addition, it finds out the mechanism by which access to profits is sustained and controlled.

The tomato chain starts with farm preparation and culminates in selling to the consumers in the urban area. The engine of the tomato chain is the commissioned agent who advances credit to the farmers without which they would not manage to produce the existing volumes of tomatoes. The analysis will be based on the four conceptual categories, namely socio-demographic, economic, infrastructure and institutional linkages developed earlier that formed the basis of the selection of the cases and data collection. For each of the categories, specific variables were developed and used for data collection pertaining to the individual cases. Besides, the analysis will follow the commodity chain course of action. The discussion in this section begins with an elaborate presentation of the results from the field to validate the three propositions, namely enhanced livelihoods are largely a function of rural-urban linkages. These, in turn, are strong where there are enhanced socio-physical infrastructures and locally designed institutions to provide and maintain them.

Socio-demographic in rural-urban linkages

Socio-demographic linkages are used in this study to represent the skills and innovations of the indigenous people. In particular, the labour force potential and the capacity to utilise knowledge either by permanent or temporary population movement, are crucial as they enable the rural and urban residents to carry out their daily livelihood strategies. This section describes how the demographic linkages have inhibited or enabled sustainability of households' livelihoods in relation to rural-urban linkages.

Education, skills and livelihoods

Education is an investment of human capital formation. Literate people can take better advantage of family planning and participation in rural-urban linkages. Education indicators of the population interviewed show that the level of educated youths and adults in the area is high. For instance, from a total population of 24 interviewees, their education attainments were as follows: 13 had primary education; 7 had secondary education; and 2 had college

education. According to the Coast Region Social Economic Profile, such education level is considered high in a rural area (Table 5.1).

Table 5.1: Educational level of the population interviewed

Level	Number of households
Never attended school	2
Primary school	13
Secondary school	7
College / University	2
Total	24

Source: Field survey, January 2000

The level of education among the tomato growers in the area has been raised as a result of several reasons, namely, the presence of people from other regions with different cultures and perceptions and the quality of the school environment in terms of the number of teachers, desks and good buildings. On the quality of schools, the Ward Education Officer[25] gave the following explanation:

> In order to provide classrooms, desks and teachers' houses in primary school, every parent is required to pay TShs. 4,000 a year for school development. *The Mfuko wa Elimu ya Msingi* (MEM) literally meaning Primary School Development Fund, then top up this fund. The fund operates such that if you deposit, 1000 in the school account, MEM also tops it up by the same amount so that you will have TShs. 2,000. Besides, we have NGO called Plan International that also has been giving us expertise and funds to build new classrooms. This NGO operates in the entire Coast Region.[26]

As regards attendance in schools, the Officer stated that the number of dropouts in schools had decreased from 67 pupils in 1993 to 34 pupils in 1999, and that 30 out of all the dropouts were from the indigenous families. The Ward Education Officer reported the main reason for poor attendance in schools:

> Parents prefer their daughters to be married just after reaching puberty age. Even if the child is in school, there is a by-law in Coast Region that allows parents to take their children from school when they reach puberty age to perform traditional rituals for seven days.[27]

The head teacher[28] at Mtongani Primary School gave more reason contributing to pupils' abscondment:

> Historically, the coastal area was neglected not only educationally but also economically. You can see the railways and the roads all starting from Dar es Salaam passing through Coast Region, but with no particular activity in the region. Even the leaders did not see that as a problem.[29]

Traditionally, when girls reach puberty, they are taken through initiation ceremonies where they are taught how to take care of their husbands and thereby build a family. Most of the girls would not come back to school after such ceremonies because a lot of old and young men would have booked them for marriage. This is what the *Swahili* (refers to people of

25 Discussion with Mr. Meli R, Ward Education Officer, February 2000
26 Ibid.
27 Ibid.
28 Discussion with Mr. Athmani Yewa the head teacher Mtongani Primary School, February 2000
29 Ibid.

coastal origin) parents would like to see their daughters do after the initiation ceremonies instead of what they perceive as wasting time in school. Undoubtedly, they prefer the former as it expedites dowry payments. The same question was also posed to the head teacher of Mlandizi Primary School and she responded:

> If this child is a girl, there are several dangers involved: 1). She can be given to marriage and may not come to school again. 2). It seems what they are taught there is how to take care of their husbands because when they come back to class they are no longer interested or committed to their studies. I remember of one bright girl who used to be the first in her class, but after such rituals, she came to be among the poorest in her class.[30]

Conclusively, the head teacher of Mlandizi Primary School explained the influence of newcomers:

> One interesting phenomenon is how the newcomers have influenced the attitude and behaviour of the Swahilis towards education. Although they are still allowed by law to perform initiation ceremonies, the frequency has been reduced these days. Attendance of parents at school meetings was something you could not dream of, but currently more than 75 per cent of parents attend meetings when they are invited to. This is seen as an improvement.[31]

The premises, facilities, classrooms and teachers in the two primary schools in Mlandizi Village are of high quality. The general trend of school dropouts has been decreasing since 1992. This can be accounted for by the improvement of school buildings and an increase in the number of teachers. In a focus group discussion with members of the Mlandizi Village, the services in the settlement (except for health services) are perceived as good. Regarding health services, the residents have to buy medicine after a doctor's diagnosis. However, the shops and pharmacies are well stocked and one does not need to travel out of the settlement to obtain the basic commodities. People from neighbouring villages visit Mlandizi to purchase many goods and services. In this case, Mlandizi serves as a hub.

The results seem to suggest that the school environment in terms of buildings and teachers encourages parents (who once regarded education as a waste of time) to allow their children to go to school. Today, it is common to see parents looking for better schools for their children. Traditionally, Swahili people do not like their girls to be educated because they want them to be given to early marriage in exchange for dowry. This attitude is gradually changing for the better as a result of the newcomers who perceive education differently. Consequently, primary school leavers are exposed to various types of information that help them to participate in different activities after completion of primary education.

This case has demonstrated that high educational level and dominance of the new comers in Mlandizi have triggered a change of focus in the type of activities practised in the village. The result also suggests that education ensures young people gain skills and knowledge to participate in diverse types of activities like trade, shoe shining, and other forms of non-farm activities. This serves as an alternative to migrating to urban areas so as to improve their livelihoods. It is, therefore, appropriate to conclude that enhanced rural-urban linkages are a function of the types and quality of socio-economic infrastructure present in a given area. This supports, in part, the contention that enhanced livelihoods in rural and urban areas are a function of rural-urban linkages. Besides, population exchange in favour of certain

30 Discussion with Mama Donatila Lianga, Head mistress Mlandizi Primary School, January 2000
31 Discussion with Mr. Athmani Yewa Head teacher Mtongani Primary School, January 2000

areas affects rural-urban linkages differently. The new migrants often come with fresh ideas, new technologies, tools and beliefs that help to shape the indigenous culture.

The finding also seems to suggest that culturally the *Swahili* people attach very little value to education (Shivji 1998). The results from the interviews on peoples' perception on educational services show that only 6 out of 24 interviewees are in agreement with the view that education is a problem to their children, especially girls who are supposed to get married and take care of their husbands and children. Boys are supposed to engage in business instead of spending so many years in school. All these households come from the indigenous families. This attitude is very different from that of the new migrants who put more value to education. The poor quality of school infrastructure has affected the number of school dropouts so much that a diminishing trend is visible. The subsequent section discusses the role of population exchange in enhancing rural-urban linkages.

Inter and intra village movement in the tomato chain

Mlandizi village acts as a hub to the surrounding villages, which depend on it for most of the services that would otherwise be obtained from urban areas such as Dar es Salaam, Chalinze and Kibaha (Map 9). Because of its strategic location, there is a high rate of people moving in and out from many parts of the country. Interviewing the tomato farmers, four main types of movement were identified as follows: rural-rural movement; rural-urban movement; urban-rural movement; and inter-regional movement.

Population movement can also be noticed by looking at the composition of the interviewed households in the village which indicates a substantial size of the population that migrates to the village from other regions and those that move out of the village to town or to other rural places (Map 7 and Table 5.2).

Table 5.2: Origin of the interviewed households

No. of H/H.	Origin / birth place	Years of residence
8	Kilwa	20 years
4	Born in Mlandizi	20 years
4	Morogoro	10 years
3	Liwale	10 years
1	Kilimanjaro	10 years
2	Tanga	10 years
2	Dar es Salaam	5 years

Source: Field survey, December 1999 to January 2000

The first type of movement involves the rural-rural migration. The indigenous citizens who own farms close to the main road (5 kilometres) are the first potential invaluable capital for the new comers. These are willingly bought-off by the new comers, and they either shift to other farms nearby or move further interior. A discussion with one of the new settlers went on as recorded below:

> I shifted to this village in 1989. At first, I stayed at the village centre where I rented a room while doing business. In the same year, I bought a 4-acre farm at TShs. 5,000 from Mzee Athmani Jongo near the main road. I bought another farm in 1993, 4 acres for TShs. 102,000 from Zuberi Liseki (three kilometres from the main road).[32]

Regarding the whereabouts of the original owner, he continued:

> Swahili people usually have two or three farms in different places although they are not all used for farming. So, when they buy one, they

32 Discussion with Ali Rashid, 35 years, tomato seller hailing from Morogoro, January 2000

> shift to another and if he can add to the list another farm, he either buys it or occupies another one if land is freely available. For instance, the original owner of this plot shifted to another farm about three hundred metres from here, which he also sold to one soldier. He now lives in Msongola about ten kilometres from here where he runs a commodity shop *(ibid.)*.

The result suggests that *Swahili* people often willingly sell their farms and either buy another farm far from the road at lower prices or use the money to carry out other activities, such as running a shop, paying school fees or cultivating other value crops. Others move to the interior where they own other farms. This is seen as a survival strategy after failures in earning enough income from other sources including their most reliable crop cashewnut due to low prices.

The second type of movement experienced at Mlandizi is rural-urban migration. Rural-urban movement involves the youthful population who cannot find their way into agriculture and have no capital to take part in off-farm employment. The youth prefer to shift to urban areas in search of alternative employment after seeing that agriculture is not fast paying.

The twenty-four respondents were asked to report problems experienced in their village, and the results were grouped into four general categories. The first category relates to poor economic returns from agriculture (6 households) while the second category concerned the difficult economic situation (7 households). The third category, followed relatives while the last category resulted from land shortage. Although rural-urban migration was reported at Mlandizi, it was not listed as a problem in the village, but rather, as a means to earn income or to get employment. The residents also use this second type of movement as a safety net during difficult economic periods; therefore, the movements are used to generate funds for food security, rather than as a shift from rural to urban areas. Short-term and temporary migration such as journey to work is very common between Mlandizi and the city. The mobility between the two areas is more of daily commuting and trade than permanent living. As a result, many youth in Mlandizi travel purely on business trips that contribute positively to the livelihoods of their families.

People moving from urban to rural areas constituted yet another category of movement that is very conspicuous in Mlandizi. Retired civil servants, working employees, private and business people were identified as occupying land at Mlandizi. This category of people resides in Dar es Salaam and practises tomato farming in Mlandizi. The following citation from a farmer in Mlandizi who lives in Dar es Salaam elucidates the findings:

> I bought a farm here in 1985 because of the availability of cheap land. I bought 150 acres but now soldiers and *Waswahili* have invaded a lot of it especially in the valley. I plant tomatoes, maize, okra and I have shifted my pigs and cows from Dar es Salaam along Shekilango road after the city authorities harassed me. I grow all my food and I use my truck to transport my produce to Kariakoo or sell to the traders in Urafiki and Sinza.[33]

The Ward Executive Chairperson revealed more information to the effect that there were many people from Dar es Salaam shifting to the village because of the availability of land for cultivation in the Ruvu River valley. He cited Dar es Salaam as number one source of absentee property owners having large farms in the village while they reside in the city. He said that to him this movement was good because these people are government employees and even members of parliament whom he viewed as a potential for their village development

33 Discussion with Eberhad Saprapasen, living in Sinza along Shekilngo Road, January 2000

(Figure 5.1).

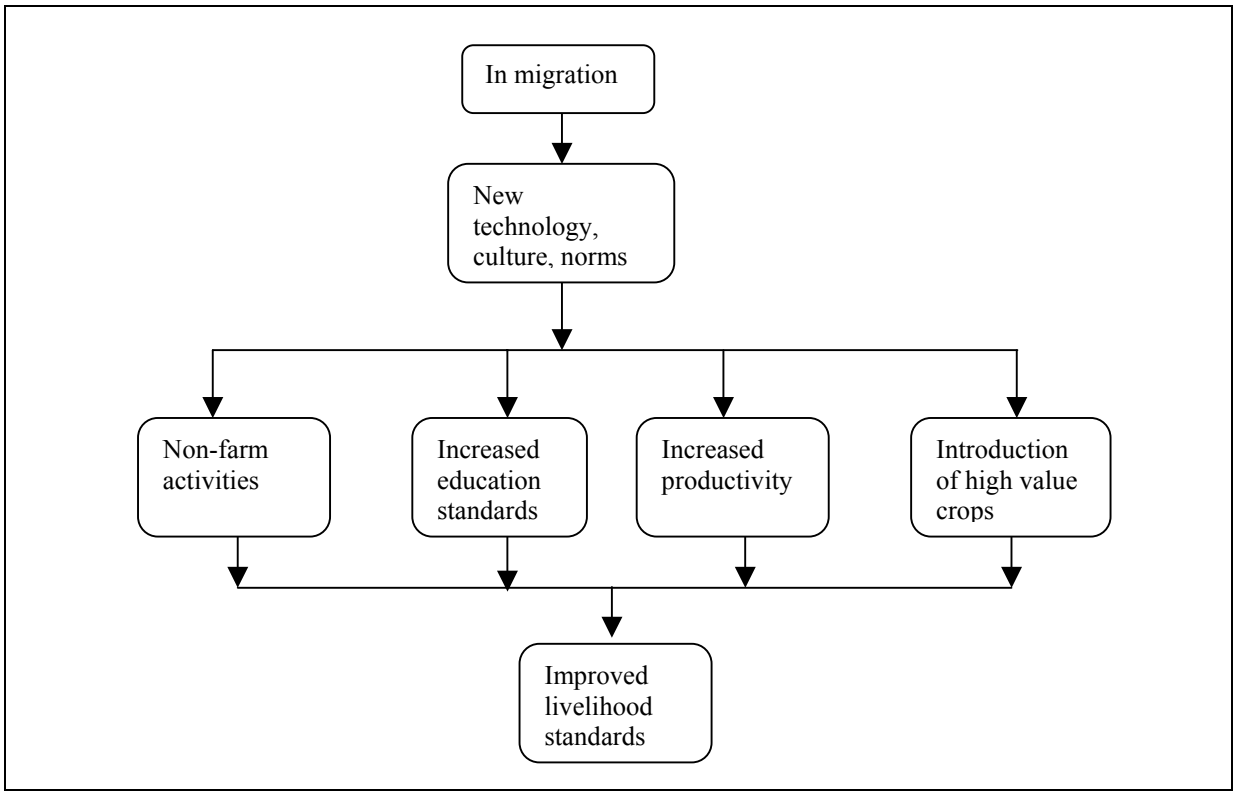
The Agricultural Extension Officer[34] corroborated these results:

> The village has received applications from farmers in Kiluvia, Kibamba and Dar es Salaam requesting for allocation of farming plots. Thus, we have subdivided 2735 plots of 2.5 acres each and 2100 of the applicants have already been allocated. The new landowners have graded jointly a road to the new areas in Msongola hamlet about 5 to 10 kilometres from the main road. Apart from those occupying the new areas, we have another group of emigrants who have money and they are buying off the native farmers at their own will. These people are not forced to sell their land; they need money so they sell it willingly. The recent move by the village government implies that the entire group of immigrant landowners to Mlandizi will increase the current population by about 3000 inhabitants.[35]

The finding seems to suggest the following: Firstly, the movement of wealthy people to the village is desirable. Both the villagers and the village government expect favours in the provision of services, since the newcomers bring with them political and economic powers that are urgently required in this area. Although the new landowners are not yet living in the village, just a mention of influential names has a great impact in the development of the area and hence the enhancement of rural-urban linkages. Secondly, urban-rural movement is a survival strategy used by the urban dwellers on speculative motives and those who have lost their permanent jobs or have been retrenched. The movement involves the purchase of farms, producing hard cash that is needed by indigenous residents and used for improving livelihoods. Beside the new settlers, most absentee property owners buy the farms for speculative purposes. They also speculate that they can build houses for retirement and participate in agricultural production so as to subsidise their income in urban areas. As a result, there are both rural and urban households involved in land transaction and taking part in rural-urban linkages.

34 Discussion with Esther Nkwiley and Christina Kwayu; March 2000, Agricultural Extension Officers Mlandizi ward.
35 Ibid.

Figure 5.1: The outcomes of in-migration



Source: Field survey, December 1999-February 2000.

Yet, another category of movement is the inter-regional migration. A general picture revealed that out of the 24 respondents, only four claimed to have been born in Mlandizi. This signifies that there is a very high rate of immigration to Mlandizi. The following citations from the village chairperson and migrant farmers on the movement of people are compatible with the information from the survey:

> Today we have more than 20 tribes in our village originating from many places such as Dar es Salaam, Kibamba, Kiluvya, Kilimanjaro, Tanga, Lindi, Mbeya and Bukoba. The list is long. It is a big challenge to us *Waswahili* because we are experiencing very different cultures and different techniques of farming. A plot near the road now costs up to TShs. 400,000, a size just enough to build a small house.
>
> I originate from Kilwa and came to this village in 1987. In 1991, I bought two acres of land at TShs. 10,000. Besides, I have one acre in the Ruvu valley where I plant tomatoes, okra, and maize. In 1994, I bought another farm (8 acres) at TShs. 50,000 where I grow cashew trees and oranges.[36]
>
> I shifted to this village during operation *vijiji* in 1975. I come from Tanga and I have 17 children and three wives. When I came here, I was given 2 acres as a home and we could take the other land as one needed. Today, I own 37 acres of land that I bought piecemeal. I usually do mixed cropping on my farms. I depend mostly on cashewnuts and tomato

36 Discussion with Salum Rajabu Litako, a farmer, January 2000

farming as cash crops.[37]

The results suggest that migration is an inter-regional phenomenon as people move countrywide to favoured areas. This case has shown that the movement of people is desirable since migration is used as a structural dimension of improving livelihoods. Those who moved to Mlandizi and obtained a piece of land in the river valley are now economically better off because they produce high value agricultural products that are needed throughout the year in urban areas as cited by the quotations. The new migrants who participate in tomato farming have shown that they have been able to improve their livelihoods through farming and in so doing participate more in rural-urban linkages. Thus, migration is not an end by itself but it provides a permissive effect in the improvement of livelihoods.

The location of Mlandizi and the availability of all-weather roads could be one of the reasons that influence people to move to Mlandizi. In so far as the movement of people does not negatively affect other people including the indigenous residents, such a strategy is seen as critical in the improvement of rural-urban linkages and the livelihoods of both the rural and urban people.

Labour force

The result of youth emigration from the indigenous families has greatly affected the size of labour-force that could enhance effective participation in agriculture or other activities. It is the age of 15-54 years that the labour-force is most active. From the analysis, 40 per cent of the 15-34 years cohort moves out of the village for various reasons (Appendix 16, 17 and 18).

Youth out-migration from the village involves the most dynamic members of the village and is liable to affect not only agricultural production but also human reproduction. Another disgusting effect is the possibility of spreading epidemic diseases such as AIDS. A further area of concern is the neglect of cultural practices and traditions. Regardless of Mlandizi being well located, more than 40 per cent of the youth from the indigenous families do not remain in the village after primary education. They migrate to other areas following relatives or looking for non-farm jobs. Discussion with the village chairperson and the head teachers of the two primary schools, Mlandizi and Mtongani, on the question of youth out-migration, the following stories were recorded:

> I cannot blame the youth for looking for alternative jobs because after all, look at me, I have been farming for the past 30 years and this is my condition. They say *"mmepitwa na wakati ninyi wazee,"* literally meaning, you are behind time. The prices of agricultural produce and the climate are not reliable so you cannot predict income the following year. As a result, the youth move to towns, especially Dar es Salaam, where there is everything they need.[38]

> One day we had a tree-planting occasion organised by Coast Region Regional Commissioner. Three pupils fainted after the exercise. This shows that they hate agriculture. After completion of class seven, if they are not selected for further studies, girls get married whilst boys flee to towns.[39]

> Mtongani Primary School has a 5-acre farm in the Ruvu valley where we grow rice. After agriculture lessons, a considerable number of pupils miss classes for two or three days claiming to be sick. This attitude

37 Discussion with Diwani Mhina, a farmer, January 2000
38 Discussion with Betty Mfalamagoha: Deputy Village Council Chairperson, December, 1999
39 Discussion with Mama Donatila Lianga, Head mistress Mlandizi Primary School, February, 2000

> makes many children born at Mlandizi leave the village after the completion of primary education.[40]

Although youth emigration is not pronounced in the new settlers' households, the indigenous households seem to suffer from the large number of youth not taking part in agriculture. A typical household at Mlandizi comprises six members; some of them are the grand children. The children normally engage in non-farm activities involving temporary migration or travelling to urban areas. Thus, the youth in both the new settlers and the indigenous households improve their livelihoods and reduce dependence burden from their families by seizing more opportunities to participate in rural-urban linkages.

The finding suggests that the household is a unit through which social responsibility of the welfare of the youth can be exercised. The size of the family is critical in rewarding these responsibilities. 13 families out of the 24 interviewed stated that they come from families with 6 (minimum) to 9 (maximum) members. This gives the impression that the families are large and if the family does not assure the youth of their future welfare, then they are likely to consider physical departure (temporary or permanent) as a substitute.

Besides, the indigenous families are gradually copying the ideas and knowledge of the new comers. The latter may sooner or later be able to mobilise and transform the family labour by introducing various types of non-farm activities. For instance, 18 out of the 24 households interviewed in the tomato chain participate in non-farm activities that serve as a source of increased rural-urban linkages.

However, due to population movement, Mlandizi is gaining a completely new structure. Its location and the presence affordable infrastructure have made more and more youth participate in different types of income generation activities instead of migrating to urban areas. The type of migration taking place at Mlandizi can better be described as 'circular migration', implying that migrants routinely return to their homes i.e., their principal place of domicile (Tacoli 1998).

Finally, the type of crops grown is changing from the traditional to the value crop types, namely tomatoes, okra, watermelons, oranges and green pepper. This change is attributed to the influence of new migrants who come with novel ideas and tools. The size of farms is also quickly changing depending on the liquidity of the new landowners. The majority of the indigenous people cannot compete in farm management, since most of their youth population have left the village. They have therefore opted for food production for their household's consumption and non-farm activities like mat making and bun baking for income generation. A good number of the indigenous families have sold their farms as their survival strategy and as a means of getting capital to engage in non-farm activities. The evidence in this section has proved adequately that demographic linkages have a role to play in rural-urban linkages. Thus, the contention that rural-urban linkages are a function of socio-physical infrastructure seems to have been corroborated.

The economic linkages in the tomato chain

Economic linkages in this case imply the assets a household has in terms of land ownership, houses, and their use in carrying out different activities. They further include the types of tools and technology used in rural-urban linkages. Thus, the economy at household level will be gauged by looking at the assets people have such as land, housing (Plate 5.1 and 5.2) and cash flow, all of which play a vital role in the rural and urban households. The second important component of the economy is the number and range of activities performed as well as the capability of the poor households to diversify their labour force to carry out these

40 Discussion with Yewa Athmani, Head teacher Mtongani Primary School, February, 2000

activities. Rural and urban households always have strategies for coping with low incomes, high consumer prices and unreliable economic infrastructure. The greater the risks of uncertainty, the more the households diversify their assets to prevent erosion. Thus, the households' ability to reduce vulnerability depends on the ability to transform these assets (land, labour, housing) into food and income. The proposition under scrutiny in this section is that enhanced livelihoods are a function of rural-urban linkages and that rural-urban linkages are better off with improved socio-physical infrastructure.

Land and other asset ownership

Land is a platform for a living which rural and urban people make use of for crop cultivation, livestock keeping, housing and forestry. This implies that if an individual does not own land, his or her chances of improving livelihood condition are reduced. Thus, if land ownership is discriminating on gender grounds, then the disadvantaged group cannot participate actively in rural-urban linkages.

The most important occupation in Mlandizi is subsistence agriculture followed by trading. All the 24 households interviewed practise agriculture while more than half of these also engage in more than one activity. Some produce value-added goods by processing agricultural produce such as cashewnuts, which is done after farm work. Furthermore, women make mats and bamboo chairs that are displayed along the roadside for sale to travellers. Some women, especially the youth, buy agricultural produce such as amaranth, vegetables and tomatoes from the farmers and resell them. Besides, some men and women engage in beer brewing and tailoring.

Farmers in Mlandizi can be grouped into two categories. First, there are traditional farmers who mainly grow perennial crops like cashew trees and coconut palms as their major cash crops. These farmers occupy the elevated areas and are mostly the *Waswahili* (of coastal origin), the group that is mostly displaced voluntarily through the sale of their land to the newcomers. The second category comprises mainly farmers who occupy the Ruvu River valley. This group deals mainly with seasonal crops like tomatoes and okra cultivated in the flood plain throughout the year. The farmers produce mostly for the Dar es Salaam market.

Table 5.3: Land and housing ownership by gender

Owner	Households owning land	House ownership
Father	15	15
Both (Father & Mother).	3	7
Mother	6	2
Total	24	24

Source: Focus group members: Ward Executive Secretary (Mr. Kiwamba), Miss Rehema (Mkonge Shop), Miss Margaret Mapunda, Mr.Mohamed Juma, and Mzee Peter Joseph, February 1999

The average size of a farm in a Ruvu "hamlet"[41] ranges between 2 acres to 12 acres. More than 20 (83 per cent) out of 24 respondents in the tomato zone were not from indigenous households, suggesting that people who engage in the tomato farming business are from other parts of the country. Figure 5.1 highlights the stages that are involved in the production of tomatoes, starting from farm preparation and culminating with the selling of the produce to urban consumers. The stages take place both in the rural and urban areas. Besides, the size of the farm and the type of agriculture practised are important determinants of whether the farmers operate commercially or at a subsistence level. 8 respondents own between 2-3 acres of land whilst 14 (58 per cent) respondents out of 24 own more than five acres of land each.

41 Hamlet: refers to Kitongoji, which literally means a subdivision of the village in several small administrative areas

Plate 5.1: Typical tomato farm

Source: Field survey, February 1999 to May 2000

Out of the 24 respondents in the valley, 15 were immigrants, while 9 were indigenous people. The new migrants claim to have bought their farms from the local people, whereas the indigenous people inherited theirs from their parents. Ruvu National Service camp owns a big portion of the flood-prone plain. Since they cannot cultivate all of it, the remaining land is rented to nearby villagers and people from as far as the city of Dar es Salaam. It is reported that people have hired the farms at TShs. 10,000[42] per season per acre.[43]

The father in a family controls all of the land and financial resources. On communal property ownership by both father and mother, the father has more say on land matters and house ownership respectively (Table 5.3). Besides, Table 5.4 reveals that the right for women to own land and other resources in Mlandizi is still a problem, especially among the indigenous families. Women can acquire land through purchase, but due to social cultural traditions and financial capability, only 8 out of the 24 interviewed households own their own land. Widows are particularly disadvantaged in this regard. Being married at a young age (especially the indigenous families) implies women have little education. Although traditionally women are not strictly prohibited from owning land, they are, however, not included in the list of inheritors when a father dies. On the other hand, opening up a farmland is an expensive venture that seems to exclude women who may wish to own a farm.

42 One US$ = TShs. 800. Official exchange rate, December 1999

43 Discussion with Betty Mfalamagoha, Deputy Village Council Chairperson, December 1999

Plate 5.2: House types belonging to tomato farmers

Source: Field survey, February 1999 to May 2000

These results suggest that a majority of farmers in Mlandizi operate at subsistence level, and that the size of local farms is decreasing because indigenous farmers sell some of their land to new landowners, especially around the village centre.

As a result, the land ownership structure is changing, albeit slowly. To that effect, migrant women have been able to buy and own land and houses, and are fully engaged in rural-urban linkages. Women's access to land in the village is no longer wholly determined by their relationship with men, or as daughters or wives, but through allocation, inheritance, renting and buying. Additionally, more and more women are getting elected into decision-making positions at village and school board levels. This gives them a chance for exposure which enables them to interact with other people on various issues, not only pertaining to their gender but also to rural-urban linkages. NGOs and credit institutions are instances of this. Thus, it is concluded that access to land is important, but land ownership with the right to sell and use the produce from it without interruption is even more important to all people.

As a result of the positive change in land ownership patterns, households' livelihoods are also enhanced in the village. This is possible since participation in rural-urban linkages has been positively activated. This, in turn, contributes to the empowerment of the various members of the family (gender sensitive), and becomes an engine of improved livelihoods and food security at household level while giving a chance to all household members to participate in rural-urban linkages.

Types of land access methods

Inheritance is a traditional method of accessing land in many rural villages of Tanzania. Due to a high rate of in-migration, land has become a scarce resource in Mlandizi, especially in locations where accessibility by road is good. It is unfortunate that many youths born in Mlandizi cannot buy farms or pay for the bush clearance because of lack of capital (Table 5.4). Thus, many youths especially the indigenous ones fail to acquire land, as they have no capital to invest even if land was available. As a result, they choose to engage in non-farm activities.

Table 5.4: Land access at Mlandizi

Type	Frequency (X/24)	Remarks
Bush clearance	10	Requires to be sanctioned by the village government. It is more than 10 kilometres from the village centre (walking distance-40 minutes). Both the indigenous and the incoming members exercise it.
Village allocation	12	The village has plenty of land for agriculture far from the village centre, located more than 10 km away from the village centre. The Village Government has recently allocated 2750 plots of two and half acres to new in migrants from Dar es Salaam and other places.
Borrowing	1	When the farmers first come to the village, they borrow land and later on, they buy their own land.
Buying	11	Land for sale is not easy to get near the village centre and along the all-weather highway. If available, the price is high because of competition.
Inheritance	4	Males have the right to inherit land, especially from the indigenous families. It is slowly losing its importance because parents can no longer get enough land for their children and remain with their own.
Renting	13	People from Dar es Salaam and other places rent land per season at TShs. 10,000 per acre.

Source: Focus group members: Ward Executive Secretary (Mr. Kiwamba) Miss Rehema (Mkonge Shop), Miss Margaret Mapunda, Mohamed Juma, and Mzee Peter Joseph, February 1999

Land is being accessed in Mlandizi through village allocation, bush clearance, buying and renting. The farmers use some of them simultaneously, for instance, renting and buying, bush clearance and renting, village allocation and buying. Besides, it is also apparent that land close to all-weather roads, land with permanent crops and well looked after are more expensive. As one moves away from all weather roads, land value decreases accordingly. However, inheritance is losing its strength, presumably because of poor returns from agriculture and the fact that, traditionally, the son cannot inherit land until the father dies.[44] The type of land ownership also suggests that Mlandizi is a prime area where many people look forward to owning land which eventually adds to the number of persons taking part in rural-urban linkages and improved rural and urban livelihoods.

The fact that bush clearance and land purchases are the leading means of land ownership pattern in the village is a positive sign to the producers because it contributes positively to the livelihood enhancement in terms of cash involved. This also constitutes an escape for women from the traditional inheritance and village allocation practices that excluded them from land ownership. Land ownership, being a means of participation in rural-urban linkages, is now open to both genders as determined by the market price. The changes suggest that land ownership is fundamental in both sustainable livelihoods and enhanced rural-urban linkages.

Multiple activities in the tomato chain

Household income at Mlandizi is diversified and dependent on several income sources, namely, the sale of agricultural produce, employment, and running a kiosk or food vending (*mama lishe*). A typical farmer's season starts by planting maize, okra and rice from January to February and harvesting maize and okra from February-April. During May and June, maize and tomato seedlings are planted, whilst in June-July okra and rice are harvested. In August-September, okra (second round) and tomatoes are harvested and in October-November, maize and okra are planted again.

44 Discussion with members: Ward Executive Secretary (Mr. Kiwamba), Miss Rehema (Mkonge Shop), Miss Margaret Mapunda, Mohamed Juma, and Mzee Peter Joseph, on February 1999

Many households in the Ruvu valley deal with tomato and okra as their main cash crops. Hadija Kisauti is a prominent tomato farmer but she does not depend on tomatoes alone. She explained her farming activities as follows:

> In January, I plant rice, which is harvested in June/July. While paddy is still in the farm, we also intercrop with maize and okra. Then in May and June we plant tomatoes, harvested from August to October. In October, we again plant the second round maize relying on the short rains.

Hadija continued:

> Okra is called "*mama mlezi"* (mother who cares) because a mother does not get weary of her children, however bad or boring it is. Almost all families in Ruvu River valley plant okra. It sells at TShs. 5,000 to TShs. 7,000 "a carton" i.e. a bag of 50 kilogrammes. You harvest it after every third week; in this way, you cannot starve.[45]

The quotations above illustrate that intercropping and farming all the year round are the strategies used by the farmers to maintain a smooth life during slack periods. Tomato farmers in Mlandizi have taken advantage of the fertile flood plain, good and affordable transport and availability of market to engage in high value crops like okra, tomatoes and maize. As a result, their incomes have increased as seen from the assets owned by new comers in contrast to indigenous farmers. Both men and women are active participants in tomato farming.

One can trace two types of diversification processes in the tomato farming business. The first type is the multiple uses of the product in the tomato chain, while the second one is division of labour at household level. In order to demonstrate the multiple activities, the following is a quotation from one tomato farmer-cum trader:

> I have a three-acre farm. I grow tomatoes, maize and okra. After harvest, I sometimes send my produce to Kariakoo myself by hiring a truck or if I am busy with other activities, I sell directly to the itinerant traders. Besides, I also own this kiosk where I sell tomatoes, okra, flour and beans at wholesale and retail prices. I do this business with the help of my daughter who finished standard seven in 1998. I get a small profit per day but my family of four children is assured of clothing, food and school fees from the business. In addition to all this, I own (*mgahawa*) a restaurant where I employ an old Swahili woman who cooks food for the market traders.[46]

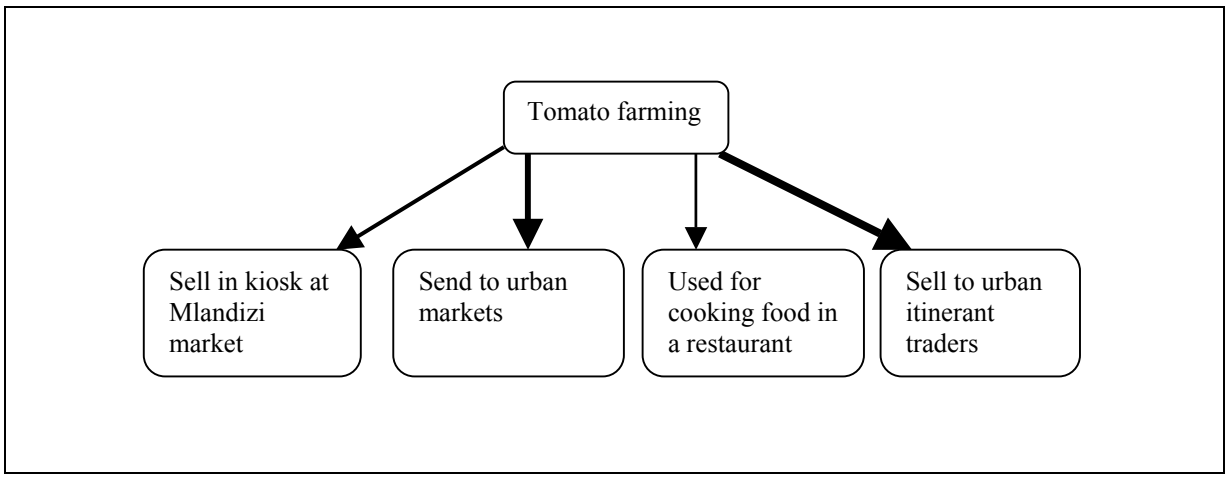
The findings reveal that household income is diversified and dependent on several income sources. Families participate in multiple activities using different strategies, namely, selling their farms as a last resort to get capital to invest in other activities, using tomatoes from their farm for cooking at food vending kiosks and hiring the youth to sell their tomato produce in the market or on the roadside to travellers. Others depend on intercropping so that they have a product to sell all the year round. All these strategies are a means of improving their livelihoods and taking an increased role in rural-urban linkages.

The findings also show four activities springing from tomato farming, namely, selling tomato on the roadside, selling tomato to the itinerant traders in the farm, selling tomatoes at the market place in the village and using tomatoes for cooking in food vending kiosks. These activities can be performed within a single household. The above citation illustrates that families participate in many income-generating activities that act as safety nets during

45 Discussion with Hadija Kisauti tomato farmer Mlandizi, January 2000
46 Discussion with Theopista Mathayo, a tomato farmer and a trader at Mlandizi market, December 1999

difficult economic periods. Theopista does more than four types of activities. These include: farming, trading, food vending and operating a kiosk. She is a single parent of 35 years who employs many labourers to run her businesses. The types of activities she does can be classified as survival strategies, but they may also be income-generating activities.

Figure 5.2: Multiple activities within the tomato chain business[47]



Source: Field survey, December 1999 to February 2000

Besides, a discussion with the agricultural extension officer[48] on the multiplicity of activities performed by the families at household level revealed:

> After the fall of the cashewnuts price in the 1980s, farmers were discouraged; as a result, they left their farms unattended. A few families are trying to revive the farms in response to orders from the Regional authority but the price paid by traders is also not encouraging. This is why at Mlandizi you find families dealing with multiple income-earning activities. A typical family will have a two-acre farm of cashew trees, intercropped with maize and coconut palms. They may have another farm usually in the valley where they plant tomatoes and rice; this farm could be rented or bought. Besides, some families sell or run a small kiosk near their houses or have a small shop. Lastly, some members of a family could be employed either temporarily or permanently.[49]

The results seem to suggest that through tomato farming several employment opportunities are created to suit different age groups. A single household participates in several activities in the tomato chain. Taking part in different non-farm activities alongside tomato farming is simplified by the fact that it does not require much capital or prompt payment at family level. As a result, the family survives even when the produce fetches low prices in the urban markets.

The second type of diversification takes place at household level where different members of the family are engaged in different activities in the tomato chain (Plates 5.3; 5.4; and 5.5). Engagement in different activities at household level by its different members is seen as a coping strategy. But this does not mean that the income so generated is in a common pool. Every member of the family has his / her own activity and plans. It is not possible for their incomes to be pooled together although they may sleep under one roof. Of course, there are often contributions to the day's meal depending on one's willingness.

47 The thickness of the arrows indicate the volume of business in each activity
48 Discussion with Mama Esther Nkwiley, Agricultural Extension Officer December 1999
49 Ibid.

Furthermore, the results suggest that it is common to find a tomato-farming household combining three or four activities at Mlandizi. Household income is diversified when the household is dependent on several income sources such as sales of agricultural produce, employment, running a kiosk, or selling food (Plates 5.4 and 5.5). Throughout the year, the new migrant households are engaged in some form of agricultural activities. At the individual level diversification exists in the sense that the individual undertakes several tertiary activities. At household level, women play an important role when they are employed as teachers, extension officers and police but also engage in trading activities. The latter role is essential in the sense that trading activities in Mlandizi are undergoing rapid growth.

These activities have had positive effects on the livelihoods of the people; more youth now are participating in non-farm activities. This can be seen by observing a number of youths partaking in non-farm activities such as operating kiosks, restaurants, shoe shiners and labourers (Plate 5.3). These results seem to suggest a strong link between physical and socio-infrastructure, particularly education and a multiplicity of other activities and innovation.

The finding too suggests that agriculture has become a secondary subsistence activity when other income-earning alternatives are in full swing. Yet, agriculture is a fallback activity when other activities are not paying. Such a trend should be viewed positively because it involves higher incomes accruing from the non-farm activities. The quotations from some of the respondents below illustrate the motive for diversification:

> I own a two-acre farm, and I am also a member of a small business group called Star Convoy, where we put our efforts together to process cashewnuts and pack them for sale after farm work. We started with cashewnuts from our farms in order to get capital. Now we do also buy from other farmers; so, it is not a very small business. To peel one tin of 20 kilograms of cashewnuts takes me six hours by hand. One kilo of unprocessed cashewnuts is sold at a maximum of TShs. 450, whereas one kilo of processed cashewnuts is sold at TShs. 3,000. If one processes one kilo of raw cashewnuts, one gets 3/4 kilogrammes of processed cashewnuts. Thus, the same kilo of cashewnuts when processed sells at TShs. 2,250.[50]

Plate 5.3: Youths taking part in the tomato chain along the main road

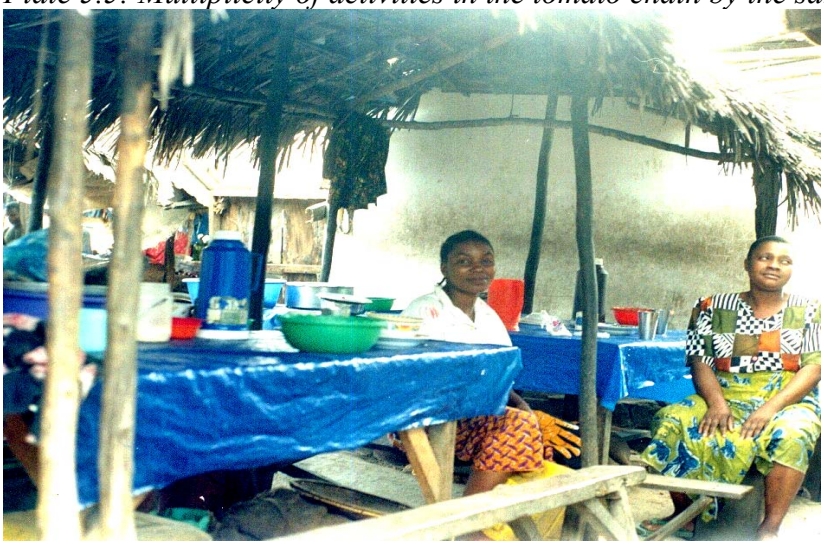
Source: Field survey, February 1999 to May 2000

50 Discussion with Emmanuel Ngelimo, a tomato farmer, December 1999

Plate 5.4: Multiplicity of activities in the tomato chain

Source: Field survey, February 1999 to May 2000

Plate 5.5: Multiplicity of activities in the tomato chain by the same household



Source: Field survey, February 1999 to May 2000

The results show that the participation of farmers in non-farm activities clearly constitutes a leap in the improvement of their livelihoods. The finding also illustrate that various forms of rural-urban linkages, namely, information, reduced transaction costs, communication and increased income opportunities at Mlandizi have been consolidated. While this creates dynamics with multiplier effects, the created non-farm employment leads to a decrease in emigration rates. The sectoral shifts occurring from agriculture to services seem to be accompanied by the increase in income levels and enhanced livelihoods. As a result, an increased income from farming affects diversification by improving forward and backward linkages, for instance, substitution of capital for labour.

Moreover, diversification of economic activities may take many different forms, namely ownership of a grocery shop or restaurant; wage labourers; sellers who stand on the main road in the early morning purchasing tomatoes, coconuts, okra from commuters en route to Dar es Salaam city and the selling of home-baked cookies from women. Diversification offers many opportunities like increased high levels of financial resources, access to price information and the creation of more innovative ideas. These finding suggest that diversification of activities holds the key to increased and enhanced rural-urban linkages. Thus, they validate the

contention that enhanced livelihoods in both rural and urban areas are a function of, and are dependent on rural-urban linkages.

Economic relevance of tomato cultivation

In order to be grown commercially, tomato fruit should provide an income higher than the other alternative crops such as cashewnuts and okra. This is particularly true for irrigated areas like Ruvu. Irrigation, which requires inputs, farm equipment and loans, presupposes good technical skills and farmers who possess these skills are not usually the poorest and are already tending towards economic optimisation. They will only start farming a crop if it is competitive with the alternatives. Discussion with the farmers as to why they chose tomato farming as their main commercial crop went on as follows: because of the fall of cashew nut price; it is easy to get credit from the urban traders; it pays quickly; there is a ready market (Dar es Salaam, Chalinze, Kibaha, and travellers); there is plenty of water here; and I do not depend on tomato alone.

Thus, in order to understand the economic impact and the value per hectare of the products, two main crops i.e. cashewnuts and tomato were studied. According to Bryceson (2000), the prosperity of most such impact region areas comprise the value per hectare of the crops grown and that the higher the value, the more livelihood enhancement. In addition, the growing profitability of tomato farm at Mlandizi seems to increase the pressure for exhaustive use of resources, and that local residents are not always equipped to handle this.

Land rent as used in this study is the income that derives from land; while rent is the payment for the use of factors of production that are fixed in supply such as land, labour and capital. The rent is determined by subtracting the payment to other production factors (labour, taxes, and interests) from revenue of production (Payne 2002). Thus, quality rents accrue on land of over average quality because the difference between the value of production and labour costs is higher than on lower quality land (higher yields per hectare). The assumption in this case is that tomato and cashewnut has only one central market Dar es Salaam and farmers buy all their inputs at constant prices. The table below presents the results of location rents of two competitive products, namely tomato and cashewnuts. The basis for the calculations in the table is Tomato: Yield 17.2 tons/ha (CRSEP 1997); Market price TShs. 3,788,900; Production costs TShs. 797,500; Municipal taxes TShs. 550,000; Commissioned agent charges TShs. 392,500. Cashewnuts: Yield 0.45 tons/ha (CRSEP 1997); Market price TShs. 161500; Production costs TShs. 322,500.

Table 5.5: Location rent for tomato and cashewnut production depending on market distance

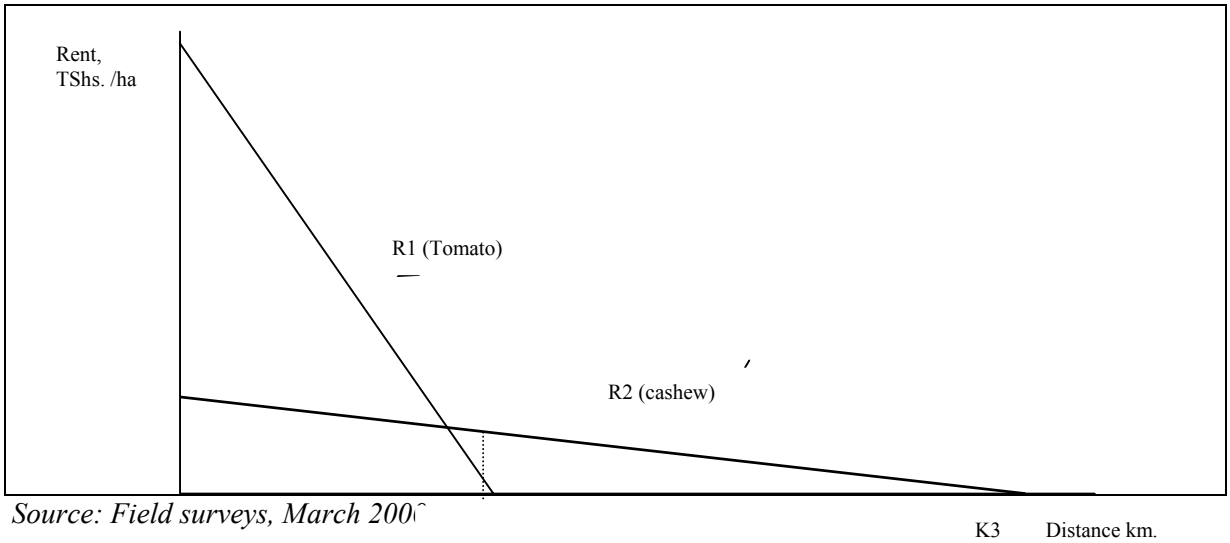
Market distance in Km.	Tomato production			Cashewnut production		
	Yields (TShs.)	Transport (TShs.)	Rent (TShs.)	Yields (TShs.)	Transport (TShs.)	Rent (TShs.)
0	3,788,900	0	3,788,900	161,500	0	161,500
50		550,000	3,238,900		10,000	151,500
100		1,100,000	2,688,900		20,000	141,500
150		1,650,000	2,138,900		30,000	131,500
200		2,200,000	1,588,900		40,000	121,500
250		2,750,000	1,038,900		50,000	111,500
300		3,300,000	488,900		60,000	101,500
350		3,850,000	-ve		70,000	91,500
400		4,400,000	-		80,000	81,500
450					90,000	71,500
500					100,000	61,500
550					110,000	51,500
600					120,000	41,500
650					130,000	31,500
700					140,000	21,500
750					150,000	11,500
800					160,000	1,500
850					170,000	-ve

Source: Field survey, March 2000

Interpretation of the table provides the following results:

- Tomato production close to the market places results in significantly higher rent compared to cashewnut production.
- With increasing distance to the market the rent for tomato production R1 (Fig. 5.3) is faster decreasing than the rent for cashewnut production R2. The reason is that tomato production leads to much higher yields compared to cashewnut production that increases significantly transport costs per hectare.
- At a distance of 350 kilometres the rent for tomato production becomes zero, while that of cashewnuts becomes zero at the distance of 850 kilometres.

Figure 5.3: Different rent curves for tomato and cashewnuts



Source: Field surveys, March 200

From an economic perspective the product with the highest rent under given conditions should be cultivated. Following the results up to a distance of 380 km, tomato should be

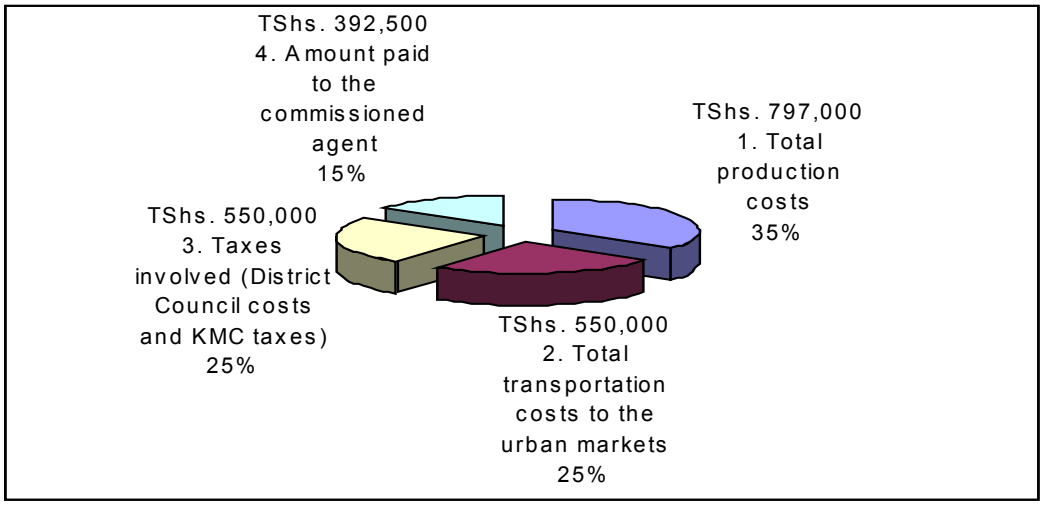
cultivated. At a distance between 381 km and 850 km cashewnut cultivation is more profitable (K1-K3). Due to immobility of land and the resulting transport costs, distance to the markets has repercussions on the organisation of farm and the composition of the production. Although from an economic point of view tomato can be commercially cultivated only up to 350 km from the markets, this is not what is happening between Dar es Salaam and its impact region. The market receives tomato from as far as 700 kilometres from Mbeya, Tanga, Kilimanjaro, Arusha and Iringa regions (Appendix 7). The result seems to suggest that more factors other than distance from the market need to be considered in deciding the economic relevance of the crop. These include: distance of the farms from paved roads; quality of road and access to the farms; size of plots; seasonality; and informal institutional relationships between the farmers and the urban traders.

With these few observations, it seems economically viable for farmers to switch to tomato farming as per the reasons given above because the income earned from tomato farming is far higher than that from cashewnuts cultivation per hectare. In addition, if one wants to plant cashewnuts on commercial basis, he or she requires a bigger acreage in the tune of three hectares to earn the same income as from tomato in one hectare. These results seem to suggest that the changing land owning structures from large farms to small lots provides an ideal motivation for enhanced rural-urban linkages and livelihoods; and that provide introduction of high value crop farming that has increased the value per hectare in the village, thus, increasing participation in rural-urban linkages and enhanced livelihoods.

Decomposition of tomato farming and trading costs

Respondents were asked to identify their last completed transaction, all the costs incurred between purchase or production and the sale of the consignment. Up to 13 types of costs were identified. These include: production costs (bush clearance, tilling, buying seedlings, planting, weeding, pesticides, harvesting, and transport from the farm); transport to urban markets from the roadside and related costs; municipal and market taxes; personal travel costs (if a farmer trader/farmer accompanies the consignment) and commission to the commissioned agents. The commissioned agents usually pay market fees (licences) being the only operating cost they incur.

Figure 5.4: The composition of costs of tomato production and trade



Source: Field surveys, March 2000

The production costs represent by far the largest component of the variable costs, i.e. 35 per cent. The second most important variable cost components, which represent 25 per cent, are transport and municipal taxes. The commission paid to the commission agents represents 15

per cent of the variable cost (Fig. 5.4). To summarise, the structure of operating costs between Mlandizi and Dar es Salaam is dominated by the production costs.

Once the tomato consignment has reached Kariakoo market, it is handed over to the commissioned agent. The cartons in the consignment are ascertained, and the agent pays the market dues and taxes. After the farmer and the agent have agreed on the selling price depending on the current supply of tomatoes in the market, the farmer leaves his consignment and goes back home (Mlandizi). He/she may come back the following day or two days after to get his/her payment.

Usually the agreed selling price between the farmer and the commissioned agent is far lower than the actual price of tomatoes sold to retail traders, institutions and consumers. This implies that the commissioned agent receives double payment, namely, TShs. 500 per carton and the difference in the actual wholesale price and the agreed price between the farmer and the agent. The TShs. 500 per cartoon is deducted directly from the agreed price between the farmer and the commissioned agent.

The revenue collector, commenting on the stakeholders in the tomato trade, expressed his concern as recorded below:

> There are three groups of businesspersons who operate between Mlandizi and Dar es Salaam: the commissioned agent who finances tomato farming, itinerant trader and farmer-trader. The itinerant traders will strive to make sure that the farmer does not meet the wholesaler so that he maximises his profit from the tomatoes sold.[51]

The itinerant traders who are the main buyers of crops from Mlandizi farmers sell to the commissioned agents in Dar es Salaam urban markets or supply to institutions. To transport their purchase from Mlandizi to Dar es Salaam urban markets, they hire trucks. Transportation costs depend on the distance from the main road, the road condition, and the waiting time both at the farm, at the roadblocks and at the urban markets. In the process of transportation, there are tax collectors who are employed to collect crop taxes for the government. A portion of the collection is district revenue while the other portion is supposed to return to the village. The taxes for all agricultural products leaving the village are usually paid at the roadblocks stationed between the city and the village. The tomato chain culminates when consumers in the urban areas purchase their daily needs from their respective neighbourhood markets. One retail trader in Sinza had this to comment:

> I buy one carton of tomatoes at Tandale at a price between TShs. 5,000 and TShs. 6,000 and transport it using a pushcart to Sinza for TShs. 1,000. This carton has different weights, sometimes 25 kilograms or 30 kilograms of tomatoes of various sizes. I sell the big and good tomatoes for TShs. 400 a kilogram and the medium size ones for TShs. 300 a kilogrammes. On average, I get between TShs. 10,000 and TShs. 12,000 a carton, which I sell for three days.[52]

51 Discussion with Frank Chonya, the Revenue collector from Kibaha District, December 1999
52 Discussion with Mr. Priscus Asenga, a retail trader at Sinza shopping area, March 2000

Table 5.6: The composition of costs on one acre of tomato farming

Activity	Total cost per hectare	Percentage of costs	Remarks
1. Total production costs	TShs. 797,000	35%	The costs are high compared to the incomes of the normal family at Mlandizi (six months).
2. Total transportation costs to the urban markets	TShs. 550,000	25%	The transport costs are more than one fifth of the farmer's earnings.
3. Taxes involved (District Council costs and KMC taxes)	TShs. 550,000	25%	The taxes are also more than two thirds of the farmer's earnings.
Total sale price of 315 cartoons	TShs. 4,725,000		@ TShs. 6,000 per cartoon
4. Amount paid to the commissioned agent	TShs. 392,500	15%	Amount earned from one farmer per hectare.
5. Amount earned by the farmer (net)	TShs. 856,250		Income of the farmer in six months after deducting all the costs involved.
6. Amount received by the commissioned agent after selling to the suppliers	TShs. 1,180,000		The commissioned agent earns more than the farmer by selling at a higher price than agreed with the farmer.

Source: Field survey, December 1999 to January 2000

The picture that emerges from this analysis is dominated by production costs. This can be attributed to high input cost in terms of labour, pesticides, and seedlings involved in tomato farming. This confirms other empirical findings that production costs of high value crop farming are high and requires external financing in Sub-Saharan Africa (World Bank 2000). As a result, farming of high value crops takes place in small lots of half acre to three acres per household because of the costs involved.

In addition, these results suggest that the commissioned agents have higher margins than the farmers. There are at least two possible explanations for this finding. First, it is possible for the commissioned agent to conduct profitable operations involving more risky and more capital intensive such as large storage of produce for many farmers. If this interpretation is correct, then commissioned agents are more profitable on average because they capture returns to risk taking. A second possible explanation is that tomato trade is currently characterised by decreasing returns to scale. Large traders have higher margins because they are inefficiently large.

The result also suggests that the commissioned agent earns more than the farmer per hectare and in a very short span, as calculated from one acre of tomato production assuming that the prices are correct (Table 5.6). The time spent by the commissioned agent to earn a gross income of TShs. 1,180,000 is roughly three months of harvest, whilst the farmer spend more than six months to earn TShs. 856,250. Even if the figures are not accurate to the last cent, the fact that there is such a great difference in income earnings and the time involved is enough to state that the farmers are disadvantaged. It should be remembered that the commissioned agent deal with many farmers in one season. In addition, from the whole analysis, the commissioned agent pays no taxes apart from the annual registration fees he pays to the market authorities.

Daily/seasonal commuting to urban areas

During the harvest season, the farmer traders, itinerant traders and youths purchase tomato from the farmers to sell in urban markets like Dar es Salaam, Chalinze Kibaha and on the highway (Plate 5.3). As a result, the youth obtain income to open up business like hair cutting saloons, selling music cassettes, or local restaurant.

Plate 5.4 displays a woman who owns a tomato farm in the flood plain. While she is selling her produce in the market, other women are selling food from her open-air restaurant (*mgahawa*) after farm work. Some of her tomatoes are used for cooking in a restaurant that is run in partnership with other women at the village market. Itinerant traders buy some of her tomatoes, while young labourers sell tomatoes at the Ruvu river bridge (Plate 5.3). These types of activities are very common in the village, especially among the new comers.

The use of urban areas for shopping has increased rapidly in Mlandizi. All farmers visit the urban areas at least once in a week for shopping or selling of the farm produce. They visit the shops around Kariakoo, and Tandale where they sell their rural produce. Five farmers out of twenty-four interviewed, have opened small shops at their homes in Mlandizi, with the capital accruing from tomato farming. This implies that they have to travel to Dar es Salaam at very frequent intervals to obtain supplies. The high frequencies of travel suggest that the linkages that exist between urban and rural areas are fundamental and cannot be taken for granted. Many households both rural and urban depend on these linkages to sustain their livelihoods.

The transportation costs and rural-urban linkages

Physical infrastructure linkages denote the basic infrastructure and producer goods that people use to pursue their livelihoods, for instance, roads, mass transportation, water supply and electricity. Infrastructure involves the physical environment that helps people to meet their basic needs and to be more productive. Producer goods are the tools and equipment that people use to function more productively. This section deals with only three items of infrastructure as derived from the conceptual framework, namely: roads, accessibility and communication. Accessibility as used in this study designates the ease of contact with relatively little friction i.e. less wastage of time and energy. Thus, the cost of overcoming distance is a basic factor in all-human activities. Human communication, on the other hand, is used in this study to mean the process through which individuals in relationships, i.e. in groups, organisations and societies create, transmit and use information to organise the stakeholders to benefit from the environment optimally.

The provision of infrastructure such as roads ensures that the rural and urban poor can properly use their efforts to produce for the urban and rural markets by reducing costs of transportation. The proposition under investigation in this section is that enhanced rural-urban linkages are a function of socio-physical infrastructure and that enhanced livelihoods are largely due to rural-urban linkages.

Intra and inter village infrastructure

The presence of affordable infrastructure determines the level in which the urban and rural poor can improve their livelihoods. In order to illustrate how internal and external transport has been affecting the development of the livelihoods at Mlandizi, the officials at Mlandizi village had this to say:

> Mlandizi is growing fast, even faster than Kibaha due to its location near the Ruvu flood plain, allowing farming of value crops throughout the year. As a result, there is a lot of money in circulation; it is like an urban area. Easy transportation to major places like Dar es Salaam and Chalinze to do business has made us feel like living in the city/town. You know Mlandizi was supposed to be the district headquarters but we do not have someone to talk for us *(waasisi wetu-wazee waliyekuwepo serikalini walikuwa na interests' zao. Wao walitoa pori liwe makao makuu ya mkoa ili pawe karibu na nyumbani mwao).* Our representatives in the government had their own interests. They offered an open forest

close to their homes so that the regional town could be near their homes. Mlandizi still can become the district headquarters for Kibaha.[53]

Plate 5.6: Footpath linking tomato farms and paved road

Source: Field survey, February 1999 to May 2000

A farmer in Mlandizi village who owns large pieces of land in different places in the village as well as a tomato farm, which he partly rents, had the following to say:

I have a 50 acres farm, of which 45 acres are planted with cashew trees, 2 acres planted with tomatoes and 2 acres planted with coconut palms. The worst problem I face is the transportation of my produce from here (Msongola) to Mlandizi a distance of just 5 kilometres. I have to pay from TShs. 800 to TShs. 1,000 to transport one sack of cashewnuts just up to Mlandizi. It costs TShs. 300 to TShs 500 to transport tomatoes from Mlandizi to Dar es Salaam (67 kilometres). Sometimes there are no trucks willing to enter the bad roads here, so we hire a pushcart or labourers who carry the load on their heads.[54]

Plate 5.7: Earth road linking the footpath to the tarmac road

Source: Field survey, Feb 1999 to May 2000

53 Discussion with Betty Mfalamagoha, Deputy Village Council Chairperson, December 1999
54 Discussion with Mohamed Ali Matola, December 1999

Plate 5.8: Cartons of tomatoes waiting for transport along the main road

Source: Field survey, February 1999 to May 2000

Intra village roads in Mlandizi are not paved (Plates 5.6; and 5.7). When it rains, the cost of intra-village transport escalates because the agents charge higher prices due to the risk of being stuck. However, the external connection of Mlandizi to towns and other settlements is by all weather roads that pass through the village, and the costs are reasonable and affordable.

The preceding quotations suggest: Firstly, that intra-village transport is as important as external village transport. Secondly, it is easier and cheaper to travel from Mlandizi to Dar es Salaam than to travel from the village centre to the tomato-growing hamlet by car. This has been mainly caused by lack of paved intra-village roads. Thirdly, it is very costly to maintain a farm that is far from all-weather roads in terms of supply of agricultural inputs and the sale of agricultural produce. Rural-rural transport to the motorable road is usually done by head or a pushcart. This alternative means, however, is not only costly but also time consuming. Fourthly, the average cost of rural-rural transport is higher than the rural-urban and urban-urban transportation.

Thus, rural-rural transport has a negative effect on the costs of transporting commodities to the urban areas as it makes the farmers pay more for shorter distances. In turn, this has a negative impact on the rural livelihoods because it reduces the expected income from the sales of agricultural produce that consequently decreases the capacity to participate in rural-urban linkages.

Mlandizi-Dar es Salaam transport costs

Transportation of produce from Mlandizi to Dar es Salaam is cheaper and easier than the intra-village transport. Several tomato farmers and key informants were interviewed to triangulate the relevance of the costs involved. Below are some illustrations:

> To transport agricultural goods from here to Dar es Salaam, one can hire a truck or use long distance buses that pass through here. The cost of transporting one carton of tomatoes is TShs. 500.[55]

> It costs TShs 500 to transport one carton of tomatoes from Mlandizi to Kariakoo, or Tandale markets in Dar es Salaam.[56]

55 Discussion with Abdallah Rashid, January 2000
56 Discussion with Frank Chonya, the revenue collector from Kibaha District, December 1999

Table 5.7: Average costs of transport

	Costs of transport in TShs.	Approximate distance	Remarks
Farm to roadside	300-600	2-5 km.	These costs vary depending on the distance from the road and the mode of transport (Cart or head). For the purpose of this study, TShs. 400 was taken as the mean value.
Roadside to Dar es Salaam	500	67 km	The cost of transport from the village centre to the city is negotiable and in principle, the more cartons of tomatoes one has, the less the price.
Average costs	900		It is cheaper to transport tomato on tarmac road per kilometre than on a gravel road

Source: Field survey, December 1999 to February 2000

The total cost of transporting tomatoes from the village to the agent in Kariakoo Market is TShs. 900 per carton. 18 out of 24 farmers in Mlandizi do not sell their produce in the farm unless they are offered better prices compared to those at Kariakoo. Besides, Mlandizi tomato farmers do not wait for the itinerant traders to buy their produce because they are popular to commissioned agents at Kariakoo and Tandale markets in Dar es Salaam. Some of the farmers have been advanced credits and they are supposed to sell their produce to the agents. In this way, they qualify for the next season credit. Furthermore, a portion of the produce is sold locally at Mlandizi markets by the farmer's household members and along the main road by the youth (Plates 5.3; 5.4 and 5.5).

These findings show that transport costs are affordable; having paved roads within the village could reduce the costs even further. This explains why so many farmers and traders have a preference to own a farm or do business at Mlandizi. Moreover, the enhanced livelihoods of farmers and employment opportunities so created at the village provide the youths with diverse possibilities to participate in rural-urban linkages instead of migrating to urban areas. As a result, 75 per cent of the youth from the interviewed households participate in rural-urban linkages. Affordable transport also enables farmers to refuse low prices that may be offered by the itinerant traders because they can transport their produce to the urban markets themselves.

Accessibility to and from other areas

The advantage of location and accessibility of land for farming has for long attracted people from many parts of Tanzania to Mlandizi. The following excerpts demonstrate how accessibility to other parts of the country and movement without friction has influenced the enhancement of rural-urban linkages in Mlandizi village. The study was particularly focussed on what attracted the traders and the migrants to the village and how they settled and started business. A middle-aged in-migrant from Kilimanjaro had this to say:

> First, I used to bring beans from Arusha after my father had given me some capital of TShs. 100,000 in 1990. I made friends in the market and they helped me look for a piece of land (2 acres) that I bought in 1995 for TShs. 20,000. I then rented a permanent room and bought a space in the market to start business. I still travel to Arusha to bring beans, which I sell both at wholesale and retail prices. I like doing business here because if you want to travel to any place, it is very easy. You can order anything from anywhere. We don't complain of transport costs to other areas.[57]

> I am a truck-driver and I travel to many parts of the country. Yesterday I came from Arusha to bring tomatoes, onions, guinea corn and bananas.

57 Discussion with Salum Mfinanga 30 years old, from Kilimanjaro region, 17th December 1999

> Some of the items are sold right here at Mlandizi and the rest are transported to Dar es Salaam. I have been hired by traders for TShs. 400,000 from Arusha to Dar es Salaam via Chalinze and Mlandizi.[58]
>
> When I arrived here in 1985, I had only TShs. 70,000. Before coming here, my intention was to go to Dar es Salaam city but I had a friend here who invited me. I bought a place in this market for TShs. 500, and rented a room after deciding to remain here. I normally travel to many up-country places looking for business and to buy food items that I sell to my fellow traders or send to Dar es Salaam. I have a big stock of guinea corn that I supply to many retail traders in the nearby towns of Chalinze and Kibaha.[59]

Mlandizi acts as a hub to the surrounding settlements, whose residents purchase most of their basic needs from the village centre instead of going to Dar es Salaam. These results demonstrate also that external accessibility and the availability of reliable and affordable transport are the foremost driving forces that attract people from other regions and particularly from Dar es Salaam to the village. Another important factor is the availability of a market to which all-agricultural produce such as tomatoes, okra, and maize can be sold throughout the year. Dar es Salaam is a case in point. People migrate to Mlandizi either on speculative motives of selling the land at high prices in the future or with the aim of improving their livelihoods. The decision on where to buy land is carefully sieved and determined by the availability of land and its price, the availability of markets where one can sell the produce, and the type of infrastructure serving the settlement. Distance from the urban areas does not seem to be very important, since all-weather roads and modern transport take care of it.

Plate 5.9: Selling tomatoes at Mlandizi market

Source: Field survey, Feb 1999 to May 2000

This section has demonstrated that access to transport routes is often a critical point. Roads have helped the farmers to access different types of income generating activities receive agricultural inputs and sell their end products at reduced transport costs. Consequently, rural-urban linkages between Mlandizi and Dar es Salaam are enhanced. Thus, the evidence presented seems to validate the proposition that enhanced livelihoods are largely a function of rural-urban linkages. Once roads are built, they provide a permissive effect for the other

58 Discussion with Rashid Star Kayuma 33 years old, from Mtwara region, 17th December 1999
59 Discussion with Jumapili Maingu a transport agent, December 18th 1999

factors to operate which in turn, steps up increased rural-urban linkages.

Institutional and organisational linkages

This section discusses the actors who participate in tomato farming, from farm preparations to marketing in urban areas. In addition, it explains how they finance tomato farming. The main proposition under enquiry in this part is that locally crafted institutions provide sufficient and acceptable conditions for rural urban linkages. In order to examine all the actors involved, it is necessary to discuss them as they appear on the tomato chain.

The main actors in the tomato chain relevant to rural-urban linkages are the farmers, the labourers, the itinerant traders, the transport agents, the commissioned agents, the retail traders, and the urban consumers (Figure 5.5). Time taken from farm preparations to the harvesting and selling of tomatoes is approximately 5 to 6 months. One acre can produce 450 kilogrammes of tomatoes every 4th day, for 3 months. This means one acre can produce 9,450 kilogrammes in one season. The total cost of tendering one acre of a tomato farm from clearance to harvesting and transporting the produce to the road is TShs. 319,000.[60]

Tomatoes from Mlandizi are mainly grown in the Ruvu flood plain that is occupied by a large number of farmers who also grow other high value crops such as cucumbers, maize and okra. These crops can be cultivated throughout the year because of the availability of water for irrigation in the flood plain and its rich alluvial soil that requires little or no fertiliser.

Plate 5.10: Harvesting tomatoes

Source: Field survey, February 1999 to May 2000

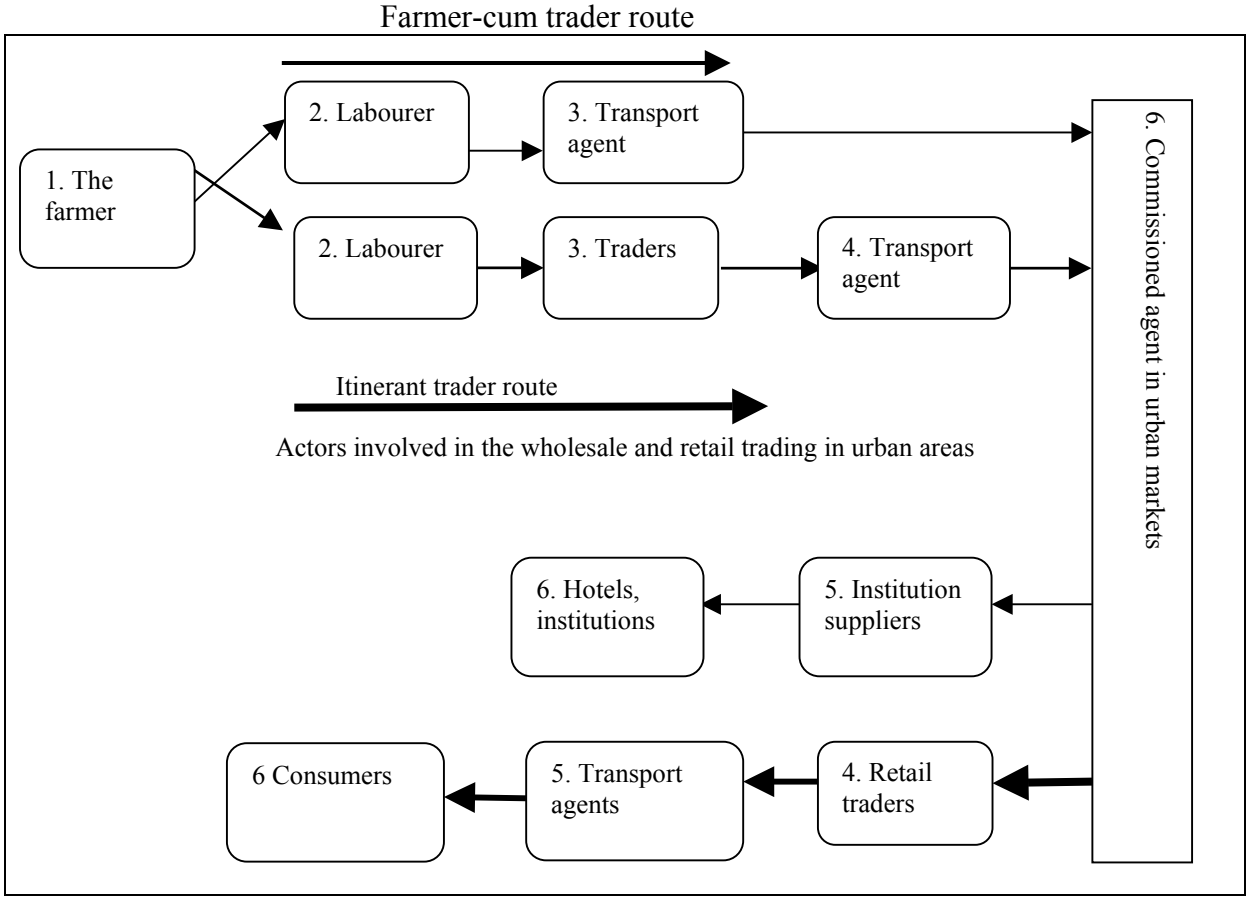
The farmers employ daily wageworkers who till the land, harvest the produce, and carry it from the farm to the roadside ready for loading up trucks. Some of the labourers also play the role of informal co-ordination between the farmers and the urban traders. During harvest period, they earn money by looking for high prices for the farmers and cheap prices for the traders. They are also the farmers' price informers at the harvest season. They are paid in kind by both the traders and the farmers since there are no written contracts (Figure 5.5).

60 One US$ = TShs. 800. Official exchange rate, December 1999

Plate 5.11: Packing tomatoes in cartons

Source: Field survey, February 1999 to May 2000

Figure 5.5: Actors in the tomato chain: village to urban



Key: The thickness of the arrows indicates the volume of business in each activity.

Source: Field survey, December 1999 to February 2000

Tomato farming requires expensive inputs in terms of initial investment such as fertilisers and pesticides because of unfavourable weather. In order to demonstrate how the financing of tomato farming is done, the following quotations from the farmers in Kisabi area are self-explanatory. When asked how they raise money to deal with tomato farming, different

farmers had different responses as recorded below:

> In order to practise tomato farming in a large scale, I contacted the commissioned agent, Mr. Kaunda (urban trader) in Kariakoo market where I used to sell my tomatoes. I received seedlings enough to plant four acres, pesticides, bags of fertilisers and TShs. 100,000 to pay the labourers. With this capital plus what I had accumulated, I planted five acres of tomatoes in 1996. After harvesting, I delivered my produce to the commissioned agent who paid me after 2 days, having deducted a percentage of the total loan taken from him. He also deducted transport costs advanced to me.[61]

> I am able to take a loan for farm preparation and repay it after selling my produce. However, there is no one willing to give us such a loan (referring to the Banks). We are left with *the "madalali"* i.e. the commissioned agents in Kariakoo who are really clever; they do not want money back, you have to send all your produce to them. If you don't do so, they can even sell your farm.[62]

> Every year I usually get a loan from one "Kaunda," a registered wholesaler in Kariakoo market. I take it because I have no alternative. The wholesalers give us loans but they maximise their profits when they sell our produce.[63]

From the above discussion, farmers who send their produce to urban markets have the advantage of being known by the commissioned agents who may extend credit to them in the long run. In order for the farmer to qualify for the loan, the commissioned agent will send his assistants who will inspect the farmers' land and ascertain the ownership through the neighbours. This information is sent to the commissioned agent who then decides how much credit the farmer will get. The commissioned agent avoids giving cash credit, as the money might be diverted to other activities. All this is done without any written contracts. The only information recorded and signed by the farmer is the disbursement of funds, pesticides and seedlings. The way the security is guaranteed in the informal credit system is something worth noting. The following are the security conditions towards loan procurement:

there must be an earlier relationship in terms of supply of agricultural produce;

farm inspection by the assistants of the commissioned agent is crucial and binding because it reduces cheating;

the method of fund disbursement is usually in the form of materials and just a little cash;

close follow-up by the assistants during the production period reminds the farmers that they are indebted; and

the number of farmers the agent deals with also instils security to the agent.

The revenue collector expressed his concern on the relationship between the farmers and the urban traders as follows:

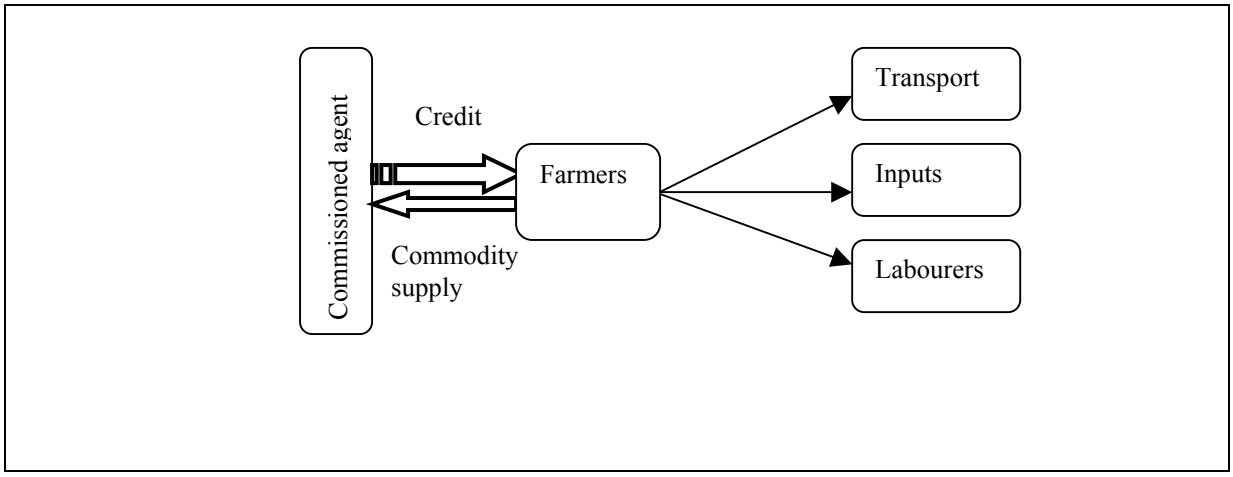
> The itinerant traders will strive to make sure that the farmer does not meet the commissioned agent so that he adds his profit to the tomatoes sold. Farmers at Mlandizi are also so clever in that they farm and market their produce themselves. For instance, some women harvest their tomatoes and green vegetables in the evening and send them to Kariakoo

61 Discussion with Hamisi Mgaya, December 1999
62 Discussion with Mohamed Kambi, December 1999
63 Discussion with Shaba Kazimoto, a farmer at Mlandizi Kisabi, December 1999

> or Tandale markets in Dar es Salaam before dawn. They sell them very early in the morning (about 5 o'clock) to the agent before the traders arrive in the market. The agents also want to buy from the farmers directly, since their prices are lower than those of the itinerant traders.[64]

The results illustrate that itinerant traders make substantial profits if they buy farmers' produce for sale to the urban markets. As a result, the traders would prefer (and strive) to make sure that the relationship between the farmers and the commissioned agents is as limited as possible. As a strategy to avoid itinerant traders, some farmers set out very early in the morning to take their produce to the urban markets. They do so because sometimes they get broke or the urban markets are very saturated. When this occurs, it is the itinerant traders who rescue the farmers from the situations. This is possible because some of the traders supply institutions and hotels with agricultural goods, as they have an agreement to supply throughout the year. Such favours go to the farmers who give some of their produce to the itinerant traders even though they have taken loans from the commissioned agents.

Figure 5.6: Informal credit alliance



Source: Field survey, December 1999 to February 2000

The above findings suggest that the credit organisational set up is safe and sound because:

It operates on trust cultivated for a long time and is closely linked to respect or rejection in the community. The neighbours who approve the ownership of the farm are a social entity who will respect and reject a person from his or her behaviour.

Most farmers are aged (over thirty years) and they need respect. Thus, one can say that the security of the loan is based on and controlled by the community indirectly.

Economically, the farmer's life is attached to tomato farming which involves family ties and respect. Since tomato farming is booming in terms of income generation, there is very little chance that the farmers may choose to breach the contract, lose respect and leave the area.

Tomato business is an expensive commercial undertaking in terms of agricultural inputs, particularly labour. The capital required for tomato handling from the initial stage cannot be obtained from the farming of normal perennial crops; it requires external credit.

Those willing to offer credit finance to the farmers i.e. the commissioned agents have interest in the business so the loans are obtained with strings, which in the end benefit the financiers.

The commissioned agents have an upper hand because they deal with many traders, unlike the

64 Discussion with Frank Chonya, the revenue collector from Kibaha District, December 1999

farmers who sell from their farms only.

Two commissioned agents in Kariakoo Market Corporation, the Market Statistician and the Commercial Manager were interviewed to triangulate the answers given by the farmers and key informants. The tomato commissioned agent in Kariakoo recounted the situation as follows:

> I started this business in 1975. I pay the market TShs. 4,500 per month and a registration fee of TShs. 3,000 per year. I pay my assistants depending on the volume of business conducted that day. When a truck brings tomatoes, they count the cartons and the farmers or intermediaries leave them with me after agreeing on their price. I receive tomatoes from Mbeya from January to June; Iringa from July to December; and Ruvu from June to October. Those who bring tomatoes to me are the ones who have already done business for sometime and have built trust so they go and may come the following day to check on the sales progress. In order to attract many traders and farmers to bring tomatoes to me, I usually extend loans to farmers who wish to get them. After selling the consignment, I gradually deduct the loan. For instance, in 1998, I extended loans in the form of seedlings, fertilisers and blowers worth 8 million to 117 farmers: 5 from Iringa, 92 from Ruvu (Mlandizi) and 20 from Mbeya.[65]

In order to recoup the money after getting losses, the commissioned agent explained:

> I do not advance the farmers a lot of cash; instead, I give them seedlings, fertilisers, pesticides and blowers and very little cash to pay the labourers. Secondly, when the farmers bring their consignment to me we agree on the selling price. In case I get a higher price, this is the chance I use to recoup the losses that I sometimes get as a result of rotting of tomatoes, farmers who abscond from bringing their produce to me or are involved in accidents while transporting the produce to Dar es Salaam.[66]

Interviews with the Kariakoo Market Corporation Commercial Manager substantiated the explanation by the commissioned agent, stressing on their significance, which explains why the market registers them.

> The commissioned agents are officially registered operators in the market who pay between TShs. 1,500 to TShs. 6,000 monthly, depending on the type of business they run. The market does not fix the prices of the commodities, but the consumers and the traders decide them in the wholesale business. The commissioned agents are in our by-laws sanctioned to take 7 per cent commission of the sales value of any product they sell. The agents are not controlled by the market, but for security reasons we register them in case of trouble. If farmers have the capability, they are allowed to sell their produce directly without going through the commissioned agents.[67]

The manager added:

> The price of the product depends on several conditions, namely: existence of a substitute product; demand and supply; time in the season;

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65 Discussion with R. Kaunda, a tomato commissioned agent since 1975 at Kariakoo Market Corporation, December 1999

66 Ibid.

67 Discussion with Mukori, the Commercial Manager Kariakoo Market Corporation, December 2000

> quality and quantity of the product; and variety of the product (tastes). Therefore, it is upon the farmer to decide on his/her price after considering the above factors. The wholesalers usually deal with many traders and farmers in a day. They get some profit; but sometimes they also get losses.

The tax collection officer also corroborated these findings in the following words:

> Without some sort of credit, it is very difficult for the farmers to prepare their farms since the payment they receive is small and it is used for many other non-farm activities like payment of school fees and other traditional activities.[68]

Besides, expressing his concern on how the farmers lose when they borrow from the traders, the assistant village executive officer of the ward revealed the following:

> All traders get fat because of the farmers. Traders build houses using the strength of the farmers. The price of the tomatoes in the market is set between the borrower and the financier before the loan is advanced in some cases. A good example is last year (1998) when most of the traders had no money to lend the farmers. Most farmers used their reserves to prepare their farms so instead of selling a carton of tomatoes for TShs. 6, 000, they sold it for TShs. 10,000 each carton, hence an additional profit of TShs. 4, 000 a carton.[69]

The above findings lead to some important conclusions on institutional linkages. First, the loans/credits received from the commissioned agents are very important, since without them the farmers will not manage to produce tomato throughout the year. In order to obtain the credits, farmers have to strive to get to know the urban commissioned agents by supplying them with their produce for a while. In so doing, trust is enhanced between the two parties. Through such relationship, the farmer qualifies for a loan after his/her farm's inspection by the assistants of the agents.

Second, farmers are very aware that the commissioned agents get high profits by selling their produce at the urban markets. However, due to lack of alternative credit facilities, they are forced to accept the current credit relationship that is offered with strings. Besides, as individuals they cannot break the relationship. To do so with an impact would require united action by all the farmers who supply the agents with tomatoes.

Third, the absence of formal credit facilities that could be extended to the farmers during the farming season is a crucial problem in Mlandizi. Although more than 97 farmers receive very vital informal credit from commissioned agents, there is no complaint showing the necessity of having alternative credit facilities to the farmers. The string attached to the credits offered by the commissioned agents i.e. "to sell all the produce to the agent after harvest" is not very healthy for the farmers. It denies them the freedom of selling at higher prices even if there is a possibility. The commissioned agent gives credits with conditions and in material form because it is the only way to recoup his money. He knows that if he does not give the conditions, farmers can sell their produce and pretend to have used the money to solve other problems. However, since very little paperwork is involved, traders and farmers operate purely on "trust".

Fifth, the results also illustrate that the commissioned agent will strive to give loans to as many farmers as possible so as to get more profits. This safeguards his income (economies

68 Discussion with Frank Chonya, the revenue collector from Kibaha District, December 1999
69 Discussion with Betty Mfalamagoha, Deputy Village Executive Officer, December 1999

of scale), since the more loans one extends, the more secure the capital because even if one or two loan recipients abscond, the loss can be recouped by selling the produce of those who respond at a higher price. Therefore, it is less risky to deal with many farmers than to deal with a few.

The main strengths of the informal credit system as opposed to the formal credit institutions as follows: First, the formal credit institutions are imposed from above while the informal ones are shaped by the local people addressing their immediate needs. Second, there is no trust in the formal institutions; one has to submit collateral items or there is no credit. As regards informal institutions, trust is the driving factor that determines the issuance of credit. Third, the formal institutions are often loaded with overhead costs that are paid back by the credit recipients. This is not the case with the informal credit where even paper work is very minimal and only used when very necessary. Lastly, informal credit institutions promote peace. Even if the farmer fails to retire the credit in one season, he/she can continue in the next season. With the formal institutions, failure to honour the agreement means that the collateral property is sold. The above quotations and discussions suggest that:

Farmers can make substantial profits by detaching themselves from the commissioned agents, or if there is an alternative credit institution. The traders cannot make much loss because they transact with many farmers at a time.

Urban markets administration does well to protect rural farmers by registering the commissioned agents. According to the Kariakoo Market Commercial Manager, there has not been any complaint or theft apart from delay of payments by the agents.

The commissioned agents in urban markets play a great role in enhancing rural-urban linkages and improving livelihoods of both rural and urban households in the tomato trade.

Informal credit institutions are crucial for the improvement of livelihoods and the development of rural-urban linkages.

Therefore, the relationship between commissioned agents and the farmers in this case study have demonstrated amply that informal local institutions have played a positive role in financing a rather expensive tomato production undertaking. Of particular importance is the fact that a long established local credit tradition has proved to be very useful in supporting tomato production, although one group seems to benefit more than the other. In so far as there is no better alternative to help the farmers to practise tomato farming at a commercial level, this informal credit facility is useful for the enhancement of rural-urban linkages and livelihoods.

Summary of key findings in the chain

The three propositions under investigation in this chapter are: firstly, enhanced livelihoods in the impact region are largely a function of rural-urban linkages; secondly, locally crafted institutions in both rural and urban areas provide a sufficient and acceptable basis for enhanced rural-urban linkages; and thirdly, rural-urban linkages are strong where there is better and reliable socio-physical infrastructure. Findings of the role of rural-urban linkages in enhancing livelihoods are summarised in Table 5.8.

Table 5.8: Summary of field observations

Issue	Main findings	Remarks
Demographic linkages	The educational level has a high correlation with enhanced rural-urban linkages. Population movement is a survival strategy that enables people to participate in rural-urban	All types of migration have proved to be profitable and desirable. Migrants are very specific and

	linkages and improve their livelihood. Population movements allow cultural exchanges and development of new ideas that contribute to the enhancement of rural-urban linkages.	selective.
Economic linkages	Access to land is important but land ownership is crucial for enhancing rural-urban linkages. Multiplicity of activities is a safety net used by households to increase their participation in rural-urban linkages.	Closeness to urban areas is not important. Availability of services is crucial for enhancement of rural-urban linkages.
Infrastructure linkages	Intra village and accessibility to other areas is equally important for enhanced rural-urban linkages. Availability of transport means is important but availability of affordable transport is fundamental.	Transportation costs account for 1/5 of the farmer's gross income.
Institutional linkages	Informal credit financing is very crucial for the farmers	Informal credit system has strings although it enables farmers to increase participation in rural-urban linkages The process of acquiring a loan is rather simple and affordable

Source: Field survey, July 1999 to May 2000

This study has demonstrated that there is a consolidation of various forms of rural-urban linkages, i.e. demographic, economic, infrastructure and institutional linkages at Mlandizi. This has created dynamic multiplier effects that have given rise to the creation of non-farm employment seen as an indication of slowing down rural emigration and increased immigration to Mlandizi. The sectoral shifts occurring from one cash crop dependency in agriculture to a multiplicity of activities are accompanied by an increase in income, and they act as a security anchor during the slack periods. Together these findings have validated the contentions cited above. This study therefore, concludes that enhanced rural-urban linkages are a *sine qua non* in ensuring enhanced and sustainable rural and urban livelihoods. They further persevere on the need to greater understanding and attention to the spatial dimension of regional development planning.

6. The Masaki Dar es Salaam orange chain: Significance of institutions for socio-economic linkages

This chapter demonstrates how informal relationships between farmers, labourers, transporting agencies and itinerant traders have managed to sustain the orange farming. It shows also, how the absence of formal credit financing is replaced by informal non-credit financing relationship between the stakeholders thus confirming the importance of rural credit financing to small and large farmers. It also shows how the absence of the socio-economic infrastructure affects the productivity and development of livelihoods in the impact region.

The discussion of this case begins with an elaborate presentation of the contextual issues to provide the basis for an understanding how, otherwise, problematic non-existence of affordable transportation and accessibility problems can affect rural and urban livelihoods. Masaki was selected because it exhibited more intensive rural-urban linkages than the other surrounding villages. The availability of oranges, a high value crop that allows many families to participate in rural-urban linkages, was also taken into consideration.

Using the orange chain analysis, this chapter traces the process of orange production, transportation, distribution and marketing in both rural and urban areas. Thereafter, it goes on to look into the cost of transport involved, incomes accruing from the transactions, the number of employment opportunities created and the institutions involved. Thus, the case answers the questions posed earlier in Chapter Two on the factors that hinder the development of rural-urban linkages and shades light on how the linkages can be strengthened. The analysis is divided into four conceptual linkage categories, namely, the demographic, the economic, the infrastructure and the institutional linkages. These are further broken down into tangible variables as presented in Chapter Three. Masaki provides an elaborate rival case of the significance of socio-economic infrastructure and institutional linkages in regional development using the same variables studied in Mlandizi.

Village profile and the orange chain process

The village is located in Coast Region in Kisarawe District 26 kilometres from Dar es Salaam city centre. This traditional village was consolidated during the Villagisation Programme in the 1970s. It covers more than 4500 hectares of which 800 hectares are forests, 2100 hectares farms and 1600 hectares open forests. The vegetation is predominantly savannah woodland with scattered trees and shrubs.

The temperature means range from 25°C-30°C, with low temperatures occurring in July and high temperatures between October and January. The village experiences a bimodal rainy season, with the long season lasting from March to June and the short one between October and December. The mean annual rainfall is between 750 mm and 1000 mm.

Masaki village had an estimated population of 3,090 persons in the year 2000. More than 50 per cent of the population is less than 25 years of age and born in the village. The village population growth is not fast, as it only doubles after 20 years. The growth rate from 1978 to 1988 was 5.4 per cent per annum and not much has changed. The population growth can be mainly attributed to natural increase. A discussion with the village executive chairperson revealed that for the past eighteen years only four people had bought or sold plots in the village. This shows that very few people migrate to the village.

The road linking Masaki to other settlements is seasonal; therefore, it is accessible only during the dry season representing only six months of the year. The most important activity in Masaki village is farming, as it was cited by 80 per cent of the informants as the number one income generating activity. The second important activity is trade, which is mainly practised

by the youths.

Food crops grown at Masaki include maize, cassava, rice and potatoes; cash crops include orange trees, cashew trees, and coconut palms. Orange cultivation is the most outstanding activity because all the farmers interviewed practise it at different levels. Farmers prefer orange farming because it is less costly in terms of care and pesticides; therefore, it has better economic returns than cashewnuts. Once the crop is planted, one needs to till the land twice a year and spray pesticides once a year. According to the interview with an agricultural extension officer[70], one acre can accommodate 45 orange trees producing not less than 45,000 oranges in one season. The focus group discussion supports the view that orange farming was the leading cash crop followed by cashew trees and cassava.

The orange chain has seven main activities. The first activity is tilling the land, which the farmers and labourers do, and the second one planting, normally done by labourers. The third activity is spraying of pesticides and ploughing, while harvesting is the fourth activity, which is commonly done by both labourers and farmers. After these stages, the oranges are transported from the farms to the paved roads. Labourers carry the cartons on their heads. Then the consignment is loaded onto trucks and transported to urban markets, usually in Dar es Salaam, where commissioned agents take charge. The actors in the whole process are the farmers, the itinerant traders, the commissioned agents, the retail traders, the institutional suppliers and the consumers. The engine of the orange chain is triggered by the farmers who set out an informal relationship with the labourers, the itinerant traders and the transport agents to provide services and get paid after the sales in the urban markets and arrangements which is locally referred to as "*mali kauli*".[71]

The subsequent analysis will focus on the four conceptual variables, namely demographic, economic, infrastructure and institutional linkages. Each of the variables was broken down into measurable issues studied in Masaki.

Socio-demographic linkages in the orange chain

Demographic linkages as used in this study represent the types of movements by the urban and rural populations, the available labour-force, their ability to make innovations, and the health conditions that enable people to pursue their different livelihood strategies. At the household level, it is the quantity and the quality of labour available according to its ability to mobilise this asset and transform it into income and other basic necessities that often depends on the structure and composition of the household. This implies that active labour force available for use in agriculture and non-farm activities is crucial for enhanced rural-urban linkages and livelihoods. It is also the ability of the household to sustain its livelihood by means of migration benefits i.e. taking advantage of the availability of fertile land elsewhere for farming high value crops, looking for higher income jobs, and identifying markets for the farm produce. The proposition under investigation in this section is that rural-urban linkages are strong where there is better and reliable socio-physical infrastructure and that enhanced livelihoods are a function of rural-urban linkages.

Education and rural-urban linkages

Innovation opportunities in the orange chain in Masaki are rather limited. It appears that social facilities makes a crucial difference in the ability of the urban and rural poor to be innovative. Social services such as education ensure skills and knowledge that is used to improve peoples' livelihoods. Improving rural access to education promotes skills that are

70 Discussion with I. Namkumbe, the village Agricultural Extension Officer, March 2000

71 Mali kauli refers to the arrangement where labourers provide service and transporting agents provide transport without advance payment. Payment is usually effected after the sales in urban areas

used in the non-farm sector.

The village has one primary school with a capacity of 750 pupils. The school has six classrooms, five teachers and 18 streams. This means that there are three shifts per day in the school. The average walking distance to the school is 10 kilometres according to the head teacher. The following excerpt shows the condition of primary education in Masaki. The head teacher explains:

> We are trying to convince parents to contribute at least TShs. 2,000 for each pupil so that we can get a top up of the funds from Plan International (an NGO) to build new classrooms and make new desks but the response is very poor. Instead of the parents contributing to the school development, they seek to transfer their children to other schools. There is evidence that girls are given to early marriage (ibid.).[72]

School management becomes more effective when parents and local citizens are actively involved. This is because the teachers become more committed, students achieve higher test scores and better use is made of school facilities. The case of Masaki does not suggest that there is any incentive for either the teachers or pupils. Parents have less interest in school activities and pupils' educational well-being. For instance, meeting attendance by the parents in Masaki is very low. The parents do not attend school meetings because they complain of repeated requests for contributions to build classes and teachers houses. Besides, the village has more than 180 pupils to be enrolled for primary education but the school lacks capacity in terms of classrooms, teachers and staff houses. The school operates with 18 streams that are far beyond the ability of the existing staff. As a result, there is a big rate of dropouts; for instance, out of the 125 pupils enrolled in 1995, only 75 pupils reached grade seven in 2000. According to discussions with the head teacher Masaki Primary School[73], this shocking rate of dropouts from the primary school in the village is attributed to early marriages, poor school buildings, and shortage of teachers (Plate 6.1).

During the survey, the NGO Plan International was engaged in the construction of four classrooms to replace the old mud and pole ones. The Ward Education Officer added:

> Parents need a lot of sensitisation as regards the value of education. School fees and contributions have been one of the main reasons for parents refusing to bring their children to school. The pass mark is very low. In the year 2000, at ward level with 8 primary schools, only 20 pupils were selected for further education.[74]

Plate 6.1: Teachers houses at Masaki primary school

rch 2000

74 Discussion with Mr. Mwanjama Noza, the Ward Education Officer, March 2000

Source: Field survey, March to May 2000

Education is a long-term investment, the fruits of which come after a long period. People must be patient before they see the fruits of education. The lifestyle of primary school leavers has little difference from that of those who have not attended school. There is therefore no incentive for the parents or the pupils to attend primary school. Those who complete primary education have no jobs and in the past 5 years, only 11 pupils were selected for further education.

Because of lack of alternative activities, primary school leavers and those who have not attended school at all migrate to other settlements. However, those migrating to urban areas cannot be employed because of lack of education. They mostly end up being petty traders, commonly known as '*machingas'*. In the past, parents received remittances from the migrants, but these days they receive grand children to take care of; implying that instead of making life easier, migrations to urban areas continue making life more miserable for those remaining in rural areas. This evidence also suggests that those migrating to urban areas do not have reliable jobs that could provide enough income to care their offspring's. Thus, the family livelihood is continually eroded. The prevailing adverse conditions lead to meagre family livelihoods, which in turn lead to inadequate participation in rural-urban linkages.

The results suggest that lack of social services such as quality schools, teachers and classrooms affects the development of innovation capacity in the village to a great extent. The finding also suggests that culture contributes to the decline in educational standards. Early marriage of girls, for instance, seems to affect women's potential negatively because of ignorance[75]. According to the interview with the Ward Education Officer, most of the young married girls cannot read and write, which confirms that they did not complete primary education. Attempts by the District and Regional Authorities to change the attitude through meetings are constrained by inadequate primary school teachers, deficient classrooms and lack of teachers' houses, all of which discourage both the parents and the pupils.

Thus, the educational status of the people is critical to development of rural-urban linkages while development of rural-urban linkages is critical to the improvement of livelihoods. Without educated and healthy people, there cannot be innovations to solve emerging problems. People despair and wait for the government to help them. Therefore, the contention that rural-urban linkages are a function of the availability of socio-infrastructure seems to have been validated in this section.

Migration of people and labour-force

Labour is the greatest asset of the poor, and the ability to mobilise this asset and transform it into income and other basic necessities often depends on the structure and composition of the household. Poor individuals are not simply individuals. They are members of social groups located within institutions of families and households. Thus, the ability of the youth to respond to external environment is often determined by internal household factors that affect household relations and collaborations among household members.

In Masaki, active labour force (Appendix 21) is taken to be between the ages of 18 to 54. The estimated labour force available in the village is only 38 per cent of the total village population. This percentage is relatively low compared to the average household size of 6 persons (Table 6.1). In order to illustrate the situation in Masaki, two orange farmers reacted as follows:

I have five children and two wives. Two of my children work in Dar es

75 Ibid.

> Salaam while the rest are here because they are still attending primary education. In addition to my children, I have one grand son whom I stay with.[76]
>
> I am sixty-three years old and have three sons but all of them are not staying here. One is in Kisarawe market and he comes regularly to visit us but the other two are in Dar es Salaam. I have not seen them for two years now.[77]

Table 6.1: Average household size

Household size	Frequency	Total members in the H/Hs
1-5	3	20
4-5	3	12
5-10	20	111
>10	2	23
Average H/H size		5.9

Source: Field survey, February and March 2000

Among the range of interviewed households in Masaki, the leading movement is the seasonal trade between Masaki and Dar es Salaam involving young adults. The second type of movement is the migration of youths to the urban areas, particularly Dar es Salaam. According to the Ward Education Officer, pupils in this village finish primary education in their late teens because they start Grade One late. The figures in Appendix 21 also support this view. Accordingly, it is from the ages of 24 to 45 where we observe out-migration. Commenting on the exodus of youth in urban areas, the village Chairperson and the District agricultural officer had the following to say:

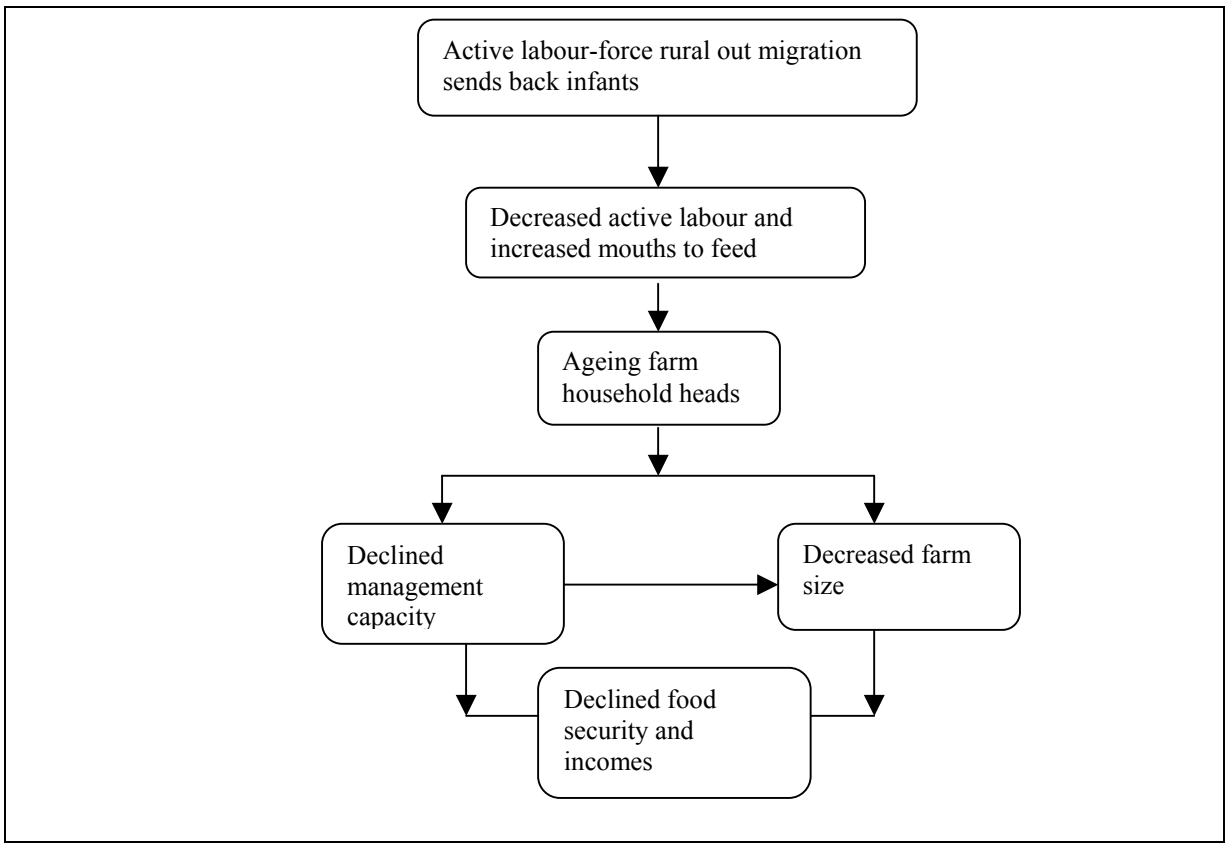
> To marry and to divorce is a matter of decision in our culture and it is very widespread. No one gets surprised if a woman is divorced. In fact, the more times a woman is divorced the greater respect she receives from the society. If you want to see what I am saying look at who are constantly moving in this village. It is the young ones especially young girls. They are not looking for anything specific but trying their luck (ibid.).[78]

The Village Secretary in Masaki added his side of the story:

> When the children finish school, they follow relatives in urban areas (girls and boys). If they get children in due course, these are sent back to their parents in the villages. Grand parents accept staying with the grand children anticipating that one day the son or the daughter will bring sugar, rice or clothing that will benefit them all. This serves as a guarantee that he/she will come back. However, in reality, it is an added burden to the old people in our village. Therefore, when these grand children finish their primary education, they follow the same trend. They would be lucky if their parents got a good job and invited them (ibid.).[79]

76 Discussion with Sega Ramadhani Omar, March 2000
77 Discussion with Zuberi Athmani Bakari, March 2000
78 Discussion with Mrs Mary Kitue, District Agricultural Officer, March 2000
79 Discussion with Mr. B. Mlemba, Community Development Officer Kisarawe, February 2000

Figure 6.1: Implications of out-migration on rural-urban linkages and livelihoods



Source: Field survey, March 2000

Therefore, labour is an important component at household level that shapes latter's livelihood either positively or negatively. If the active labour at household level is insufficient, the household suffers in terms of food security and participation in rural-urban linkages. The explanation given by the farmers indicate problems that are caused by the youth migration to urban areas. The exodus of active labour-force from the village tends to affect agricultural production by reducing the average acreage cultivated. Thus, the village faces a shortage of active labour force. Out migration of young people implies that the village labour pool subsists on old people. Those who go to urban areas cannot find employment due to their poor educational level. Therefore, they resort to petty trading. This reduces even father, the capacity of the members of the household to participate in rural-urban linkages because the expectation of remittances by those left in the village is limited. As a result, labour employment is high-priced compared to the other villages located on road[80], as it ranges from TShs. 15,000 to TShs. 25,000 to till one acre as opposed to TShs. 10,000 to TShs. 15,000.

There is no land problem in Masaki village and any one can own as much land as he/she wants. However, external factors such as poor infrastructure that causes seasonal accessibility of the village from urban markets; poor prices of the dependable crop and lack of capital as the urban traders shy away from extending credit to the orange farmers for the reason that orange farming takes long time (a year to wait for the sales); and that it is not competitive enough like tomato and okra; young people choose to migrate from the village to other areas.

Human reproduction and the spread of epidemic diseases such as AIDS constitute another negative effect of youth out-migration. Failure to get jobs in urban areas forces the young girls to resort to prostitution which may lead to either births of unwanted children who end up being street children or are sent back to the old parents in the village. Besides,

80 Discussion with I. Namkumbe, the village Agricultural Extension Officer, March 2000

prostitution poses a great risk of contacting and spreading epidemic diseases like AIDS.

Economic linkages in the orange chain

Economic linkages as used in this research represent the economic activities that are performed by a household so as to improve and sustain their livelihoods. The economic activities comprise the ownership of assets and human capabilities. Asset ownership is defined to include not only natural land and resources, but also economic resources such as income (cash), houses, jobs, the types crops grown, and markets access. An attempt is made to show how economic linkages influence rural-urban linkages positively or negatively, thus enhancing or inhibiting the rural and urban livelihoods. The proposition under investigation in this part is that enhanced livelihoods in rural areas are largely a function of rural-urban linkages.

Ownership of land and other assets

Land is a platform for livelihoods, and people make use of it for crop cultivation, livestock keeping, housing and forestry. As noted earlier, the main occupation of the residents of Masaki village is subsistence agriculture. The household survey results revealed that more than 25 out of the 28 household heads are engaged in subsistence agriculture. The average size of the farms is 9 acres per family where different crops are intercropped (Table 6.2).

Table 6.2: Average size of a farm

	1-5 acres	5-10 acres	>10 acres	Total
H/ Holds	10	8	10	28
% Age	37.5	29.1	33.3	100

Source: Field survey, in Masaki, March 2000

Access to land by gender in a household is therefore crucial to satisfy livelihood needs. On the face of it, access to land by women in Masaki village is in fact not seen as a problem although ownership could be a problem. Women, being the real producers of food at the family level, produce much of the food supply through subsistence farming, although their access to land is mainly through their spouses. The men control and inherit land in the family circles. Practical consequences of this practice comprise the following facts:

the husband usually decides on the management of land and the uses of its proceeds while the wife cultivates;

in case of divorce, the woman is often forced to return to her parents leaving behind property including the land she has cultivated for years; and

in case a woman becomes a widow, the male children or relatives who should take care of her inherit the property but not the woman.

In order to demonstrate how the level of land and other assets' ownership affect the various groups and livelihoods at household level (especially women and youth), results from the focus group supported the argument as follows:

> Getting married here is like a man carrying a piece of logwood on his shoulder. When he gets tired, he will drop it down and continue with his journey. If he wishes, he can pick another one on the way. Men make all decisions especially as regards the use of money. The problem we face as women is that we have little value once we are married, because we can be divorced anytime. If the harvest is big, the husband can decide to bring another young wife.[81]

81 Discussion with women group, May 2000, with members: Mwajuma Hussein, Mwanahamisi Abdallah,

Land ownership and the control of resources at household level are crucial for food security and enhanced rural-urban linkages. If women are the sole producers of food and income for the family and yet land ownership is not in their favour, one can foresee some sort of reluctance, especially in a polygamous society.

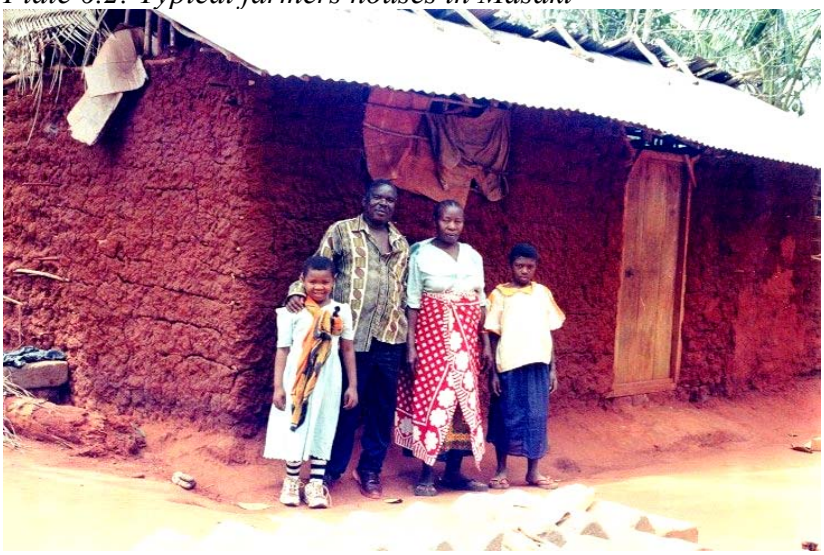
The fact that women access land through marriage and that they cannot own their own land and make decisions on the proceeds needs to be understood. In a polygamous family, economic activities are shared at household level, and the amount of share that each woman gets depends on the existing relationship to the husband. This implies that different women get different treatments from their husbands, thus affecting their level of participation in economic activities at household level. The quotation that relates marriage to someone carrying a piece of logwood also suggests that women feel insecure in polygamous families, which negatively affects their participation in rural-urban linkages.

Foregoing discussions show that women have only token rights over land, mainly its use being as they are married and not ownership. The investigation in this section suggests that participation of women in agriculture in polygamous families is sometimes minimal because men are the final decision makers of the use of the proceeds. As long as women are not assured of an even distribution of the proceeds after the sales of agricultural produce, their participation in agricultural development and rural-urban linkages will decelerate. In families where this is in practice, women become apprehensive and, as a result, their participation in family agricultural activities is jeopardised. This in turn affects the family livelihood strategies negatively, thus weakening participation rural-urban linkages. In such households, women resort to doing other non-farm activities like (*mama lishe)* open-air food kiosks, where the husbands cannot intervene.

The results also point out that within households, welfare depends not only on income but also on who controls income flows and expenditure. Evidence so far presented shows that women have decision-making power in the purchases of household food and, to a lesser extent, clothing. For the other household items such as clothing, children's education, visits to friends, they share responsibility but have less decision-making power than men. One area where men exercise the power is on luxury items like alcohol and cigarettes that may take the lion's share of the household income. This imbalance can have a negative impact on the strength of rural-urban linkages.

Furthermore, the type of houses owned by the farmers provides another indicator of the level of income and possible livelihood standard in an area. Plate 6.2 show that the quality of a house owned by one of the interviewed household in Masaki are of low quality; they are mud and pole houses with a grass thatch, or sometimes iron-sheet roofing.

Plate 6.2: Typical farmers houses in Masaki



Source: Field survey, March to May 2000

> Most houses her are built of mud and pole, some thatched with grass and few with CIS. To build a good house in the village one has announced that I am rich. People are afraid of witchcraft.[82]

The type of houses reflects the income of a household, although at times in Swahili families this can be an inadequate indicator. The family on Plate 6.2 own a fifty-acre farm of which 25 acres are planted with oranges. The type of houses displayed in this section show that the livelihood of this family is dejected (poor). At times, however, Swahili (which includes Kwere and Zaramos) people live in mud and pole houses not because they cannot afford cement block ones, but because of fear of witchcraft.

Multiple activities

Although non-farm activities have proved to generate high economic returns in rural areas (Bryceson 2000), people in this village will not leave their food production to others. Thus, involvement in non-from activities is a survival strategy and not a replacement of agriculture activities. Within the orange chain, evidence of multiple activities can be traced at individual and household levels. At the individual level, an orange farmer sells his/her oranges to the urban markets also some farmers buy oranges from fellow farmers to sell to urban markets. Using the profits earned, some farmers go beyond that by buying goods such as fish and services required in the village from the urban markets. Thus, the orange business provides an entry means to other types of business during the season. To illustrate this type of diversification, the following are the citations from different farmers:

> I have a farm of three acres, two acres for orange trees and one acre for other crops. I also have a kiosk where I sell soda, maize flour, salt and many daily household needs. One cannot survive by farming alone since some times the prices are so low that one cannot recoup the costs incurred, especially transport costs. [83]

> I have a 5-acre farm on which I plant with orange trees. Besides, I buy oranges from fellow farmers and send them to urban markets especially when the season is good. Before buying, I travel to the city to investigate

82 Discussion with Mens focused group
83 Discussion with Rajabu Ahmed Mkonge, (55 years), March 2000

> the prices and the level of supply in the urban markets.[84]
>
> I have a two-acre farm which I inherited from my parents. I plant cassava, maize and orange trees one acre. After selling the produce from my farm, I also buy from other farmers and sell at higher prices in Kariakoo, Buguruni or Tandika markets, which takes a day or two depending on the supply from other areas. I proceed to Kigamboni ferry to buy fish that are processed at home and sold in the village.[85]
>
> I am a farmer and own two and a half acres of land (orange trees inter-cropped with cassava and maize). I also own a kiosk where I sell sardines, maize, dried cassava and coconuts.[86]
>
> I own a two-acre farm with orange trees and cassava. Besides, I am also a professional tailor in the village. After coming back from the farm, I engage in sewing, especially women dresses.[87]
>
> I own three acres of land where I plant orange trees, cassava, cashew trees and maize. In addition, I buy coconuts, maize, cassava and oranges and sell them in Buguruni and Gongola Mboto in Dar es Salaam.[88]
>
> Although I have 10 acres of land (five with orange trees) and a shop in the village, I have also been the deputy chairperson Football Association of Tanzania since 1996 after retiring from teaching. You cannot depend on one source of income in this country. Faming alone in Masaki cannot make a farmer change his or her life.[89]

The above quotations suggest that farmers perform various non-farm activities as a survival strategy. The activities are complimentary and as Table 6.3 shows, some 10 farmers out of the 28 interviewed are engaged in more than one activity in the following categories:

- self-employment, agriculture, trading and processing;
- daily or weekly travel to urban areas to buy shop requirements;
- local wage labour opportunities like construction, produce haulage (porters);
- food vending (*mama lishe*); and
- self-employment like trade, agro processing and tailoring.

Table 6.3: Non-farm versus agriculture activities in Masaki

Type of activities performed	Frequency
1. Farming	14
2. Labourer	4
3. Farmer / trader/ shop / kiosk	10
Total	28

Source: Field survey, March 2000.

These activities are done as part-time activities carried out during the slack period in the agricultural season (Table 6.3). As their capital outlays are small, they are easy to undertake using the money earned through oranges sales and other agricultural products. The

84 Discussion with Tatu Situmai, (30 years), March 2000
85 Discussion with Mohamed Tuli, (32 years old), March 2000
86 Discussion with Khalfani Swedi, March 2000
87 Discussion with Maulid Kitenge, March 2000
88 Discussion with Shwaib Azizi Ramadhani, March 2000
89 Discussion with Mr Subira Mambo, Deputy Chairperson, Football Association of Tanzania, March 2000

respondents gave various reasons for their involvement in diversification activities. The following is a list compiled from various responses: help in raising cash income; income from agriculture is not enough; dislike for farming; need for self employment; agriculture is slow paying; illness; absence of reliable markets; reduction of risk by spreading income risk across several activities; and improving long-term income prospects by acquiring skills and assets.[90]

Plate 6.3: Transporting oranges to the urban markets and trade in the village centre

Source: Field survey, March to May 2000

The results from the men and women interviewed, focused groups, the village chairperson and the agricultural extension officer highlight six main findings supporting diversification:

Household composition implying that the number of active people in a household who can produce food and income is crucial.

Diseases and health: If active members of a household are sick then a household should find alternative income and food source other than agriculture.

Poor access to finance: A household that gets credit to participate in business or high value crop farming is likely to do better than one that does not.

Poor infrastructure services: Availability of reliable infrastructure to the settlement allows itinerant traders from urban areas to visit the village frequently and guarantees farmers of transport of their farm produce to the urban markets and purchase of goods needed for rural shops.

Low education: Educated members of a household speeds up innovative capacity and adjustment to alternative activities.[91]

Diversification attempts are often strategies to provide safety nets as a result of declining returns from agriculture or social cultural aspects such as pressure from an extended family (such as feeding the grand children), and income smoothing after displacement of active labour-force from the family. Diversification attempts include trading between urban and rural areas. The latter consists of agricultural produce and urban produced commodities.

Although diversification activities in Masaki have existed alongside agricultural activities for a long time, they are today changing due to the growth of cash economy and the fall in the price of their reliable crop i.e. cashewnuts. As a result, Masaki people feel that they

90 Discussion with women and men's group, March 2000

91 Discussion with men's group, March 2000, members: Salehe Seif, Charles Manega, Hamis Seif, Kombuken Simba, and Krispin Adeus, Ndugu Jalala Tambla, and I. Namkumbe

needed an extra source of income besides agriculture. Consequently, more than half of the interviewed households depend on non-agricultural activities, albeit at a small scale of operation. Manufacturing activities such as dressmaking and tailoring, carpentry, beer brewing, wood curving, shoe repair and tearooms form the leading sector. However, these are underdeveloped and dominated by well off households. The second sector comprise trading activities like buying and selling agricultural produce in a very small scale; frying and selling cassava, sweet potatoes, fish; and running a shop or kiosk.

The main problem preventing increased diversification in Masaki village is the poor and seasonal road linking the village with other settlements. The poor road condition confines accessibility to and within most settlements including Dar es Salaam to the dry season that lasts from July to February. Movement of people, goods and services outside that period is expensive, risky and difficult.

The small-scale level and quality of activities carried out at Masaki are also important to note, since enhancement of livelihoods depends on the income accruing from different activities performed at household level. Thus, the Masaki-Dar es Salaam trading activities exhibit low-level participation in diversification that also restrains livelihoods. The diversification level seems to be hindered by poor socio-physical infrastructure in the village that links the village to other settlements. As a result, the rate of household participation in rural-urban linkages is also constrained; thus, households have resorted to production for home consumption only.

Moreover, many farmers earn an income from orange farming that enables them to participate in non-farm activities and thus, contributing positively to their livelihoods. Evidence suggests that non-farm income is higher and more frequent than agricultural income, implying that it is more dependable. Therefore, these findings seem to support the hypothesis that enhanced livelihoods in rural and urban areas are largely a function of rural-urban linkages. Households in Masaki struggle to make the ends meet, but they are seriously constrained by the seasonal road and poor socio-infrastructure. The next section discusses orange as a competitive crop.

Economic significance of orange farming

Before villagisation, the main cash crop for farmers in Masaki was cashewnuts. After the fall of cashewnut price in the 1980s, many farmers switched to oranges as an alternative cash crop. These two main cash crops were studied in order to determine their economic significance. Let us assume that these crops have one central market Dar es Salaam where farmers buy their inputs at constant prices. Studying the two products by varying the distance to the market while assuming that all other factors of production are constant will help us to understand the location rent and the direction of agricultural development. The table below presents the location rents of the competing products. The basis for the caliculations in the table is Orange: Yield 23.6 tons/ha (CRSEP 1997); Market price TShs. 3,952,500; Production costs TShs. 187,500; Freight charges TShs. 297,000. Cashewnuts: Yield 0.45 tons/ha (CRSEP 1997); Market price TShs. 161,500; Production costs TShs. 322,500, Freight charges TShs. 10,000.

Table 6.4: Location rent for orange and cashewnut production depending on market distance

Market distance in Km.	Tomato production			Cashewnut production		
	Yields (TShs.)	Transport (TShs.)	Rent (TShs.)	Yields (TShs.)	Transport (TShs.)	Rent (TShs.)
0	3,952,500	0	3,952,500	161,500	0	161,500
50		297, 500	3,455,000		10,000	151,500
100		595,000	3,157,500		20,000	141,500
150		892,000	2,860,000		30,000	131,500
200		1,190,000	2,562,500		40,000	121,500
250		1487,500	2,265,500		50,000	111,500
300		1,785,000	1,976,500		60,000	101,500
350		2,082,500	1,670,000		70,000	91,500
400		2,380,000	1,372,500		80,000	81,500
450		2,677,500	1,075,000		90,000	71,500
500		2,975,000	777,500		100,000	61,500
550		3,272,500	480,000		110,000	51,500
600		3,570,000	182,500		120,000	41,500
650		3,867,500	85,000		130,000	31,500
700		4,165,000	-ve		140,000	21,500
750					150,000	11,500
800					160,000	1,500
850					170,000	-ve

Source: Field surveys, March 2000

Results from the table show that:

Orange production close to the market produces significantly higher rent compared to cashewnuts cultivation.

As the distance to the market increases, the rent for orange increases faster than the rent for cashewnut because orange cultivation leads to higher yields per hectare compared to cashewnut thus significantly increasing the cost of transport per hectare.

At 700 kilometres distance from the market, orange rent becomes zero while that of cashewnut production, the revenue is still positive to 800 kilometres.

Economically the commodity that has highest rent must be cultivated under given circumstances. The fact that orange can be cultivated economically up to 650 kilometres implies that orange farmers face stiff competition from suppliers as far as 650 kilometres such as Moshi, Arusha, Tanga, and Mbeya who might employ low labour and high yield varieties to compete with the farmer close to the market. The results seem to suggest that farmers in close to the market will require a deliberate policy such as introduction of processing industries to avoid stiff competition.

The composition costs of orange farming and trade

The stakeholders (farmers) were asked to identify all the costs of the activities performed in the season between production and selling of the produce in the urban areas. Up to nine types of activities and their costs were identified namely: production (including ploughing, pesticides, purchase of pesticides, harvesting, drying, separating and grading, drying, transporting to the roadside); transporting to the urban markets; municipal taxes and storage costs. Transport represents by far the largest component of variable costs 52 per cent (Figure 6.2). This confirms findings in Sub-Saharan Africa that transport represents the lion's share of the marketing costs (Badiane et al, 1997; Bryceson 1993). The second important variable is

the production costs, which is possibly high because of high inputs costs and active labour out-migration causing shortage of labourers. The cost of orange production represents 32 per cent of the total production and marketing costs. Lastly, municipal and market taxes account for 13 per cent of the variable costs (Fig. 6.2).

Table 6.5: Costs incurred and income earned by different actors in the chain

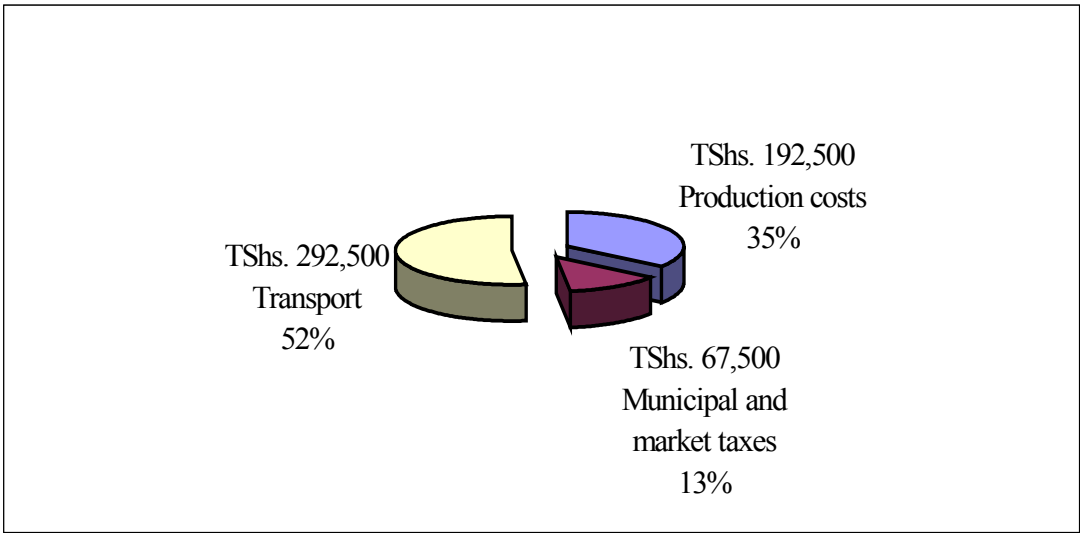
Activities	Farmer (costs)	Farmer-trader (costs)	Itinerant trader (costs)
Production costs (ploughing, pesticide and harvesting)	TShs. 192,500	TShs. 192,500	-
Farm gate price (gross income for the farmer)	TShs. 450,000	-	TShs. 180,000.
Municipal and market taxes	-	TShs. 67,500	TShs. 67,500
Transport (farm to roadside to Dar es Salaam)	-	TShs. 292,500	TShs. 292,500
Wholesale price in urban markets	-	TShs. 900,000	TShs. 900,000
Net incomes for the farmer	TShs. 257,500	TShs. 372,500	TShs. 90,000

Source: Field survey, December 1999 to February 2000

Since market fees do not increase proportionally, with trade volume, it affects primarily small farmers, as it is a regressive tax. Given that transport represents such a large component of farmer trader / itinerant traders' costs, they probably pay more taxes through gasoline taxes. As a summary, the structure of operating costs is dominated by the transport costs (Fig. 6.2).

To cope with the high transport costs during the harvest time, relatives, family members and friends are mobilised to help harvest oranges, especially when the prices in the urban markets are good. After selling the produce, the host family has money for food and if there are initiation ceremonies such as a *"mwali"* to be declared or boys to be circumcised, there is usually a big feast and a dancing ceremonies. This informal family norm is also used here as a safety net during harvest time when the farmer does not have enough funds. As a result, the long established family norms and links are used to save the family from paying harvest costs that most of the families cannot afford. In addition, the farmer postpones payment (*mali kauli)* of transport costs through informal agreement and trust until the produce reaches the markets, where the commissioned agent pays the costs and deducts the same from the farmers end sales.

Figure 6.2: The breakdown of orange production and trading costs



Source: Field survey March 2000

Plate 6.4: Many farmers fail to transport their produce to the urban markets

Source: Field survey, March to May 2000

Seasonal commuting to urban areas

Since the farmer-trader relationship is more profitable than the relationship with the itinerant traders, one wonders why farmers continue selling their produce to itinerant traders. Reacting to this question a farmer expressing his feelings and experiences about sending agricultural products to Kariakoo from Masaki village commented:

> In Kariakoo, there are big mouths (the traders). You have to pay transport, money that you have to borrow or agree with the transport agents. Transport costs are excessively high and unless you are sure of the prices in town, you would rather not attempt. After reaching Kariakoo, you hand over your consignment to the wholesaler and you have to wait for two to three days. If the traders happen to be there, then you are in trouble because they may conspire with the commissioned agents and it may take you longer before your produce is sold. In the end,

> you will have spent all the profit you would have accrued in town. It is more expensive and risky.[92]

Plate 6.5: Oranges left to rot in the farms as a result of high transport costs

Source: Field survey, March to May 2000

Commuting from Masaki to urban markets during harvest season is an expensive venture and few manage to meet the cost. During the rainy season, the costs are even higher because of the slippery road. In addition, the quotation above shows that it is difficult for the rural farmers to access urban markets because of the ties that exist between the itinerant traders and the commissioned agents. As a result, farmers rely on the prices offered by the itinerant traders and farmer-traders, which are far lower than the urban markets prices. Most of the produce is therefore left to rot in the farms (Plate 6.4; 6.5).

Infrastructure and rural-urban linkages

Infrastructure linkages stand for the basic infrastructure and producer goods such as roads, ease of contact to settlements, and communication that people use to pursue their livelihoods. Improved infrastructure may enable local producers to enter urban markets or become more competitive in reducing transport costs, although this by itself cannot induce growth. Thus, where there is a latent demand for resources from rural areas or products from urban areas, the provision of affordable means of transport and communication, namely radios, newspapers and communication facilities is eminent. This section will investigate the role of infrastructure linkages in improving Masaki's economic performance and the well being of its population, by studying the types of roads, accessibility, and the level of communication with the other settlements.

External and internal transport in Masaki

Masaki is linked to Kisarawe and Dar es Salaam by an earth road that is accessible only during the dry season lasting for eight months. Very few public transport buses go through this road in the wet because of the numerous potholes. The village link to the other surrounding settlements off the main road is also a problem (Plate 6.6).

All the 28 interviewees in Masaki reported that the road was bad and seasonal. Twenty-three heads of households interviewed ranked the road as one of the leading problems in the village. The surface of the trunk road from Dar es Salaam via Kisarawe town to Masaki

92. Discussion with Mr. Subira Mambo, March 2000

consists of murram and earth. The Dar es Salaam-Kisarawe trunk road is in the process of being resurfaced into murram quality. This road is difficult to pass through in the rainy season because it is very slippery.

Table 6.6: Characteristics of roads linking Masaki Dar es Salaam via Kisarawe town.

Route	Distance	Alignment	Surface condition	Drainage facilities
Masaki Kisarawe Kisarawe Dar es Salaam	26 km.[93] 25 km.	Very bad Fair	Muddy Partly tarmac partly murram	None Very Poor

Source: Field survey, and Kisarawe District Engineer's Office, March 2000

The road shoulders are either overgrown with weeds or completely washed away by erosion. The bridges and culverts are low and narrow and some of the culverts are completely blocked (filled with silt). This poor condition has led to the isolation of Kisarawe town and its surrounding villages from the rest of the country. The village supplies quite a lot of agricultural produce to the city but it does so at a very high cost of transportation. An average travel time between Dar es Salaam and Masaki is 1.7 minutes per kilometre at a cost of TShs. 16 per kilometre in the dry season; and 3 to 5 minutes per kilometre at a cost of TShs. 32 per kilometre (District Engineer Kisarawe March 2000). This implies that in the dry season farmer's part with TShs. 736 and in the rainy season, they pay TShs. 1,304 to Masaki.

The road conditions between Masaki and Dar es Salaam limit accessibility to the village to the dry season i.e. eight months from July to March. Movement of goods and people outside these months is both unreliable and risky. Due to lack of maintenance of the road, only lorries and big buses use the route throughout the year. As a result, there are very few operators ready to operate along the route, due to high costs of maintenance. According to the foregoing, interviewed farmers observed:

> During the dry season it takes a normal truck one and a half hours to reach our village from Dar es Salaam; but during the wet season, the road is more or less closed. The first truck from Dar es Salaam, which leaves the city at 6 am, arrives here at 2 p.m.[94]
>
> During the rainy season there is almost no truck that uses this route. We walk for 4 hours to the neighbouring Chanika village to get transport to go to the city (a distance of about 16 kilometres).[95]
>
> It is almost impossible to go through this road during the rainy season. You cannot transport anything i.e. bananas, oranges, cassava. If there happens to be a truck, the price is two or three times the normal one. In the rainy season, we pay TShs. 2,000 to transport a bag of cassava and TShs. 1,000 to transport a carton of oranges to Dar es Salaam.[96]

A farmer expressed his views as regards the cost of transport as follows:

> This year (2000), I sent only one truck of oranges to Tandika market with about 40,000 oranges. After selling at TShs. 4 an orange, I deducted the other costs including transport (TShs. 80,000 [97]) harvesting (TShs

93 Km=Kilometres
94 Discussion with Situmai Kondo, Mathukudi, March 2000
95 Discussion with Twahiri Mizungu, March 2000
96 Discussion with Ramadhani Abdallah, March 2000
97 One US$ = TShs. 810 March 2000

> 20,000) and taxes (TShs 24,000). Finally, I had to borrow a bus fare to return to the village from the urban traders because I could not even pay the incurred costs. I have left these oranges to rot in the farm because of the high transport costs and the poor prices in the urban markets.[98]

Plate 6.6: Road leading to the orange farms

Source: Field survey, March to May 2000

Table 6.7: Average costs of transport

Source and destination	Cost of transport	Approximate distance	Remarks
Farm to roadside	TShs. 300	> 5 km	The costs vary depending on the distance from the road.
Masaki Dar es Salaam	TShs. 1,000	51 km	The cost is high and arrival on time is not reliable.

Source: Field survey, March to May 2000

The total cost of transporting oranges to the urban markets is TShs. 1,300 per carton. Transport costs amounts to one third of the total income received in urban markets. Expenses incurred by the farmers are escalated by the transport costs, which account for more than one third of the selling price in the urban markets (Fig. 6.2). Accordingly, most farmers are poor as demonstrated by the type of houses they live in. One cannot explain how a farmer who owns and cultivates 25 acres of land annually, lives in such a ramshackle house. As illustrated by the direct quotes presented, sometimes some farmers fail to get bus fare back to the village after selling their produce and paying the amount owed in the urban markets. As explained earlier through '*mali kauli',* labourers and transport agents owe the farmer. Thus, after receiving his/her pay, he will disburse the unsettled bill by Transport agents and labourers who may accompany him to the markets.

These results suggest that the intra-village transport in Masaki is very poor, both in the dry and wet seasons. There are no paved roads in the village except footpaths leading to the farms, which are located up to ten kilometres from the main road. As a consequence, the transport cost of oranges to the paved road amounts to TShs. 300 per carton of 500 oranges.[99] If there were paved roads to the farms, cost burden would be less and to the farmers' advantage, since transport takes more than half of the farmers' earnings. Thus, the transport cost burden constrains livelihoods, rendering farmers less capable of participating in rural-

98 Mr. Zuberi Athmani Bakari, May to October 2000

99 Discussion with Jalala Tambla, the Village Executive Secretary, and I. Namkumbe, the Village Agricultural Extension Officer, March 2000

urban linkages.

In order to demonstrate the problem of internal and external transport in the village, direct quotes from the focus group discussion held at the village centre are in place:

> Put the transport card outside the village circle because we do not benefit anything from this road. This road has been neglected; they maintain it only close to the elections or when the leaders visit our village.
>
> Very few practise commercial agriculture here because of the poor transportation facilities. The road has been a thorn in our flesh for a long time.[100]
>
> We carry our agricultural produce on heads to the village centre to wait for transport. There are no paved roads from the farms. When you want to go to the farms, you must be two or three because there are so many monkeys here. You have visited some of the farms; did you see any roads?[101]

In addition, an interview with a truck transport agent who plies between Masaki and Dar es Salaam, corroborates these findings as follows:

> Look at my truck, which is just 4 years old. Maintenance costs of this truck are very high. It is on this road every day. In fact, I serve this area because I am just providing service to the people. Besides, I am from Kisanga village (a village further beyond Masaki on the way to Selous Game Reserve). There is no other way: either they pay a high fare or walk. Who will bring his truck to this area at a cost less than what we are charging now? (TShs. 1,000 per head).[102]

The explanation by the transport agent corroborates the earlier findings as explained by the farmers and the key informants regarding the costs of transport. Road condition is crucial as it has an enabling effect in enhancing rural-urban linkages. For instance, as a result of poor maintenance of the road between Dar es Salaam and Masaki, very few traders and trucks operate along the route. Consequently, it is costly because the farmers have to travel to town and spend a day or two waiting for their produce to be bought. The total cost of transporting one carton of oranges from the farm to the urban markets amounts to TShs. 1,300; which is one-third the selling price in urban areas.

Key informants in Masaki, including the ruling Party Village Chairperson, the Village Executive Secretary and the Ward Agricultural Extension Officer supported the results as follows:

> For the most part of the year, this road is bad so that very few trucks use it. A contractor comes and grades the road, puts some murram for just a small portion of the road and that is it. If we see a grader, we start asking who is coming.[103]"
>
> From the end of February to the end of June, the road is so bad that we survive by the grace of God. I remember when a lorry overturned one year ago (1999); a pregnant mother died while she was travelling to

100 Discussion with Jalala Tambla, the Village Executive Secretary, March 2000
101 Discussion men's group, March 2000, members: Salehe Seif, Charles Manega, Hamis Seif, Kombuken Simba, and Krispin Adeus
102 Discussion with Athmani Mwinyimkuu, the transport agent, March 2000
103 Discussion with Saidi Mwinchumo, the ruling party Village Chairperson, March 2000

> Kisarawe for delivery.[104]
>
> Some of the oranges come from Lushoto-Tanga, Moshi and Iringa. They all arrive in Dar es Salaam at the same time. As a result of market saturation in urban areas, oranges are left to rot in the farms. I think the only solution is to have a fruit-canning factory to rescue the farmers.[105]
>
> Last year many farmers left their oranges and cassava in the farm to rot because of low prices. For instance, Twahiri Mzungu left 10 acres of cassava and 7 acres of oranges un harvested. In the past, there were some Indians who used to come and harvest all the oranges for the Dabaga Fruit Canning Factory but these days they no longer come.[106]

In addition a discussion with the Dabaga Fruit Processing Industry marketing representative in Dar es Salaam he revealed the reasons that prompted them to stop buying from the villages surrounding the city as follows:

> In the 1980s, we had a fruit-canning factory in Dar es Salaam and we used to buy our supplies from the villages surrounding the city. The costs proved to be high because the imported products became cheaper than the locally produced ones. Besides, there were a lot of artificial juices and powders being imported. Therefore, the challenge was to find a means of producing at lower costs. As a result, we started our own farm in Iringa where we also built a big processing factory. In this way, we managed to cut down the costs of transporting the produce long distances and the risks of the produce rotting.

The above interviews with orange farmers and the village leaders suggest the following:

The government has failed to maintain Masaki Dar es Salaam road for a long time. It is repaired on an *adhoc* basis when the national leaders visit the ward or the village or during elections.

- Both internal and external transport constrains the livelihoods of the farmers and as a result, their participation in rural-urban linkages is limited.
- In case of rains during the harvest season, farmers cannot afford transport costs of their harvest to the urban markets. Those who can, end up getting losses because of low prices offered in the urban markets since the production cost added to the transport costs exceed the selling price.

Evidence from the above sources confirms that internal and external transportation from Masaki to other settlements is a severe problem not only for transporting agricultural commodities but also for people. This supports the thesis that rural-urban linkages are a function of enhanced socio-physical infrastructure. Besides, the results also show that much of the farmers' efforts are wasted because they (farmers) are exposed to the vagaries of commodity markets and often fall prey to the intrigues and whims of the intermediaries and commissioned agents. As a result, a lot of produce is left in the farms to rot every year because they fail to send their produce to the markets, or if they manage to send their produce to the markets, the price they receive are very low (Plate 6.4; 6.5). This justifies the significance of affordable forward and backward linkages. The farmers and key informants stated reason for their inability to expand their agricultural activities as being lack of affordable and reliable transportation facilities including roads. For this reason, they are

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104Discussion with Jalala Tambla, the Village Executive Secretary, March 2000
105 Discussion with I. Namkumbe, the Village Agricultural Extension Officer, March 2000
106 Discussion with Athmani Tuli, the Executive Village Chairperson, March 2000

unable to participate more fully in rural-urban linkages to improve their livelihoods.

The results suggest that although the farmers point a finger to the markets, forward linkages, for instance, affordable transport is fundamental if at all one is to enhance rural-urban linkages. The bona fide problem is in fact not the availability of markets, but high costs of transport and the absence of value added.

Institutional linkages

Institutional linkages refer to the institutions, the relationships and norms that shape the quality and the quantity of the society's interactions. Increasing evidence shows that social cohesion is critical for societies to prosper economically and for development to be sustainable. This involves horizontal associations between people consisting of social and associated networks that have effect on productivity and well-being. Horizontal associations increase productivity by reducing the costs of doing business. Thus, it is not just the sum of the institutions that underpins a society but it is the bond that holds them together.

According to Chambers (1977), institutions are the rules of the game that consist of three main institutional underpinnings. With regard to this study these include: the procedures and rules the people of Masaki (orange chain) use to make decisions; the traditions and the legal norms in Swahili culture; and the existence of organisations, civil society and family associations which influence rural-urban linkages in the orange chain. These are the essential milestones of a society, though often taken for granted by economists. The presence or absence of these very structural arrangements crucially affects the livelihoods of the people in both rural and urban areas. Unless they are in place, even the best-designed policies will fail since economic incentives do not produce the expected impact.

The proposition under investigation in this part is that locally crafted institutions provide sufficient and acceptable conditions for rural-urban linkages. This section discusses the actors in the orange chain from production in rural areas to marketing in urban areas, the norms and rules and the organisational structures that might otherwise affect negatively or positively the orange trade (Figures 6.2; 6.3 and 6.5).

Informal institutions: a basis for enhanced rural-urban linkages

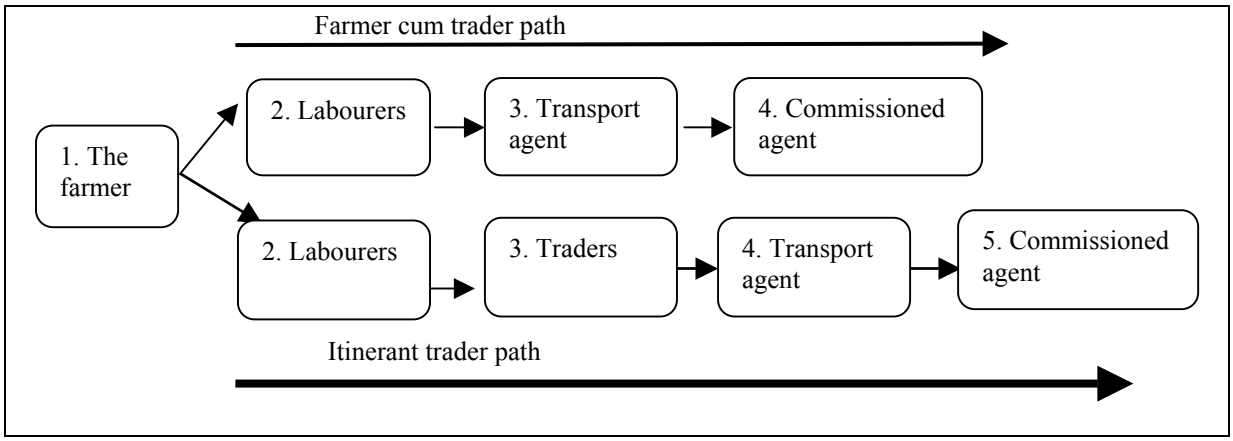
Orange farming is undertaken by individual families and entails preparation of the farm, ploughing, pesticide spraying, harvesting, processing and transportation to the markets. On the face of it, almost all families who participate in orange farming operate using household labour only, although some wealthy families hire labourers. Activities that are performed by labourers include ploughing, pesticide spraying, harvesting, loading and unloading. In many cases, relatives and friends (neighbours) support each other during harvesting, especially when there happens to be a good market potential in urban areas. There are two possible scenarios in the orange trade process, one involving the itinerant traders and the other without the itinerant traders. In the case of the latter, the farmer combines the roles of the trader and the farmer, and may thus be referred to as farmer-trader.

Scenario one: Farmers till their land by hiring labourers according to their capability. The labourers are the daily wage workers that till the land, harvest and pack the oranges, carry the harvest from the farm to the roadside and load trucks. Both the farmers and the traders pay the labourers at different stages of the chain sometimes on credit. When the oranges are ripe, the middlemen (also called itinerant traders) buy crops from the farmers and hire trucks to transport the consignment to the urban markets. They either sell to commissioned agents or supply to institutions or retail customers. The trucks are paid after selling the produce in urban markets (*mali kauli*), implying that the traders do not need to have ready cash.

The cost of transport depends on the road condition and waiting time at the farm, at the

roadblocks and at the urban market. To transport the produce from rural areas to the urban markets, one has to pay taxes. The tax collectors are the government representatives who mainly collect crop taxes that are part of the district revenue. The taxes are usually paid at the roadblocks stationed between the city and the village for all agricultural products leaving the village. In urban areas, these taxes are paid when the farmers/traders arrive at the market before the final sales are transacted.

Figure 6.3: Actors in the orange trade: rural-urban[107]



Source: Field survey, December 1999-February 2000

Scenario two: The farmers are also sometimes farmers-cum traders since they buy produce from their fellow farmers and sell it in urban markets in addition to selling their own produce. The itinerant traders make every effort to frustrate the relationship between the farmers and the commissioned agents by reducing their profit margin. Besides, it gives the farmers a chance to get more information about the urban marketing procedures and prices. In Masaki, only a few rich farmers are able to buy and sell the produce from others because it involves high risks in case of broken trucks and low prices due to saturation of the market in urban areas.

One important informal relationship is the trust that exists between the farmers, the farmer-traders and the itinerant traders. The farmer-traders and the itinerant traders collect the produce purely on trust, as the payment is effected after the sales of the consignment in urban areas *(mali kauli*). As regards the itinerant traders, the farmers travel with them to urban markets, whereas for the farmer-traders they rarely accompany them to the markets since they are fellow villagers.

To substantiate this information different farmers use different techniques as presented below:

> I often wait for the traders to buy their first round of oranges, then for the other rounds, I send my oranges to the urban markets. But before I send the oranges, I go to the markets to make a reconnaissance survey of the situation. If it is profitable to send my oranges, then I go quickly back home before the market is flooded, harvest the oranges and send them to the market. It is very risky; if you are unlucky, you can reach the market and find it flooded with oranges then *"biashara imedoda"* (failure in business).[108]
>
> The type of farming we practise does not enable us to pay for all the activities before selling the produce. For instance, labourers work for, say, three months; they are paid in advance only one month, for the other

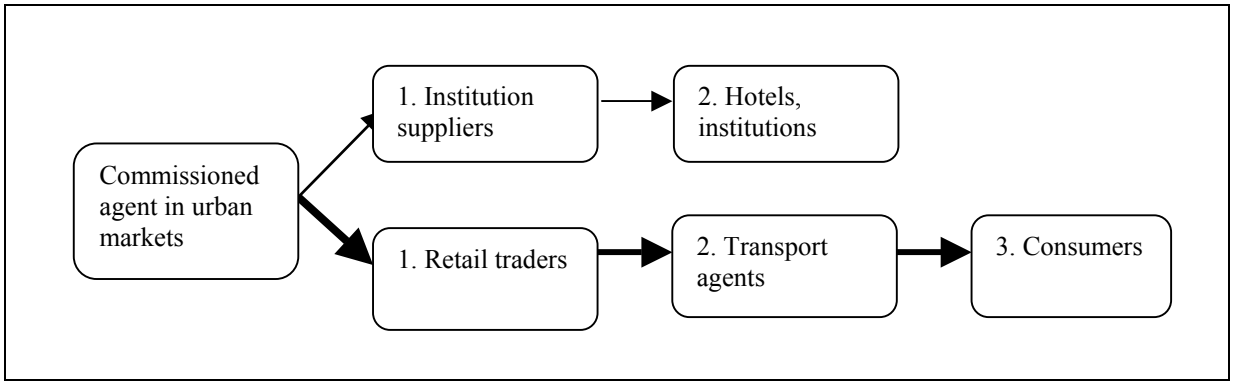
107 The thickness of the arrows indicate the volume of business in each activity
108 Discussion with Yahya Seif, March 2000

> months, they will be paid after the sale of the produce. Likewise, the commissioned agent in the urban markets pays for the cost of transporting the produce to the urban markets that will then be deducted from the sales.[109]

The main difference between the two scenarios is that the farmer who sells his/her produce at farm gate prices receives a gross income of TShs. 123,000 per 45000 oranges from one acre, whereas the farmer-trader who risks to send his/her produce to the urban markets receives a gross income of TShs. 159,000 per 45000 oranges (Table 6.5). The farmer-trader has to incur costs of loading and unloading, transportation, risks of getting low prices in the market, accidents, and risks of some oranges rotting in case of truck breakdown (Table 6.5). The itinerant traders who buy the produce from the farmers usually supply special institutions, or sell in the city streets like Mwenge, Tabata Relini, where they fetch higher prices than those offered at wholesale markets.

When the consignment arrives at the market, it is handed over to the commissioned agent (Figure 6.5). The number of cartons is ascertained and the farmers together with the commissioned agent negotiate the price. The commissioned agent usually pays in advance the transport costs and the market taxes, both of which are later deducted from the farmer's pay after the sales. Besides, they may also advance the farmers some money to meet some of the costs incurred. The farmer can either wait until the oranges are sold or return to the village and come back after two or three days. All these arrangements are not written down. They are purely done on trust. The only thing that is written down is the number of cartons and the price agreed upon between the farmer and the agent.

Figure 6.4: The actors involved in wholesale trading: urban areas



Source: Field survey, December 1999-February 2000

Thus, marketing in urban areas is performed at three stages as follows (Figure 6.5):

- the farmer and the commissioned agent agree on the selling price;
- the commissioned agent sells in the wholesale market to the retail traders or to institutions provided the price is higher than that agreed with the farmers; and
- retail traders transport their produce to their respective neighbourhood markets in the city and sell to consumers.

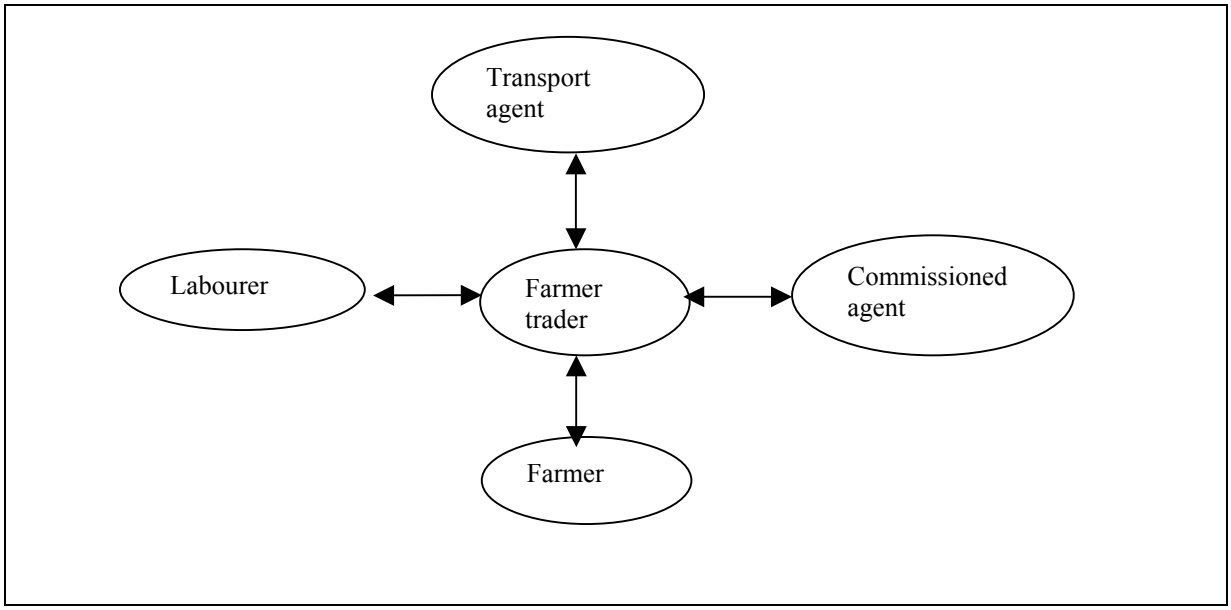
The emerging informal networks in the orange chain

As regards institutional linkages, there exist important informalities that are commonly neglected in policy making, although they are very fundamental strategies adopted by the rural and urban stakeholders in rural-urban linkages as safety nets. Informal networks involving the farmer-trader (Figure 6.5) are as follows:

109 Discussion with Subira Mambo, March 2000

- farmer versus labourers: labour offered on credit;
- farmers-trader versus farmers: farm produce purchased on credit *(mali kauli);*
- farmer-trader versus transport agents: the agricultural produce transported on credit from the village to the urban markets; and
- farmer-trader versus commissioned agent: agent receives the consignment without paying ready cash (*mali kauli)*.

Figure 6.5: Informal credit network involving farmer-trader interactions

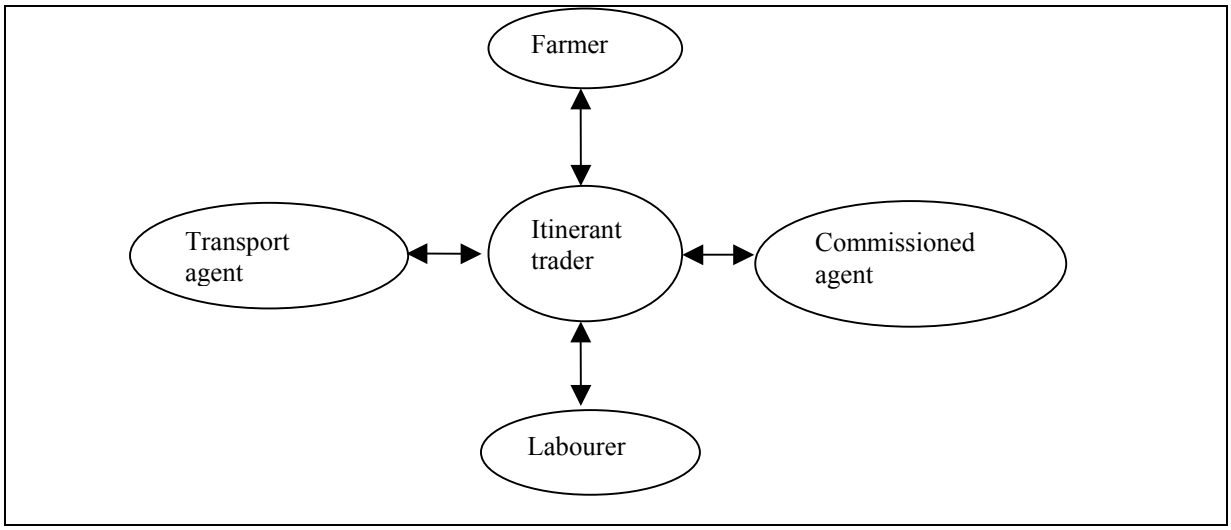


Source: Field survey, December 1999-February 2000

Informal networks involving the itinerant trader (Fig. 6.6) are as follows:

- itinerant trader versus labourers: labour offered on credit;
- itinerant trader versus farmers: farm produce purchased on credit;
- itinerant trader versus transport agents: the agricultural produce transported on credit from the village to the urban markets; and
- itinerant trader versus commissioned agent: agent receives the consignment without paying ready cash.

Figure 6.6: Informal credit network involving itinerant trader interactions



Source: Field survey, December 1999-February 2000

Informal agreements: the engine of orange farming

The two informal credit networks in Figures 6.5 and 6.6 provide two very fundamental networks for enhanced rural-urban linkages in Masaki. Short of these networks, the interests of the small farmers, the trader, the labourers, the commissioned agent and the transport agents remain excluded from the economic system and become economically unattractive. The two informal networks are a result of lack of credit institutions to support orange farming. Therefore, the emergence of these informal institutions was meant to tackle the structures that constrain orange farming and marketing. The farmers use these informal credit institutions as a survival strategy so as to continue participating in orange farming.

Without the trust that exists between the farmers, the traders, the transport agents, the labourers, and the commissioned agents, the interaction and transactions between these actors could not have occurred. Thus, informal credit networks permit the participation of many small farmers in the orange farming without having to pay all the costs in advance, while also creating employment for the traders, the labourers, the commissioned agents and the transport agents. These findings have validated the thesis that locally designed institutional relationships are crucial for enhanced rural-urban linkages.

Hence, such informal institutions that strongly affect the lives of stakeholders are crucial and a *sine-qua-non* for the enhancement of rural-urban linkages. If these institutions are supported, the farmers, traders, transport agents and commissioned agents will become part of the economic system and economically attractive. Consequently, rural-urban linkages will be enhanced.

Summary of key findings in the chain

This case was selected as a rival case to test propositions one, two and three set out earlier in Chapter Two, that enhanced livelihoods in the impact region are largely a function of enhanced rural-urban linkages; locally crafted institutions provide sufficient and acceptable conditions for rural-urban linkages; and rural-urban linkages are stronger where there is better and reliable socio-physical infrastructure.

Table 6.8: Summary of the main findings of the Masaki-Dar es Salaam case

Issue	Main findings	Actors	Remarks
Demographic linkages	Youth emigration Lack of social services Early marriages	Youths	Decreased women participation in rural-urban linkages Decreasing farm size Decline in food security
Economic linkages	Access to land is important but land ownership is crucial	Women and youths	Decreased participation in rural-urban linkages
	Primary diversified activities	Youths and farmers	Diversification is important as a survival strategy and for participation in rural-urban linkage
	Absence of modern tools	Farmers	Tools used have an impact on the level of participation in rural-urban linkage
Infrastructure linkages	Intra-village transport dominated by walking External transport is only for six months	Farmers, labourers, itinerant traders, and transport agents	All weather roads and motorised transport essential for long distance transport Carrying of agricultural produce accounts for considerable amount of workload and time
	Lack of information dissemination	Farmers	Information on prices, supplies, and demand assists production planning and offers a choice of how much one should participate in rural-urban linkages
Institutional linkages	Existence of informal networks	Farmers, labourers, farmer-traders, itinerant traders, transport and commissioned agents	Commonly neglected informalities like informal credits, hired labour on credit, transport without advance payment is fundamental for enhanced rural-urban linkages

Source: Field survey, December to March 2000

The empirical evidence presented above seems to validate all three propositions. The four conceptual variables, namely demographic, economic, infrastructure and institutional linkages have contributed to the observed low level of rural-urban linkages, thus leading to the following conclusions:

- The availability and quality of socio-economic services like schools etc have an impact on rural-urban linkages; if such services are poorly provided, they reduce the innovation capacity; this in turn constrains livelihoods.
- Youth emigration is fuelled by lack of financial resources with which to participate in non-farm activities as a result of poor returns from agriculture. Hence, migration is considered an alternative.
- Although household sizes are large, they mainly constitute grandchildren. Worse, young people are not interested in understanding family activities. As a result, families produce for home consumption. Looking after the grandchildren is regarded as a survival strategy by the grandparents.
- Access to land by gender is important but ownership of land is fundamental, especially for the producers at household level. Lack of land ownership as opposed to access through marriage makes those affected participate in farming without much devotion.
- Affordable transport is critical to the economy as a complement to other factors, such as the cost of inputs, which may lower or hike the production costs, inhibiting or

enhancing rural-urban linkages.

- Locally crafted institutions like the informal credit arrangements in Masaki are fundamental alternatives (safety nets), as they create employment to different parties, allowing them to be part of the economic system.

Therefore, suffices to say that propositions One, Two and Three in this case have been validated. Thus, the need to develop ways of tapping the salient potentials in migration, economic diversification and institutional relationship adapted by the farmers as survival strategies due to lack of dependable forward and backward linkages is vital.

7. Cross case analysis: Synthesis of issues

The main goal in this chapter is to pool together particular issues that were identified in the two commodity chains so as to build a logical account that will lead to concrete evidence in addressing central issues of the study. This study should therefore, be able to provide adequate evidence to inform policy makers on the importance of rural-urban linkages in enhancing livelihoods. Besides, in a scientific research one desire to fulfil the tie-up of the findings with a unifying theory and give direction to policy implications, whilst at the same time authenticating the research propositions.

Thus, the analysis will be based on the conceptual variables developed in Chapter Three, namely, demographic, economic, infrastructure, and institutional linkages. For each of the above categories the research developed specific verifiable indicators that were used to collect data pertaining to the individual cases. By focusing on these variables together and at different stages in the chain, it helped the research team to collect a wealth of information in order to discover the needed evidences to interpret the issues under investigation. Analysis of the performance of these variables in the two commodity chains showed not only important specific variations, but also a number of similarities. This chapter highlights the findings of the conceptual issues in matrices (Tables 7.1, 7.4, 7.6 and 7.7) as a framework.

In-built in the research approach is the principle of triangulation that is one of the central methodological tools seeking to countercheck the collected data and determine the validity of the conceptual issues. To start with, the cross case will compare the two case studies using the conceptual categories in order to assemble the necessary evidence emanating from them to authenticate the propositions, namely:

enhanced livelihoods in the impact region are largely a function of rural-urban linkages,

locally designed institutions in both rural and urban areas provide a sufficient and acceptable basis for enhanced rural-urban linkages, and

rural-urban linkages are strong where there is better and reliable infrastructure facilities**.**

The commodity chains: convergence and divergence

The Mlandizi-Dar es Salaam chain is sustained on the one hand by the informal credits from commissioned agents which are advanced to the farmers to finance the services offered by the labourers, transport agents, and the buying of seedlings. On the other hand, the Masaki Dar es Salaam chain is sustained purely by the informal relationships (*mali kauli*) that are initiated by the farmers with the labourers and the transport agents who agree to provide their services on credit and to be paid after the sales have been carried out in the urban areas. Thus, the engine of the tomato chain farming is the commissioned agent, whereas the engine of the orange chain farming is the farmer who initiates the informal relationship with the service providers.

A look into the operation of the two chains seems to suggest that the tomato chain is driven by both informal credits and trust whilst the orange chain is triggered by informal trust and relationship of the farmer with the other actors. An explanation from the commissioned agent explicated that the credit advance is determined by the level of annual accessibility of the village; the time taken from planting to harvesting (more time entailing more risk); the amount of credit required; the trust that already exists between the financier and the farmer; and the size and legal ownership of the farm. As a result, the distance from Dar es Salaam is not important but accessibility to the farms and markets is crucial.

The socio-demographic linkages in rural-urban linkages

Socio-demographic linkages as used in this study represent the educational level, the skills,

the capacity of the population to apply acquired skills, and good health. All these enable people to pursue their different livelihood strategies. The selection of the two cases with different geographical locations was intended to show how educational level and people's movement in the impact region influence rural-urban linkages. In addition, each individual case was intended to provide an answer to the questions relating to what inhibits the development of rural-urban linkages and to authenticate or reject the proposition that rural-urban linkages are strong where there is better and reliable infrastructure facilities.

The bond between education and rural-urban linkages

What evidence is there from the two case studies to refute or support the theoretical proposition? The two case settlements have both primary and secondary schools. In Masaki, the schools lack adequate teachers, school furniture, staff houses, and have unfinished classrooms. This has resulted in poor enrolment, poor school attendance and low performance national examinations. Thus, the school environment comprising buildings that are built of mud and pole, furniture, and poor performance in examinations at the national level have a direct negative effect not only on children but also on the parents. Parents compare the achievement of the pupils who have attended school with that of those who have not attended as a measure allowing their children to attend school.

The skills and knowledge acquired in school enables youths to participate in varied forms of activities such as retail trading, operation of kiosks, and hair cutting saloons in the village rather than shifting to urban areas. This mental exposure of urban life at school has proved important to pupils from migrant families in Mlandizi. As a result, the youths who finish school are more prepared to take part in rural-urban linkages since the opportunities are clear and affordable. The number of youth participating in diversified activities is higher in Mlandizi than in Masaki.

Population exchange

As observed in the Dar es Salaam-Mlandizi case, migration is best understood as one of the strategies adopted by individuals and households to enhance their rural and urban livelihoods. The view that new settlers are the key players in the development of rural-urban linkages seems to be a unique finding in this case. On the one hand, the analysis reveals that migration helps to reduce vulnerability despite the fact that in many cases it does not radically improve the income of the actors. For instance, the movement of people from Dar es Salaam and up country regions to Mlandizi is very much closely related to income and speculation. Many farmers said they shifted to Mlandizi because of the availability of fertile land for agriculture and easy access from and to other areas.

Conversely, Table 6.2 in Chapter Six links emigration to urban areas with poor returns from agriculture and lack of alternative employment in rural areas. The out-migration of youngsters is also said to help to reduce tensions within households, thus helping to keep them together in the long run. If the youngsters do not want farming, staying with the family doing nothing is expensive and un-affordable by the rural peasants. These results are also corroborated by the findings by Leviga and Mekacha (1998) in the study of petty traders in Dar es Salaam city.

The location of Mlandizi has attracted people from many parts of the country with varying cultures that have affected the perception of the local people as regards education, health and agricultural development. From the perspective of the new comers in Mlandizi, effective migration strategies help people to reduce the risks of seasonality and harvest failure. For instance, the annual crop cycle at Mlandizi revealed that the farmer has at least one crop in the farm throughout the year that can be sold. This is a strategy that cannot be used everywhere, because farming at Mlandizi depends on the wet flood plain. Therefore,

migration can be used as a structural dimension of attacking poverty. This implies that movement of people closer to more favoured areas that can produce food throughout the year is a positive move.

There is a decreasing rural-urban migration due to increased alternative employment opportunities like trade between Dar es Salaam and Mlandizi, operation of kiosks and repair works. Youths in Mlandizi are more exposed to urban conditions than those in Masaki due to location and availability of affordable infrastructure. Therefore, there is an increased urban-rural, interregional, and rural-rural migration leading to enhanced participation in rural-urban linkages radiating from the diversity of activities that the migrant population take part in. If one compares the two cases, more people are moving to Mlandizi than they are leaving the village due to land availability and the affordable and reliable transportation means, whereas it is just the reverse in Masaki where youth exodus prevails. Finally, the results show an increased specialisation in agriculture that produces for the urban market consumption, and a greater incidence of hired labour in Mlandizi than in Masaki village.

In Masaki, the situation is rather different in that the youths are migrating to other settlements looking for better opportunities. The main cause of this movement is lack of alternative employment. As a result, in Masaki, the movement of youths to urban areas has an effect on the households labour performance in the following ways:

- absence of young able-bodied labour force reduces the average acreage cultivated;
- the children born in urban areas are usually sent back to the parents, thus increasing the burden to the already worn-out old couples in the village;
- increasing deaths as a result of the AIDs epidemic; and
- decreasing rural-urban linkages participation.

All these imply that families participate less in the rural-urban linkages in the Masaki Dar es Salaam case than in the Dar es Salaam Mlandizi case. Families have instead resorted to production for household consumption.

Table 7.1: Key demographic factors that need to be addressed in rural-urban linkages

Mlandizi Dar es Salaam	Masaki Dar es Salaam
Education and skills	
High correlation of education with enhancement of rural-urban linkages	Low educational standards corresponding to low participation in rural-urban linkages
Population exchange	
Multiple population exchange as a survival strategy	Rural-urban migration dominated by youths in search of green pastures
Population movement stimulates cultural innovation transfer; affects productivity and increases participation in rural-urban linkages	Active labour force out migration causing reduced acreage cultivation and participation in rural-urban linkages

Source: Field survey, February 1999 to March 2000

The analysis suggests that migration is a calculated grab at better life, or an escape from agriculture fields that feed too few. It is both a cause and an effect of change in agriculture and rural life. The result shows that in-migration, is an added opportunity in the favoured areas, as it triggers money circulation, creates employment opportunities, and cultural exchanges. It is however, primarily an indicator of a problem from the source areas. The examination of the movement of people in the two case studies shows similarities as well as contrasting results in the enhancement of rural-urban linkages (Table 7.1).

On the one hand, labour and factor mobility play a pivotal role in the development process. The movement of labour from low to high productivity sectors is part and parcel of the process of growth and structural change. As the economy develops, the share of agricultural employment in total employment falls and that of other sectors rises (Bryceson *et. al* 2000). Accordingly, the ability of factors to move creatively among sectors and regions is considered a source of significant efficiency gains.

On the other hand, the two case studies show how migrants continue to maintain links with their areas of origin. Studying migration in this way has helped to enhance our understanding of peoples' livelihood strategies, the diverse, varied and active way in which people combine different sources of livelihoods, often straddling economic sectors and ecological zones. In Masaki, the youth who have shifted to urban areas maintain relationship with their places of origin by sending offspring's to their parents. By receiving the grand children, the grand parents are guaranteed of getting remittances in the form of food and clothing on a regular basis. As regards the Mlandizi Dar es Salaam case, the migrants are indeed seasonal (Map 7).

The evidence from the cross-case analysis of the demographic variables tends to support the proposition that rural-urban linkages are strong where there is better and dependable socio-physical infrastructure. The validation of this proposition implies then that:

- There is a close correlation between education and the enhancement of rural-urban linkages.
- People who move from various parts of the country are selective, and they purchase property where there is better physical infrastructure.
- Migration is part of an active livelihoods strategy, but is also determined by social context, social norms and structures.
- Migrants are agents of economic, technological, social and political change; but they may also reinforce traditional structures, ideologies and support networks. Migrants also create new identities.

A major conclusion put forward is that an understanding of the role of demographic linkages such as education and migration may help to make policies more relevant to peoples' livelihood strategies and more sensitive to the negative consequences of measures that restrict migration. An understanding of how migration is structured may help devise measures in which migration can be supported by building on the ways groups have facilitated migration. In so doing, people's capabilities and assets are encouraged, thus promoting their participation in rural-urban linkages.

Economic linkages as an asset

Economic linkages as used in this study denote the financial resources (cash or equivalent) that enable people to adopt different livelihood strategies so as to achieve their livelihood objectives. Thus, financial flows can be in terms of assets such as land, houses, and livestock that can act as collateral and savings in the bank. Of all the linkages, the most versatile are the economic linkages because they can be converted to the other forms easily. They can also be used for direct achievement of livelihood outcomes like purchase of food.

The two commodity chains were selected to investigate possible impediments and potentials that support or inhibit the development of rural-urban linkages, and to test the proposition that enhanced livelihoods in the hinterland is a function of rural-urban linkages. The two chains revealed interesting lessons on the economic aspects, which will be pulled together here for comparison and description using the specific variables developed in the

conceptual framework, namely, asset ownership (land, cash and housing) and diversification (Table 7.4).

The economy and, in particular, the level of income, are important for rural households' livelihoods and diversification as shown by the two cases. Without assured sources of income, households tend to adopt varied types of strategies for survival, like migration, sale of part of their land and other types of diversification to raise their income levels and absorb possible future shocks. Income growth is a powerful force, perhaps the most powerful one, in reducing the propensity to emigrate.

Asset ownership and rural-urban linkages

The analysis of data from the two commodity chains shows that although households can be important sources of security, they can also be a source of gender inequality in access to use of and control over resources. Data on intra-household activity allocation, and on decision-making on resources pooling in the two cases highlight important differences and similarities within households that have particular implications for certain groups, especially women and youth.

The number of women owning assets such as land, houses and business in Mlandizi is increasing while at Masaki asset ownership is not considered an issue. At Mlandizi, 6 households out of the 24 interviewed indicated that women owned land, while at Masaki none of the 28 households interviewed owned land. In both cases, however, it was also pointed out that women appear to be the sole labourers and producers of food and income at household level in terms of the numbers of hours spent in work. Nevertheless, the decision to utilise farm proceeds is to a large extent controlled by men. This does not seem to encourage women, especially in Masaki, to participate in rural-urban linkages.

Table 7.2: Family participation in agricultural activities: Mlandizi

Activity	Father	Mother	Children	Labourers	Total
Bush clearance	5			5	10
Tilling	2	4	2	2	10
Planting	2	4	1	3	10
Ploughing	4	1		5	10
Pesticide	3	3	2	2	10
Harvesting	5	5			10
Selling	5	5			10
Total	26	22	5	17	70

Source: Members FGD, Mlandizi village, February 1999

Besides, activity participation at household level shows that at Mlandizi men and women scored 26 and 22 out of 70; while at Masaki men and women scored 22 and 30 out of 70 in productive work participation (Table 7.2, 7.3).

These results seem to suggest that households in the two chains are experiencing changes in household participation in productive activities. One possible explanation for Mlandizi case is that Mlandizi is linked to migration of people from different regions due to location, availability of land for farming, and easy access. The new migrants bring with them different cultures and norms that influence the local culture positively. In contrast, Masaki is experiencing high population emigration, and therefore, retains the traditional values and norms such as the issue of asset ownership by women that is not recognised by the elders. Thus, the two cases experience different levels of women participation in rural-urban linkages mainly influenced by the location and socio-economic infrastructure.

Table 7.3: Family participation in household activities: Masaki

Activity	Father	Mother	Children	Labourers	Total
Bush clearance	3	5		2	10
Tilling	2	6		2	10
Planting	1	6	1	2	10
Ploughing	1	5		4	10
Pesticide	4	2		4	10
Harvesting	3	4	1	2	10
Selling	8	2			10
Total	22	30	2	16	70

Source: Members FGD, Masaki village, February 1999

Women in Masaki perform several activities simultaneously such as childcare, farming cooking, and sewing. In general, if they decide to get involved in income generating activities, they usually go without rest periods. Women put in more hours and do more activities at household level than men. If the decision making on the use of, control and ownership of resources is done by men, is this not one source of inequality and frustration to the women? This attitude is changing, albeit slowly, in Mlandizi where more and more women are buying properties for themselves. Ownership of land and other resources is important for enhancement of rural-urban linkages because the owner has the right to sell, or to use the resources without interference from either the husband or wife.

Table 7.4: Important economic factors affecting rural-urban linkages

Mlandizi Dar es Salaam	Masaki Dar es Salaam
Assets ownership	
Increasing gender recognition. Speculative land acquisition leading to changes in the land owning structures.	Gender insensitive (cultural embedded). Traditional land owning structures in place.
Diversification	
Intensified diversification of activities at household level. Changing from traditional crops with large acreage to high value per hectare crops in small farms.	Primary level diversification can be observed dominated by rich households. Slow changes to high value crops can be noticed.

Source: Field survey, February 1999 to March 2000

These results suggest that women in Mlandizi are more empowered, since they own resources such as land and participate in rural-urban linkages, particularly tomato growing. The number of women taking part in orange farming in Masaki is far less than that in Mlandizi. Empowerment here strives to go beyond access to land in the family circles to ownership of land that allows the individual to sell the property and make decisions over the production from the property. Therefore, these results suggest that property ownership as regards gender must be considered for enhanced rural-urban linkages.

Multiple activities: a survival strategy or income generation?

A farmer's livelihood involves a changing agrarian labour process that is responsive to internal differences like climate, local resource variation and demography, as well as external stimuli such as markets and taxation. This research has shown that in addition to smoothing the flow of income received by agricultural households over the cropping cycle, non-farm income may stabilise income by spreading risk through a multiplicity of activities (security in

terms of daily provisions and food security). It is common to see households deriving income from multiple sources.

One interesting finding in Masaki is that despite the security and importance of non-farm earnings to food security, non-farm income is very poorly distributed and is at primary level in the village with only a few well-off households taking part. Both seasonal smoothing and risk diversification can be very important in environments where agricultural output varies greatly over the year, and across years and where mechanisms for smoothing income such as credit and transfers are costly or absent.

In contrast, in Mlandizi, more than half of the interviewed households in Mlandizi are engaged in non-farm activities that have become a major source of high-income levels to both rural and urban households. At household level, diversification allows full employment of the members of the family in various activities, which also serves as food security and as a measure for prevention of rapid excessive rural-urban migration. It was also evident that non-farm income is closely linked to the level of education; as households with more educated members participate more in non-farm activities.

It is clear from these results that individual households are not passive in the face of economic changes. The interviewed households responded differently to different impacts. In the Mlandizi-Dar es Salaam case, as a result of the fall in cashewnuts prices, 75 per cent of the households responded by adjusting to high value crops like tomatoes, okra and oranges. Others normalised by processing the cashewnuts at home (value added), while 50 per cent of the women opted to buying land and the rest engaged in trading, sewing mats, making bamboo chairs, and operating kiosks at home.

Hence, in both villages coping with the difficult economic situation involved mobilising their assets by intensifying existing strategies. For instance, in Mlandizi 40 per cent of the indigenous households sold part of their land as a strategy to start new business. Such deliberate choices can cushion households against external shocks, as well as prevent further deterioration of the situation during periods of economic stress. In adopting such strategies, however, there are both winners and losers; not all households are able to adjust to the same extent. The types of multiple activities undertaken in both cases are not or cannot be termed as income generating activities per se, but rather as an approach tailored to cope with seasonal variations of prices, weather, and low yields.

It seems more than accidental that the survey findings of the two commodity chains in Mlandizi and Masaki report a rush to non-farm activities, although they are at primary level in Masaki. This is a rather perverse outcome of policies such as Structural Adjustment Programme implemented in the 1980s in the name of correcting urban bias and getting prices right for the Tanzanian rural farmers. In Mlandizi, more than 13 households, out of the 24 interviewed, are actively involved in diversified activities whilst in Masaki about 9 out of 28 households interviewed are actively involved in diversified activities (Table 7.5). Households' involvement in a diversity of activities in the case studies is largely a survival strategy due to both the failure of prices of the traditional crops such as cashew trees, and coconut palms, and to high taxation and high transaction costs. These findings are also corroborated by a study by Ellis (1997) and Bryceson (2000), who assert that the prime motive of successful diversification is to reduce vulnerability and not to increase the income levels. Other researchers call this a "coping strategy", which is defined as an involuntary response to disaster on unanticipated failure of major sources of survival.

Table 7.5: Household strategies to cope with decreasing income

Case	Multiplicity of activities	Changes in types of farming	Sell/buy farm	Sell directly in urban markets	Migration
Mlandizi-Dar es Salaam	13 households out of 24 interviewed	Tomatoes / Cashew trees	Sell part and practise high value crop farming	Kiosk-market rural-urban trade	Rural-urban, urban-rural, and inter-regional movements are common
Masaki-Dar es Salaam	9 households out of the 28 interviewed	Oranges / Cashew trees	_	Rural-urban trade, kiosk farmer cum trader	Youths emigration

Source: Field survey, February 1999 to March 2000

These results suggest that increasing participation in non-farm employment represents a change in the labour form; it represents a movement away from households labour, rather than a movement from agricultural labour per se. Thus, those engaged in non-farm labour in the two commodity chains participate exceptionally minimally or do not participate at all in household labour activities like cooking, fetching water and firewood. In case of failures or losses while participating in non-farm activities, agriculture is always a fallback activity for the stakeholder.

The above findings seem to corroborate the findings from other Developing Countries that although the agricultural sector has tended to receive most policy attention in rural areas, the rural poor derive their income from multiple sources throughout Sub-Saharan Africa, and Asia. There is growing evidence that supports these findings that rural households commonly depend on non-farm resources. In Sub-Saharan Africa, (and much more in parts of Southern Africa) and in South Asia, for instance, 30-50 per cent of rural households are 60 per cent dependent on non-farm income (Ellis 1999). Diverse income portfolios often include income from:

agriculture (own farm, tenant farmers or wage labour);

migration (domestic and overseas, seasonal or longer-term) and remittances;

daily travel to nearby urban employment;

local wage labour opportunities (perhaps in construction, manufacturing or public works); and

self-employment in trade, agro-processing, tailoring or services.

Participation in diverse income portfolios has in all these countries contributed to increase and stronger rural-urban linkages, thus improving the livelihood conditions of the local population (Karaska 1999). Similarly, participation in diversified activities in Mlandizi has resulted in more secure income smoothing, risk alleviation, enhanced rural-urban linkages and livelihoods. In Mlandizi for instance, involvement of a household in non-farm activities was considered as an admission of a household's failure to participate lively in commercial agriculture involving high value crops, after the fall of the prices of their most reliable perennial crop, the cashew trees.

The data from the cross-case analysis of the economic variables appear to support the

propositions that enhanced livelihoods in the impact region are largely a function of rural-urban linkages and that these are strong where there is better and dependable socio-physical infrastructure. The validation of this proposition implies subsequently that:

There is positive correlation between non-farm activities and higher income level of the rural and urban families.

Productivity of labour and investment returns in non-farm activities is in general, higher than productivity of activities related directly to agriculture. This creates a higher potential for diversification of income sources.

The importance of diversification activities with regard to enhancement of rural-urban linkages and economic growth will increase. This will, in turn, improve their capacity to pursue "non-erosive" livelihoods strategies and to make rational economic decisions.

Livelihood strategies (also called safety nets/adaptive strategies), apart from straight forward supplementation of incomes, can also: firstly, sustain consumption through drought years or even annual lean season; secondly, inject cash in rural areas to kick-start other activities; and thirdly, put forward pressure on rural wages and to provide for those incapable of looking after themselves (widows and orphans).

The trend towards diversification is higher in more favourable climatic and better-served areas in terms of physical infrastructure, whereas it is usually lower in more marginal lands with poorly provided physical infrastructure diversification.

Families with low educational level located in poorly served rural areas have more difficulty to overcome "entry barriers" in diversified activities. They have to overcome higher "entry barriers" since their capacity for diversification is lower.

Prevention of rapid or excessive urbanisation: Rural-urban migration has been positively affected by the availability of more non-farm activities in rural areas.

There is a positive correlation between physical infrastructure and land ownership patterns. The more remote the area is, the more gender problems exist as regards land ownership: This is probably due to low educational level and lack of exposure.

Thus, a functioning infrastructure is a prerequisite to an increase in diversification and income, because it reduces transaction costs for small-scale industries, agro-business, and allows more people to participate in rural-urban linkages.

Infrastructure and rural-urban linkages

Infrastructure as used in this study refers to roads, accessibility and communication. Although the link between improved infrastructure services and economic growth is uncertain, it is clear that affordable physical infrastructure has an enabling effect. Infrastructure, particularly roads, has a permissive effect, although by itself it cannot deliver without other prerequisites such as economic, demographic factors, and the presence of the right types of institutions that permit the development of rural-urban linkages. In this regard, this section will strive to authenticate the proposition that rural-urban linkages are strong where there is better and reliable socio-physical infrastructure.

The two commodity chains starting from locations that have contrasting characteristics were selected to validate the above contention. The disparity is that Mlandizi is located on an all-weather road that is accessible throughout the year, and is well linked externally to all regions in the country. Besides, the village has been growing very steadily in terms of population and spatially in terms of land appropriation. As a result, at the village centre there is a growing number of business establishments attracting people from up country regions as well as from Dar es Salaam. Conversely, Masaki village is located on a very poorly

maintained road, accessible by trucks and buses only in the dry season. Travelling and transportation in the wet season is both risky and time consuming. The village population has been growing very slowly, and the village centre contains only a few shops and an open-air market. The common thing between the villages is the existence of high value crops introduced recently (starting in the 1970s) that enable many people to participate in rural-urban linkages contrary to the traditional crops like cashew trees. The two cases are, therefore, ideal to demonstrate the importance of socio-physical infrastructure. In both commodity chains, transportation of the produce to the urban markets is playing a critical role in the end price of the product to the consumers in urban areas, making it almost the deciding factor of the consumer price. Table 7.6 below summarises and contrasts the findings from the two cases.

Table 7.6: Transport factors affecting the livelihoods of rural-urban households

Mlandizi Dar es Salaam	Masaki Dar es Salaam
Road network	
Affordable and reliable external road network leading to reduced transaction costs and increased participation in rural-urban linkages	Poor road condition causing increased transaction costs and reduced participation in rural-urban linkages
Accessibility and communication	
Information on the prices in urban markets is available on a daily basis Women attend village meetings making important decisions on important matters	Distance to the urban centre is not important but the presence of affordable transport is crucial Communication is affected by values, beliefs and attitudes over certain groups of people (gender)

Source: Field survey, February 1999 to March 2000

Road network

The poor intra village transport in Mlandizi is crucial and has direct effect on the costs of transportation from the farms to the roads. The average cost of transporting a carton of tomatoes on one's head from the farm to the paved road is TShs. 40 per kilometre, whilst that of transporting tomatoes from the paved roadside to Dar es Salaam is TShs. 10 per carton per kilometre. The location of Mlandizi village centre along the all-weather road leading to Dar es Salaam and to many other regions in Tanzania links the village well with the rest of the country, making it a convenient stop over centre for trucks and buses. As a result, many people have been attracted to Mlandizi because of accessibility, availability of farming land and reduced transportation costs.

In contrast, the cost of transporting oranges from the farm to the paved road in Masaki is TShs. 300, an average cost of TShs. 30 per carton per kilometre. The cost of transporting the same consignment from the paved road via Kisarawe to the Dar es Salaam urban markets is TShs. 1,000, which is an average cost of TShs. 21 per carton per kilometre.

Consequently, the two case studies exhibit similarities in intra-village transport network that is very poor and causes high transport costs, but one that is also significantly different as regards reaching other settlements. Located only 46 kilometres from Dar es Salaam compared to Mlandizi which is located 67 kilometres, it takes 8 to 12 hours to travel from Masaki to Dar es Salaam in the wet season and 2 to 2.5 hours in the dry season compared to 45 minutes to one hour from Mlandizi to Dar es Salaam throughout the year.

In the orange chain, it was evident that the transportation component took the lion's share in determining the final consumer price in urban areas (Table 6.5). Transportation costs

between Mlandizi and Dar es Salaam accounted for only a fifth of the total income of the farmers, while the costs between Masaki and Dar es Salaam were more than two thirds of the farmers' gross income. The increase in the cost of transport per unit of production is neither beneficial to rural farmers nor to the urban consumers since they both have to part with more cash. It is, therefore, clear that affordable transport is a prerequisite for enhanced rural-urban linkages.

Accessibility and communication

In the two case studies information dissemination, varies greatly; farmers in Mlandizi village receive price information almost hourly from the urban markets, while in Masaki this could take from two to seven days depending on the time of the year. Without information on the prices, farmers find it difficult to send their produce to the urban markets. As a result, they have to travel to the urban markets to check the situation before harvesting their produce. This process is expensive and affects rural-urban linkages negatively.

Farmers' capacity to respond to urban demand and their ability to adapt to market stimulus are obviously not the same everywhere. Agricultural supply and demand for food meet in a space that is shaped by transport and communication networks, transaction costs, internal and external competition conditions that depend very much on locality. It is argued that when transaction costs are low, people are able to gain at each other's expense. In order to minimise the associated loss, people will agree to restrain themselves in various ways and will erect social institutions to impose and enforce restraints. In making plans for optimal action, both individuals and the firm have to take into account the cost of collecting relevant information, the cost of making decisions and the cost of transacting.

Underscoring the foregoing, Hunter (1965) raises fundamental issues concerning infrastructure and development. He argued that the industrial revolution in Europe might not have been successful if it had not been due to the revolution of the infrastructure technology. Indeed, success in economic development depends on how effectively the infrastructure system functions. Put simply, there is a causative as well as a functional link between infrastructure and development. Although transportation cannot produce anything by itself, it serves as a catalyst for economic development.

In short, the two cases have demonstrated that affordable infrastructure; particularly road transport, has an enabling effect on the enhancement of rural-urban linkages as it opens the door for livelihood development for both rural and urban households. Thus, if there is latent demand for village resources in urban areas, or for products and services of the city in the rural areas, improving infrastructure is crucial, as it will lead to enhanced rural-urban linkages.

These findings also confirm the theoretical contention that: it is a combination of production and transaction costs that determines the output of an economic system throughout history. A theory of transaction costs must be integrated with the production theory to provide an essential framework for the economic system (North 1989; 1984:9). The connecting link is the structure of the political economic institution that is shaped by transaction costs.

The evidence from the cross-case analysis of the economic variables seems to support the proposition that rural-urban linkages are strong where there is better and reliable socio-physical infrastructure. The authentication of this proposition implies then that:

Distance from urban locations per se is not as important as the physical accessibility which enhances rural-urban linkages.

There is a positive correlation between physical infrastructure and enhancement of rural-urban linkages.

Physical infrastructure, be it rural-rural or rural-urban has the same cost effect in the rural-urban linkages. Provision of trunk physical infrastructure may have less positive effect to the households who stay far from it.

Thus, infrastructure development, particularly transportation, has a permissive effect on enhanced rural-urban linkages as it serves to fulfil the basic needs of development in many ways. These include: opening up opportunities for increased productivity; facilitating an easy and cheap delivery of inputs; providing know-how and services as observed in Mlandizi Dar es Salaam case; improving marketability of agricultural products; and acting as a transition for the injection of urban functions in the rural economy, thus opening up a multiplicity of activities.

Informal institutional linkages as an asset

The extent to which a community or a village can be considered an asset that increases opportunities depends on its stock of networks, norms, and trust, all of facilitate co-ordination and co-operation for mutual benefits. This section seeks to provide an answer to the proposition that locally designed institutions in both rural and urban areas provide sufficient and acceptable basis for enhanced rural-urban linkages. Besides, the case aims to answer the questions set earlier in Chapter Two: i.e. whether institutions play any part in hindering or enhancing rural-urban linkages. Table 7.7 presents a summary and comparison of the key actors and processes in rural-urban linkages.

Table 7.7: Key institutional processes influencing rural-urban linkages

Mlandizi Dar es Salaam	Masaki Dar es Salaam
Actors and roles	
Commissioned agents trigger the process (engine) by providing the needed initial credits to farmers. Labourers are the main service provider. Itinerant traders as subsidiary buyers. Transporting agents ferry the consignments. Commissioned agents as wholesalers.	Farmer triggers the engines through informal relationship. Labourers provide services on credit. Itinerant traders are the main buyers. Transporting agents ferry the consignments on credit. Commissioned agents as wholesalers.
Norms and rules	
Women are well represented in decision-making at village level and family level; thus, they are more empowered and have increased participation in rural-urban linkages.	The son cannot inherit a farm unless the farther dies. Women are not significant in decision-making, due to culture and traditions; and this is not seen as a problem.
Informal organisations	
Locally crafted informal credit organisations are fundamental to enhanced rural-urban linkages without which farmers could not finance tomato farming.	Primary level informal networks allowing payment postponement, which is critical for enhanced rural-urban linkages (hired labour on credit, transport on credit, purely on trust).

Source: Field survey, February 1999 to March 2000

The two case studies have revealed similarities among the actors taking place in the rural-urban trade but they have different roles in different villages. The following section provides an explanation of the formal and informal processes taking place in the chain.

Actors and roles

In Mlandizi the commissioned agent being the engine of the chain, provides initial capital to the farmer. The farmer has linkages with labourers who offer labour, the itinerant traders who buy the produce from the farm, the transporting agents who ferry the produce to urban areas, a number of times on credit. The loan received from the commissioned agents is paid back gradually by deducting from the produce sent to them in the urban markets for sale.

In Masaki, the farmer receives part of the labour on credit *(mali kauli)*, which is paid after the sales of the produce at the urban markets. This labour on credit is so fundamental that without such an agreement it would be very difficult for farmers to practise commercial farming. In addition, the farmer in Masaki has indispensable linkages to the transporting agents who also ferry the produce to urban markets on credit only to be paid after the consignment has been sold. Also, the farmer and the commissioned agent have long-term empathy since the latter receives the produce from the farmers without cash, which to him is a strategy to avoid losses in case the produce is not sold or rots.

Agreements in the urban markets on the selling prices without payments (*mali kauli*) facilitate trust between the farmer and the commissioned agents. This in turn leads to the extension of informal credits from the urban traders. As a result of using the credits, the farmers have been able to expand their farms to grow more tomatoes either by increasing acreage or by using fertilisers. This relationship is a potential asset because it has no red-tape procedures. The actors involved are the farmers, the assistants, the commissioned agents and the neighbours in the village. Its organisation is simple but needs to be studied further in order to mitigate the weak links and adopt the strong ones so that both parties can benefit.

Table 7.8: Actors and roles played in the chain

Role in Mlandizi	Actors	Role in Masaki
Farming	Farmer	Farming
	Labourer	Labour is provided on credit
Send produce to the urban markets to establish rapport /trust.	Farmer-trader	
	Itinerant trader	Buys farmers produce on credit Tries to protect the farmer from sending his produce to the urban markets
Transport on credit	Transport agents	Transport on credit
Extends credit to farmers.	Commissioned agent	Buys farmers produce

Source: Field survey, February 1999 to March 2000

Norms and rules

The two case studies have revealed constantly changing information on the position of the women in the household and the village. For instance, many women in Mlandizi are educated and take up employment as head teachers, extension officers, school-teachers and decision makers in the village government. Besides, many women in Mlandizi are engaged in business such as tomato farming and trading. Additionally, they own and run kiosks. The situation in Masaki is rather different, with little sign of improvement. It is still in the minds of the elders in Masaki that women are supposed to be indoors and that it is taboo for them to own land, to work, get employed, or build houses for themselves.

The outcome of looking down upon women affects rural-urban linkages negatively,

since they shy away from engaging fully in economically productive activities. The fact that they are not sure of how the proceeds will be spent or shared by their co-wives in polygamous households remains a problem. One can argue that compared to their counterparts in Masaki, women in Mlandizi have become more empowered as they have gained more confidence to undertake income-generating activities, set their own agenda and change events. This change has also significantly affected how women as individuals or as a group perceive themselves and their ability to influence the world around them. It is widely accepted at Mlandizi that women can own property just like men do.

Informal institutions versus rural-urban linkages

Why are economic and social opportunities that allow a small proportion of humanity a high standard of living not available to all? One explanation can be found by analysing the institutional resources of an area, for these make the process of economic development possible in the first place and, once it has begun, steer it in the right direction. Institutions enable political stability, effective and responsible administration, good governance and secure property rights. Furthermore, institutions spearhead the presence of a competitive financial sector, and can ensure the provision of basic needs such as health, transportation and education.

Informal institutional processes in both cases have proved to be very crucial for continued farming and enhanced rural-urban linkages. In Mlandizi, informal institutions involve credit in cash and materials. The most interesting thing in the credit process is that there are no written documents. All agreements are done verbally and purely on trust that has been cultivated by the farmers over time through selling their produce to the commissioned agents. The second remarkable observation is the mechanism by which the commissioned agents ensure some means of recouping the money extended as a loan. This includes dispatching some of their assistants to visit the farmers, close to the harvest period on *ad hoc* basis, and receiving produce from many farmers, which implies economies of scale. Yet, another measure is that the agent does not pay cash on receiving the supply from the farmers. After the produce is received, they agree on the selling price depending on the prevailing market conditions, and the farmer comes after a day or two to be paid. Meanwhile, the commissioned agent endeavours to sell the produce at a higher price than that agreed with the farmers. This is where registration of the commissioned agent is important. All these measures are meant to protect the agent from incurring losses. The main arguments put forward by the commissioned agent for extending loans to the farmers were:

the need for the agent to expand his business to have as many suppliers as possible; and

request by the farmers for help in the form of credits as there is no other alternative.

The continued extension of credit by the commissioned agent suggests that the relationship is cost-effective and beneficial to both parties, although in the eyes of the researcher, the commissioned agent receives a lion’s share. For instance, the fact that the commissioned agent who deals with tomatoes extended credits worth 9.2 million shillings to farmers from various areas, namely Mlandizi, Iringa and Tanga, suggests that there are profits involved. One would not sacrifice so much money if the returns were not rewarding.

Nevertheless, not all the farmers are successful in harvesting and bringing the produce to the agent, as some fail due to accidents, bad weather, thieves and other unforeseen occurrences. As a result of the informal credit organisation, more than 92 farmers in Mlandizi have continually participated in tomato farming and in rural-urban linkages even though their incomes and standard of living have not significantly changed. The continued participation in farming is an assurance of food security that would be worse off without the informal credit.

In Masaki, there is a non-monetary network between the actors. Labourers offer their

labour on credit; farmers sell their produce to the itinerant traders on credit; transport agents ferry the produce to the urban markets on credit, and finally, the commissioned agents do not pay cash on receiving the consignment from the farmers as a security measure. This relationship between the farmers and other actors is crucial, for without it orange farming on commercial basis could not have been possible. As is the case in Mlandizi, there are no written documents on the services offered although each one keeps his/her own record.

What evidence is there then to support or refute the second proposition in this study i.e. locally designed institutions in both rural and urban areas provide sufficient and acceptable basis for enhanced rural-urban linkages? Comparative data from the two commodity chains show that in the case of Mlandizi farmers have created an informal relationship with the urban traders to obtain credit that enables them to increase and maintain tomato production. The relationship is the key for sustainability. In the case of Masaki, credits from the urban traders for orange farming have been difficult because of: unreliable transport to the village; time taken from the flowering to the harvesting of oranges (six months compared to three months of tomato farming increases risk), and stiff competition since the harvest of oranges in the country is universal.

As a result of the above conditions, the urban traders shy away from extending loans to the orange farmers in Masaki because of the risk involved. In addition, evidence from the two case studies suggests that itinerant traders are more readily available in Mlandizi to purchase tomatoes than they are in Masaki, probably because of the same reasons. Thus, in Masaki they have developed an informal non-cash credit institution whereby farmers pay some little advance to the service providers while the rest is paid after the sales in the urban markets.

The results from the cross-case analysis of the institutional variables seem to support the proposition that locally crafted institutions provide sufficient and acceptable basis for enhanced rural-urban linkages. The corroboration of this proposition demonstrates that locally made institutions are crucial for enhancement of rural-urban linkages. In order to enhance rural-urban linkages, planners and policy makers must redress those structures that constrain the linkages. The validation of this proposition entails the following:

- Assistance needs to focus on local institutions that have been designed by the stakeholders. If this is done, it follows that the assistance must focus on developing institutions that the stakeholders can use to assert their interests and organise access to resources.
- Development goals should aim to build on existing assets and resources so as to expand people's choices, capabilities and potential to make choices. Policy makers need to avoid ready-made office solutions.
- The existing informal credit relationship (both non-cash and cash) is crucial, but more research is necessary to unveil the actual operation and its potential for sustainability.

The bottom line must engage the local institutions that empower the poor to take part in defining the rules that determine their lives. Yet, local empowerment and the development of institutions of the participants of rural-urban linkages alone will not be sufficient. Only when the stakeholders and their interests are represented in institutions at the national level will there be a policy for the poor.

Linking the findings to the theory of institutional economics

The theory of institutional economics emanates from a combination of the theory of transaction costs and that of human behaviour. This combination sheds light on why institutions exist and what role they play in the functioning of societies (North 1990; Williamson 1985). The starting point of institutional economics is that an individual is best

characterised as someone who rationally makes his choices by systematically comparing benefits and costs of alternative actions. The value of institutionalisation in rural and urban linkages lies in the attainment of efficiency in the operation of a service comprising the most effective arrangement of institutions to enable them to perform without precipitating conflicts.

Transaction costs are the costs of specifying and enforcing the contracts that underlie exchange and therefore comprise all the costs of political and economic organisation that permit economies to capture the gains from trade. It is a combination of production and transaction costs that determines the output of an economic system throughout history. The starting point is that human beings have creative thinking but this ability has a wide dispersion among different individuals (Myhrman 1989). A theory of transaction costs integrated with the production theory, provides an essential framework for an economic system (North 1984; 1989). The connecting link is the structure of the political economic institutions that is shaped by transaction costs.

It is argued that when transaction costs are positive, people are able to gain at each other's expense. In order to minimise the associated loss, people will agree to restrain themselves in various ways and erect social institutions to impose and enforce the restraints. In making plans for optimal action, both individuals and the firm have to take into account the cost of collecting relevant information, the cost of making decisions and the cost of transacting. A feature of institutional economics is to make more of these costs explicit.

Institutions are contractual arrangements between principals and principals, and principals and agents, made to maximise profit by realising the gains from trade as a result of specialisation (North 1989). In this case, the principals are the employers, managers, commission agents, transport agents and traders, while the agents are the farmers and the labourers. Thus, institutions provide the framework and the structure to perform certain kinds of exchange.

The institutional economics approach to the understanding of rural-urban linkages dynamics can be deduced from the foregoing discussion. The theory rejects the notion that autonomous individuals constitute the political, economic and social environment, each pursuing their own preferences in order to obtain material satisfaction. Instead, it is based on the conception that individuals are socially constructed identities. The ways of seeing and knowing the environment and those of acting on it are understood or constructed in social, political and economic linkages with others.

In this respect, people are continuously involved in reflecting on, consciously adhering to, or actively setting out to transform their conditions of life. The institutional economics approach acknowledges that the active work of socio-political and economic building is not undertaken in neutral territory as far as power relations are concerned (Chambers 1997). The structure of economic linkages and of the state organisations, shape people's opportunities and values. The theory of institutional economics, therefore, while appreciating that powerful forces exist, does not treat them as external forces but recognises that they are present in, and actively constructed through the political, economic and social relations of human interaction (North 1990; Williamson 1986).

Institutions provide the basic structure by which human beings create order and attempts to reduce uncertainty in exchange. As a result, institutions together with the technology employed have determined transaction and production costs, and hence the probability and feasibility of engaging in an economic activity (North 1989). The study of institutions, therefore, should be critical for further understanding of economic history. Even if everyone has the same objective, say, maximising profit, transacting would take substantial resources. Institutions consist of formal rules, informal constraints and enforcement characteristics.

Responses to high transaction costs

In the two case studies, the responses to high transaction costs by the villagers and their reaction to high initial investment costs in tomato farming seem to support the viability of the institutional economic theory. Due to increased transportation costs and unreliable roads, the villagers in Masaki have developed some innovative strategies and institutional responses in their resolution to cope with the high transaction cost, such as the informal non-cash advance institutions that enable the farmer to pay for the services after the sales of the produce in urban areas.

The primary unit of service production is the individual farmer who reduces transaction costs by agreeing with the labourers to postpone the service charges payments until the produce is sold in the urban markets, or by bringing in friends or relatives during the harvest time. The second type of institutional linkage constitutes the relationship between the urban traders and the farmer. The former purchase the produce on credit and pay after the sales in urban areas to avoid losses. The third category of institutional linkage is the relationship between the farmers and the transport agents. Here again payment is postponed to a later stage when the consignment is sold in the urban markets. The fourth type of institutions comprises the informal credit relationship at Mlandizi between the farmers and the commissioned agents. In this regard, the extended credit in the form of materials and cash has proved to be very crucial for tomato farming. Without it, the farmers could not operate on the present scale.

Accepting the reality

One of the crucial challenges that have surfaced from this research is the truth that local people have their feasible ways of attending to problems that confront them, which is yet to be acceptable by planners, development practitioners and policy makers in the field who often have ready-made solutions. The challenge is how to tie the knot on the two as a means of enhancing performance at the local level. How may the "conservative perception" of policy makers and development practitioners be realigned with the tangible time-place knowledge and experience of local communities to ensure enhanced rural-urban linkages and regional development?

Emerging opportunities and challenges for rural-urban linkages

This part is a synopsis of the key findings emerging from the analysis of the individual commodity chains and the cross-case analysis that point out an optimistic course. The summary of findings will offer a foundation for the identification of potential opportunities, challenges and constraints to the enhancement of rural-urban linkages in the context of a fast-emerging free market economy. The opportunities and challenges derived from the results will then form the basis for the formulation of tangible recommendations for policy, practice, and on the on-going academic debate on rural-urban linkages. In general, this research has shown a positive correlation between the level of education, the quality and access to infrastructure, the quality and organisation of services and the access to credit and financial services. More specifically the key findings are:

- The proximity of the villages to the city does not necessarily imply a high level of rural-urban linkages, but affordable and reliable physical infrastructure, particularly roads, is critical. Undoubtedly, socio-economic conditions like schools, hospitals and water are also important. Thus, the presence of such infrastructure tends to trigger access to information on prices and the development of socio-infrastructure, which influences rural-urban linkages.
- The current land access and owning structures (i.e. relatively small farms growing high value crops) is a perfect stimulus for rural and urban livelihoods and participation in rural-

urban linkages.

- Multiple activities are an important survival strategy for both urban and rural households. In both cases, a diversity of activities is important to groups with the least assets (including women, youths), as it is often a survival strategy that involves low-income activities, whilst to groups with better access to assets it is an accumulation strategy involving cross-sectoral investments. Both these groups are able to take part in rural-urban linkages because of the easy entry and low capital multiple activities.
- Multiple activities are fundamental in enhancing rural-urban linkages because productivity of labour and returns from investments in a non-farm sector are in general higher than productivity of activities related directly to agriculture. Poor people have, however, to overcome higher "entry barriers" because their capacity for doing multiple activities is lower. The major reasons are low educational level, lack of financial capital and weak social capital.
- Multiple activities are usually market based and trade driven especially rural-urban linkages. Hence, strategies and policies have to be market biased, e.g. oriented towards small-scale agro-industries, agro-processing, business services, marketing, trade and financial services.
- Migrants, whether temporary or permanent, are the key players in the development and enhancement of rural-urban linkages. In the two case studies, people are moving in an unprecedented scale and their presence often greatly influences the host destination (rural or urban area). Thus, migration to urban areas or to preferred agricultural areas is at the heart of rural-urban linkages enhancement and development. Migration will naturally give way to the movement of goods as the country's population and economic activities become denser, as in the case of Mlandizi.
- Institutions are a critical factor in sustainable development. Empowerment of the localised institutions is a prerequisite for the integration of the indigenous knowledge in the development process. The integration of appropriate indigenous knowledge into tomato and orange farming in both the two cases contributed to efficiency, effectiveness, and sustainability of the trade. Thus, institutional knowledge needs to be constantly used, challenged, and further adapted to the evolving contexts.
- The informal credit relationship between the traders and the farmers is crucial for the enhancement and participation in rural-urban linkages. Access to credit to the poor low-income earners is inevitable to improve livelihoods.
- One of the fundamental challenges that has surfaced from this research is the truth that local people have their feasible informal ways of attending to problems that confront them, which is yet to be acceptable by planners, development practitioners in the field who often have ready-made solutions. The challenge is how to tie the knot on the two as a means of enhancing performance at the local level.

The summary of the findings presented above has identified possible opportunities, challenges and constraints of rural-urban linkages in the context of deteriorating economy and declining role of the state amidst a fast emerging free market enterprise. These opportunities, challenges and constraints derived from the findings will serve as the basis for the formulation of policy recommendations and conclusions on the on-going academic debate on rural-urban linkages that will be addressed in the next chapter.

8. Enhancing rural-urban linkages for sustainable livelihoods: Conclusions and policy implications

The main objective of this research was to bring forth the knowledge that enhanced rural-urban linkages are essential for a sustainable development of livelihoods in both rural and urban areas. The empirical findings of this study have acknowledged that rural-urban linkages are a source of the mainstream of livelihoods in both rural and urban areas. Left alone, the impact region will continue to grow, albeit at different paces depending on the availability of development prerequisites. Whether this is desirable or not depends partly on the contribution that their growth makes to the lives of the people in both rural and urban areas and to the national development as a whole.

The neglect of the impact region by the government and the local authorities since the colonial times is one of the key factors that inhibit the enhancement of rural-urban linkages and consequential supportive policies (Tacoli 1998; Bryceson 1997). Besides, import substitution policies and excessive regulation and protection diluted the rural-urban linkages and suppressed rural-based industrialisation. These regimes have typically resulted in an excessive concentration of population and economic activities in a few large cities. However, when rural non-farm jobs are forthcoming, openness can accelerate the growth of rural industries, strengthen the rural-urban linkages, and bring about faster and more balanced economic growth. It can also lessen the pace of internal migration and slow the widening gap of income disparities between rural and urban areas during the process of rapid growth. Globally, though, there is an increasing acknowledgement of sustainable livelihoods through rural-urban linkages (Habitat I Vancouver 1976; Habitat II Istanbul 1996; World Bank 1999; UNDP 1999 and Rabinovitch 1999).

Development both in the urban and rural areas and the future of settlements in rural areas need to be understood and addressed in the context of the ongoing population exchange trends. Population movements, production and consumption patterns, the flow of goods and provision of services, the availability and extent of infrastructure, as well as employment conditions are key issues which affect the linkages between urban and rural development. Increasingly, the quality of these linkages will determine the living conditions of people in the urban and rural areas. Towns, cities and villages are experiencing an economic and social transformation which is likely to continue to intensify in the coming years, while villages need to be better equipped with infrastructure and services in order to change their traditional employment patterns. Likewise, urban areas will continue expanding to the countryside and increase their food production through diverse forms of urban agriculture. These trends break down the traditional distinctions between urban and rural areas, while the multiple linkages require a new appraisal and concerted action on the future of our settlement patterns. Moreover, they determine essentially the scope for implementing the global goals of human development as they were formulated during the series of world conferences during the nineties namely: social equity and social justice; poverty reduction (eradication); food security; environmental protection and sustainable development (UNCHS Habitat 1996).

At the conceptual level, the study aspired to explore the theoretical underpinnings of enhanced rural-urban linkages and, in particular, to answer the questions directed at the interrelated concepts, viz.: infrastructure factors, economic factors, demographic factors and institutional issues. With regard to policy, the research explored whether the policies related to improved infrastructure, formal and informal institutions and population movement will lead to increased rural-urban linkages and ultimately to enhanced livelihoods. The overwhelming substantiation from the two cases validates the propositions, which were developed in this study. The subsequent section dwells on the conclusions and role of the state

and local authorities in support of enhanced rural-urban linkages and livelihoods.

Conclusions

In order to understand particular deprivations that the rural and urban poor face and the best means to address them, we need to understand local contexts, and we should as much as possible avoid generalisations. The distinction between rural and urban areas is one useful way to emphasise differences in local contexts, but the lines between what is rural and what is urban are blurred. This could be, in part, because of the economic and spatial boundaries between urban and rural areas that are not clear-cut and, in part, because of the many rural-urban inter linkages.

Planning in the impact region still occurs as if urban and rural economies and societies are not connected. Besides, it is undertaken as if agriculture only affects rural populations while non-agricultural production only takes place in urban areas. Strong rural-urban links at the household level (including livelihoods that have rural and urban components) also mean that increased poverty in rural areas often impacts negatively on urban areas, and vice versa. Increasing urban poverty will usually mean there are less job opportunities in urban areas for rural dwellers; less remittance flows from urban to rural areas; less urban demand for rural products and possibly more urban-to-rural migration, which could increase dependency burdens in rural areas.

Local contexts have a strong influence on the scale and nature of rural-urban linkages; they also strongly influence the most effective possible means of reducing it. Thus, the projects and programmes of governments and international agencies should be planned with full knowledge about local contexts and what these imply for the best means to address poverty. In addition, plans and programmes for urban development within rural areas are rarely developed based on the needs and priorities of the local population and, therefore, they generally fail to reflect the scale and nature of existing rural-urban linkages[110].

Institutions are embedded in history, culture and politics; they are therefore an integral part of the culture and history of a village or local community. Consequently, institutions, which serve the welfare of the poor groups in the society, need to be studied and understood. These institutions are the ways the poor groups mobilise their own resources and establish local savings and credit systems and therefore empowering them to make their own decisions. The creation of local associations in the context of the impact regions development process also requires a balanced approach to capacity building of both the local government and local associations. We need to learn from local institutions to enrich the development process.

The research has also revealed how one needs to respond to a tremendous diversity and complexity within each local context. One possible way to operate effectively with such diversity between localities, and such complexity within each locality, is to ensure that the interventions of external agencies are influenced by the knowledge and priorities of those who face deprivation within each locality and build on their knowledge and resources. This also means considerable institutional innovation so that the institutions that define the resource allocations, and plan and implement the interventions can respond to ‘pro-poor’ local needs

110 There may be information within a locality on the number of people who fall below some income-based or consumption based poverty line but, this misses many forms of deprivation and is often based on criteria that are questionable. What is so lacking in most instances is an accurate, detailed, up-to-date information based on who within each locality faces deprivation and the nature of that deprivation. Most local governments or local offices of higher levels of government have no detailed information on who within their jurisdiction has inadequate housing, inadequate access to water and health care, inadequate provision for sanitation and drainage... let alone inadequate incomes or assets. Very few have census data that is returned to them in a form that allows them to use it for planning i.e. so they can identify which households, streets and neighbourhoods face which forms of deprivation.

and demands. This implies greater use of more participatory tools and methods, not so much to increase the knowledge of external agencies about local context but rather to allow those suffering deprivation within each particular context a greater voice in setting their priorities, influencing resource allocations, avoiding measures that threaten their livelihoods and having access to justice. It also means that external agencies must give greater stress on working with and supporting local institutions that can implement poverty reduction measures that respond to local contexts, and work with disadvantaged groups in participatory and accountable ways.

Local governments need to have greater capacity to understand how best to support a stronger economic base (which also needs to respond to the particulars of each local context), while also ensuring that this maximises better livelihood opportunities for those with the least incomes and assets. It is very difficult to ensure 'pro-poor' economic growth when the poor groups have very few assets and very little political influence, while many locations with expanding economies have increasing impoverishment. Perhaps only in these rather general principles are there points that have the same relevance for all urban and rural areas.

There is strong though not uncontested evidence that the main force driving the growth of diversified activities in rural areas is the rise in agricultural incomes and demand from local and external population. Thus, of the two cases, the Dar es Salaam Mlandizi one had an upper hand in the number of non-farm activities due to its location and better socio-economic and physical linkages in comparison with the Dar es Salaam Masaki. This conclusion is similar to another one by Karaska (1998) that demonstrated that the Kutus region of Kenya grew through non-farm activities, which were closely related to the increase in agricultural income.

The provision of basic needs and infrastructure services in the impact region is done on a disjointed basis by sectoral agencies rather than on a planned and co-ordinated programmes basis. The quality and extent of the socio-physical infrastructure in the impact region varies with the location of the settlement. The areas that are well served with socio-physical infrastructure experience enhanced rural-urban linkages and so lead in improved livelihoods. Finally, the regional development planning institution is weak. During this study, there was no evidence that the planning office was aware of sectoral activities taking place in the impact region.

The role of the state

More than 30 per cent of the country's population live in towns or cities in this century. There are indicators such as continued rural-urban migration (Liviga and Mekacha 1998; UNCHS Habitat 1996) that the present demands of food and other associated agricultural produce and rural resources will increase, while livelihoods in both rural and urban areas continue to worsen. Agricultural production has to increase in order to meet the growing demands of food and increasing population. This presents a major challenge to policy makers. Already the current pressure on land resources in the impact region is causing conflicts.

One of the central propositions this study investigated is the question of the viability of rural-urban linkages in enhancing livelihoods. As indicated by the case studies and cross case analysis, emerging evidence hold promise. The question then is how can these evidences be utilised to ensure more viable enhanced livelihoods. National level policies have an important role to play, for example, with respect to access to land and land ownership and titling in both rural and urban areas. Although, this is not the responsibility of local authorities it is crucial for local economic development. Policy-wise, at national level, there is a need to look into the land policy with respect to access versus land ownership in both rural and urban areas. The state must work to ensure that livelihood opportunities are increased through improving the structure of incentives for investment through:

- An investment led strategy which focuses on 'social' sectors i.e. education, health,

sanitation, water, electricity supply etc;

- Ensuring that legal and bureaucratic institutions facilitate investment opportunities for the private sector and remove barriers which exclude remote villages from participating in credit markets, as it is the case with Masaki; and
- Allowing the movement of population and economic activities in the impact region while creating infrastructural facilities for employment and processing industries in the centres where there are justified economic terms.

Need for administrative reforms

The two cases and the cross-case analysis provide conclusive evidence of the structural transformation of the impact region because of rapid rural-urban linkages in some corridors and slow rural-urban linkages in others. This transformation seems to lack the vibrancy that has been reported from Asian metropolitan regions (Dias 1990; Mc Gee 1990). High alternative unemployment rates are characteristic of both the city and the impact region, while there is a gradual shift in employment from agriculture to the non-agricultural sector mainly in the tertiary sector, in well-accessed corridors.

One of the critical challenges of enhanced rural-urban linkages and livelihoods development is the problem of administrative boundaries. It is important to acknowledge that the boundaries of rural-urban linkages do not necessarily follow the administrative boundaries. The implication of this is that several local authorities may be involved in the development of one linkage. Consequently, it is recommended to create an inter-regional planning authority to initiate, promote and co-ordinate regional development to work hand in hand with the individual municipalities and local authorities in the impact region. National level policies can initiate the setting of inter regional planning teams which can be co-ordinated by the Ministry of Lands and Human Settlements. Such areas may be designated as metropolitan planning areas based on functional regions with identifiable development problems. The local authorities with common problems should pool resources together for the solution of the problems.

This approach has the following advantages: Firstly, it provides a flexible framework by which the problems of the city expansion could be addressed in a regional context without political boundary conflicts. Secondly, it provides ample scope for considering the needs of urban and rural people in a comprehensive framework so that rural and urban development policies could be formulated as complementary and supportive. Besides, a joint planning team should bring the regional planning principles into play as stipulated in the Regional Authorities Act (1997).

The role of local authorities

The study analysed the pertinent issues underpinning rural-urban linkages and their implications on policy and practise. These issues were investigated under the umbrella of three propositions. The first and second investigated whether improved infrastructure triggered enhanced rural-urban linkages, which in turn lead to sustainable livelihoods. The third examined whether locally designed institutions provided sufficient basis for enhanced rural-urban linkages. Given the comparative advantage of the impact region, it would be in the interest of accelerated economic development to inject dynamism into the impact region development. Planned intervention would be an effective means of mobilising the potential inherent in naturally evolving functional spatial processes. However, an important imperative is to view such development within the overall framework of spatial development. Thus, the national development strategy will have to reconcile regional and urban priorities. The following are possible approaches.

The promotion of intensive rural-urban linkages within the impact region calls for a change in the style of local government. Local authorities have been administratively and functionally weak and have not had the capacity for regional economic planning. At present, there is no example of a local authority that can or has prepared its own District Development Plan without assistance from the central government or bilateral organisations. It is, therefore, important that the local authorities become development-oriented and able to assess the available resources in their areas of jurisdiction and determine how best they can be utilised. Their role should not be merely to regulate but also to promote economic activities. In order to facilitate such transformation, it is imperative that the national government takes effective steps to empower the local authorities. The updating of the antiquated by-laws and regulations, and the development of their economic planning capability are necessary steps in this direction.

Local government can also have an important role in increasing access to the number of assets, such as, information on local market prices for producers. It is also best placed for decision-making on the improvement of physical transport and communications infrastructure. However, expenditure for the latter can be significant and well beyond the means the local government can afford; thus, it requires careful planning. A central problem of infrastructure provision is that of financing, which manifests itself in two ways, namely: first, the issue of accessing resources to invest in expanded infrastructure and secondly, the meeting of recurrent expenditure.

Although increased public investment in human, physical and natural capital sectors is needed, there is scope for local governments to improve livelihood opportunities for the poor through a better allocation of existing public sector monies. The government has to consider the positive externalities associated with education and health and opt for policies of contraction to help reduce budget deficits. Hence, if these externalities were incorporated into the decision making process, then the returns to investment would increase.

The education process should not be confined to children but should ideally be available to all through a ‘life long learning’ education system. The education system should provide training to upgrade skills (in new technologies and products) of those already engaged in micro enterprises (ILO 1998). It may also be necessary for a change in the education system itself so that the curriculum teaches basic skills (book keeping, administration, letter writing, legal rights etc.) that increase livelihoods opportunities. The importance of education in rural areas is emphasised as a mean to enable choice and enhance mobility. The local government also has a role to play in reducing the urban and gender bias existing in the education sector. However, as improved education is not a means in itself, it must be exploitable through institutional support and credit availability.

Creation of alternative employment activities is critical for local growth with locally purchased inputs and, whenever possible, processing and manufacturing carried out within the impact region. There is a need to reverse the decreasing localisation economies and accommodate small scale agro processing, market information dissemination, technical inputs / raw materials and provision of basic health (Krugman 1991). In this regard, there is a real need to stimulate the government and all agencies concerned into recognising the reality and the significance of this zone.

Developing knowledge of local economic regions, irrespective of regional/district boundaries is also critical for development. Such economic regions should be demand driven by the respective authorities; the host districts should take the lead by co-ordinating their own district activities. Such knowledge should include long term perspectives like population shifts. The promotion of the development of the growth corridors extending from Dar es Salaam through the impact region into peripheral zones should be addressed. Government

policies should not merely aim to control the growth of the city but also try to manage the growth of the impact region and promote the urbanising systems in this zone in a more efficient pattern. This may call for better integration of physical planning and socio-infrastructure investments measures particularly transport management, flood protection and water supply.

Policy implications: searching for the right policy track

All the emerging characteristics of the impact region shown in this study are consistent with the expected patterns described earlier in the conceptual framework. The impact region is thus considered an extensive zone of mixed rural and urban activities and land use. The two cases have provided a rich menu of survey findings and historical evidence reflecting different types of farming and degrees of participation in rural-urban linkages. The common thread has been a focus on the role of rural-urban linkages on the enhancement of rural and urban livelihoods. This section draws together the emerging policy options and conclusions.

Improve the local potential by providing an affordable spatial framework

One of the critical challenges to enhanced rural-urban linkages is the problem of spatial distribution and availability of socio-economic infrastructure. Currently, the spatial framework of the city has been described as having more linkages with the distant regions than the surrounding settlements (Mwamfupe 1994). Spatial framework implies the functional relationships and the trips experienced in the impact region. Functional relationships comprise social services, i.e. education and health, while 'spatial' implies trips, settlement relationships, social attractions and production flows. Transportation costs are a significant part of total costs affecting the survival of small farmers and the entry of new farmers into the farming industry. The two cases and the cross case analysis have demonstrated that transport helps an economy in many ways, such as giving consumers access to places where they can engage in income-generating activities (Mlandizi), consume other goods and services, or engage in leisure and social activities. Besides, transport enters the economy as an intermediate input into production, either directly or as a complement to other factors, for instance, securing inputs or getting output to market. In the case of rural agricultural production, improved transport may lower input prices (intra-village transport in Mlandizi and Masaki is very costly). As a result, low production costs improve access to credit (credit is available at Mlandizi because of easy and affordable transport and the types of the crops grown), facilitate technological diffusion and increase the area of land under cultivation.

Realising the potential for a more indigenous and resilient process of regional development requires a spatial framework consisting of a mix of policies to enhance rural-urban linkages such as:

- Provision of local feeder roads (from the farms) in addition to trunk roads to ensure frequent and accessible linkages among all villages in the impact region;
- Creation of two-way information and communication systems that include dissemination of both local knowledge and viewpoints outside knowledge and information, using, for example, popular media such as the radio and television; and
- Location of key urban functions that respond to impact region needs in the impact region towns and in urbanised villages, their functions being identified in relationship to the characteristics, needs, and potentials of the impact region and their populations (such as schools, police, dispensaries and water).

Traditionally, infrastructure projects in many rural areas in Tanzania have relied on large well-known construction companies with capital-intensive production methods utilising imported machinery and materials. It is recommended that public sector infrastructure

investment should be directed into labour intensive projects in favour of local enterprises when contracting specialised or small-scale work needed in the project. Local enterprises initially may have to be supported through the provision of basic training in construction work and with credit. The pay off would be the emergence of a local construction materials industry.

A shift from capital to low wage labour intensive projects will reduce the cost of projects in poor communities. There is also the possibility of wage payment in kind i.e. food, shelter and clothing for work programmes. If necessary, the government can further reduce costs by charging user fees, the principle being that services with modest user fees are preferable to the ones with no services and no charges. Labour intensive infrastructure projects increase livelihood opportunities for the poor by:

- providing employment in construction and maintenance activities;
- supporting the development of local enterprises;
- targeting public works projects at the local institutions; and
- reducing the use of foreign exchange on imported machinery and materials. This can be redirected into investment in the social sector.

Thus, policy-wise this will include identification of areas where growth and organic development of networks in urban or rural areas have occurred, and determine marginal measures and investments that can support them.

Support a multiplicity of activities, forward and backward linkages

Lack of substitute income sources apart from agriculture has been identified as a critical problem in the impact region, especially where socio-economic infrastructure are weak or not available. Increased diversification lead augmented participation in rural-urban linkages and sustainability of livelihoods in both rural and urban areas (Bryceson 1997, Ellis 1999). As such, diversification of income is a desirable policy objective because it gives individuals and households more options to improve livelihood security and to raise their own living standards. One way to strengthen the local economy is to increase the capacity of both urban and rural dwellers to interact, and have one foot in the city and the other in the impact region. In so doing, the stakeholders will be able to tap opportunities arising from either side. In order to enhance rural-urban linkages through diversification of production and capture of upstream-downstream linkages within the impact region, three critical areas for policy reflection are:

Identification of regional potential at the micro-scale through village and district level reconnaissance and research on existing and new economic activities entails significant promise. This will include a list of pioneer products (crops) that can be adopted because they enter the market easily and fetch good prices. Instead of concentrating on traditional crops like coconut palms and cashew trees, there is a need to adapt to new high value crops like tomatoes, carrots, cucumbers, papaws, pineapples and cabbages, which are highly demanded by the urban markets throughout the year. Promotion of research and development for innovation in production processes, products (value added) and product design, and marketing are essential.

Creating a more enabling environment for a tertiary sector may reduce costs and allow it to develop even more. The removal of constraints to, and expansion of opportunities for diversification are therefore desirable policy objectives because they give individuals and households more options to improve livelihood security and raise their own living standards. Adopting policies and programmes that enable poor people to access human, physical and

financial assets that can increase their productivity and incomes could do this. For example: enhanced social services (particularly education and health); land tenure reforms; formal and informal finance schemes (such as the supply of low-cost credit); and, support for small-scale enterprises by private individuals, especially in the processing of agricultural produce. The development of high value crop farming and non-farming activities, as well as supportive infrastructure and institutions are also vital for enhanced rural-urban linkages.

Providing for vigorous and sustained economic growth in the tertiary sector creates jobs and incomes for the poor. It also generates public revenues to finance social development and social protection Programmes and strengthens the institutional framework and physical infrastructure for efficient markets. The state, the private sector and the civil society all have crucial roles in reducing poverty and improving the livelihoods of the rural and urban poor by fostering pro-poor economic growth through efficient enhanced rural-urban linkages.

Support migration of people to favoured areas

No wall can stop migration, for all history is the history of migrations. People have constantly moved, and their movement has often greatly enriched the host places. Migration is at the heart of development and, as long as poverty persists or differences between areas continue to exist, people will continue moving to preferred areas regardless of whether they are urban, rich mining or fertile agricultural areas. In an increasingly interconnected world, neither poverty nor privilege can be contained within borders. Thus, we must enhance the understanding of the effects of migration (rural-urban, urban-rural, inter-regional and rural-rural) and the factors stimulating and constraining it. This may involve educating the councillors and politicians on the facts and the many facets of migration.

As a result, policies need to support the migration of people from the city and regions to preferred socio-economic areas while creating infrastructure facilities for the value added processing and employment opportunities. This implies that the city will grow by taking advantage of the spontaneously evolving functional spatial processes. This section argues that policies should aim at supporting migration rather than implicitly or explicitly reducing it, and that negative implications of policies should be more central in debates. The first implication is that policies should be based on the recognition of the centrality of migration to the households' livelihoods, rather than assuming that people are sedentary and immobile. Policy makers often see migration as undesirable and a threat to established life-styles. For example, the Tanzania Government often wants to slow down or reverse rural-urban migration by repatriating *machingas* (petty traders) in Dar es Salaam city to their areas of origin (Mushi 1994).

Furthermore, issues at the local level need to be addressed in an integrated way between different levels of administration: An example is the management of natural resources and wastes, which often reaches much wider areas than those administered by local authorities; therefore, it requires wider alliances. Similarly, migration is an interregional phenomenon. There is, therefore, a need to form an interregional planning authority involving the planners from the Ministry of Lands and the local authorities concerned to look into how to plan for inter-regional resources. For example, management of natural resources like fuel wood, charcoal, wastes, water sheds and population movement into the impact region needs to be addressed using a regional platform involving more than administrative boundaries. Tanzania has had several interregional planning authorities, such as *Uhuru* Corridor Highway, Kagera Basin Development Authority and Rufiji Basin Development Authority. The planning and implementation of these authorities were not successful because they were imposed from above. To address such shortcomings, stakeholders and local authorities need to initiate this commission using their own resources with advice from the Ministry of Lands and Human Settlement.

However, supporting migration does not apply in all cases. There are forms of migration that occur in such an exploitative degree that the aim should be to stop them and provide alternative means of livelihoods to the migrants. It is essential to distinguish 'worst forms' of migrant labour from those that provide essential contributions to livelihoods. An example of worst forms of migration is the encroachment of forest reserves and wildlife management areas that leads to degradation of environment. Thus, policies need to focus on enabling environments that permit migrants to build up their own livelihoods and express their own identities without affecting the environment. In rural areas with large-scale youth labour migration, gender-sensitive policies are called for to assist those staying behind to enhance their livelihoods and reduce vulnerability.

To sustain livelihood in a vast region like Tanzania where there are varying levels of access to basic infrastructure and economic opportunities, migration of people closer to the more favoured areas (fertile, accessible and have infrastructure services) should be supported. Such migration will naturally enhance the development of rural-urban linkages and diversification of employment as the population and economic activity become denser.

Table 8.1: Rural-urban linkages: Policy and research implications

Issue	Policy	Research
	Demographic linkages	
Education and skills	Improve the quality and the standard of education in terms of classrooms, teachers, and facilities.	With respect to the migrants' areas of origin, investigate ways of facilitating remittances,
Population exchange	Support migration to favoured areas by providing socio-physical services and infrastructure.	and channels to invest these in a productive and sustainable production.
	Increase the capacity of both urban and rural dwellers to interact, to have one foot in the city and the other in the impact region and to react to opportunities.	Investigate the effects of migration on agriculture, poverty alleviation and inequality.
	Policies should focus on enabling environments, enabling migrants to build up their own livelihoods, and express own identities.	It is essential to distinguish 'worst forms' of migrant labour from those that provide essential contributions to their livelihoods.
	Economic linkages	
Diversification	Develop formal credit financial organisations services and introduce savings mechanisms.	Which policies are most effective in expanding rural networks and channelling credit to the poor?
	Provide an enabling environment to multiple activities by improving services	
Ownership of assets	to the informal sector.	Why is the non-farm sector in the impact region not dynamic and deeply rooted?
	Formulate land policy that supports diversified activities in favour of gender, allowing all groups to participate in rural-urban linkages.	
	Infrastructure linkages	
Roads and Communication	Provide rural feeder roads and all weather trunk roads.	Is there a critical minimum package of infrastructure?
	Introduce or reinforce trunk road	

	maintenance units to avoid ad-hoc repairs.	
	Institutional linkages	
Norms and rules	Discourage gender segregating norms and cultures to enable all groups to participate (youth, women and men) in rural-urban linkages.	Investigate ways to promote useful informal social institutions.
Local organisations	Recognise the role of social organisations; avoid policy that undermines them inadvertently.	
	Promote helpful informal social institutions that can help both rural and urban people to assert their interests and organise easy access to resources.	
	Support informal credit institutions by either providing parallel financing or avoiding formalising the existing local institutions.	

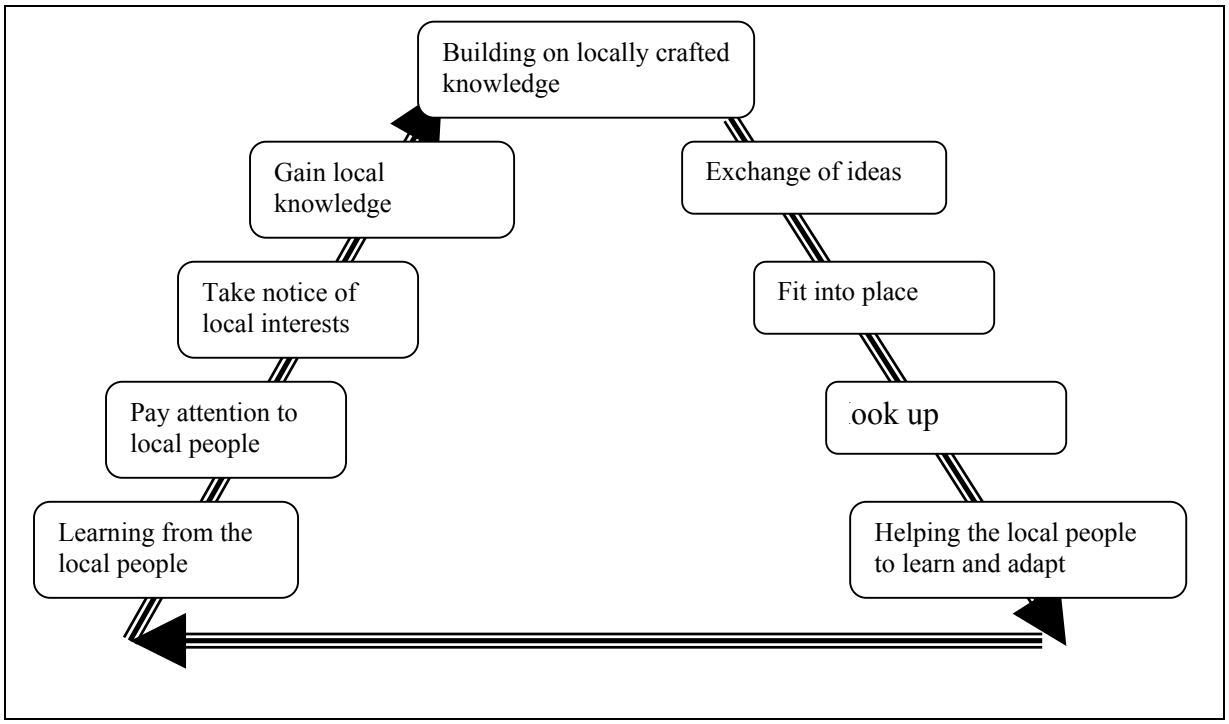
Source: Field survey, February 1999 to March 2000

Promote innovative social organisations

Lack of recognition of local institutions in the impact region was identified as a fundamental problem plaguing the enhancement of rural-urban linkages. These findings support a policy by governments, non-government organisations and donors to invest in institutions, either directly or indirectly by creating an environment friendly to the emergence of local associations. The findings also indicate that investments in local organisations deserve to be part of livelihood development programmes since the returns to investment in institutions are larger for the poor than for others. The creation of local associations in the context of the impact region's development process also requires a balanced approach to capacity building of both local government and local associations.

In order to enhance rural-urban linkages and have an impact on livelihoods, the policies must focus on developing institutions that the poor can use to assert their interests and organise access to resources. The bottom line must be the local institutions that empower the poor to take part in defining the rules that determine their lives. Only when the poor and their interests are represented in institutions at the national level will there be a policy for the poor. This can be adequately done by empowerment through enablement, which involves building on the existing traditional knowledge as illustrated in figure 8.1.

Figure 8.1: Empowerment through enablement



Source: Author's construct

Local institutions are likely to occur when stakeholders have a common understanding of the problems they face; have low discount rate; they trust one another and have autonomy to make some of their own rules. The informal relationships discussed in the two cases were formed because of the existence of the above conditions. The informal credit relationship between farmers in Mlandizi and the urban traders is of crucial importance to the livelihoods in both rural and urban households, and ought to be considered for policy recommendations. Formal credit markets are difficult for small farms because of high cost transaction of providing formal credit in rural areas; and that commercial banks often do not lend to small farmers because they cannot make profit.

However, land policy in rural areas cannot be separated from rural finance in particular credit. The more informal credit is assured, the weaker the arguments to favour large farms. For instance, failure of the formal sector to provide credit to the rural people has evolved an informal relationship between the farmers and the traders that has proved to be very successful in enhancing rural-urban linkages and improving the economy of the rural and urban households. These results confirm other results by Woolcock (2002) that the absence or weakness of formal institutions is often compensated for by the creation of informal organisations. However, this is one area where care is needed if one decides to intervene. These relationships could be working because they are informal, impromptu and people-based. As the discussion has shown, there is no documentation and thus no record is kept. Intervention could lead to disastrous results. The best enabling policy here could be one that indirectly assists these linkages by providing supportive infrastructure and services. In this way, we would be taping the requirements and the processes used by the actors involved, and build on them to improve capacity and reduce vulnerability.

Regional and local policies can support exchanges between rural and urban areas at the household level, and can help transform the institutional relationship between the traders and the farmers from a coping to a productive strategy which requires investments but increases

poor people's access to productive assets, economic opportunity, education and credit. Local government can enhance the value of these informal organisations by linking them to the intermediary organisations, broader markets, and public institutions. Supporting local and regional networks of the local people can help to disseminate useful and relevant indigenous knowledge and enable villages and communities to participate more actively in rural-urban linkages.

Facilitation of gender empowerment is the key to success in rural-urban linkages. Women have less power and control over material resources than men, and they face more severe insecurities even though they are regarded as the key to food security and income production at household level. To empower women so as to enable them to increase their participation in rural-urban linkages; local governments can increase their representation in the village assemblies as it is at Mlandizi and support their productive activities, namely farming and non-farm trade.

Recommendations for further research

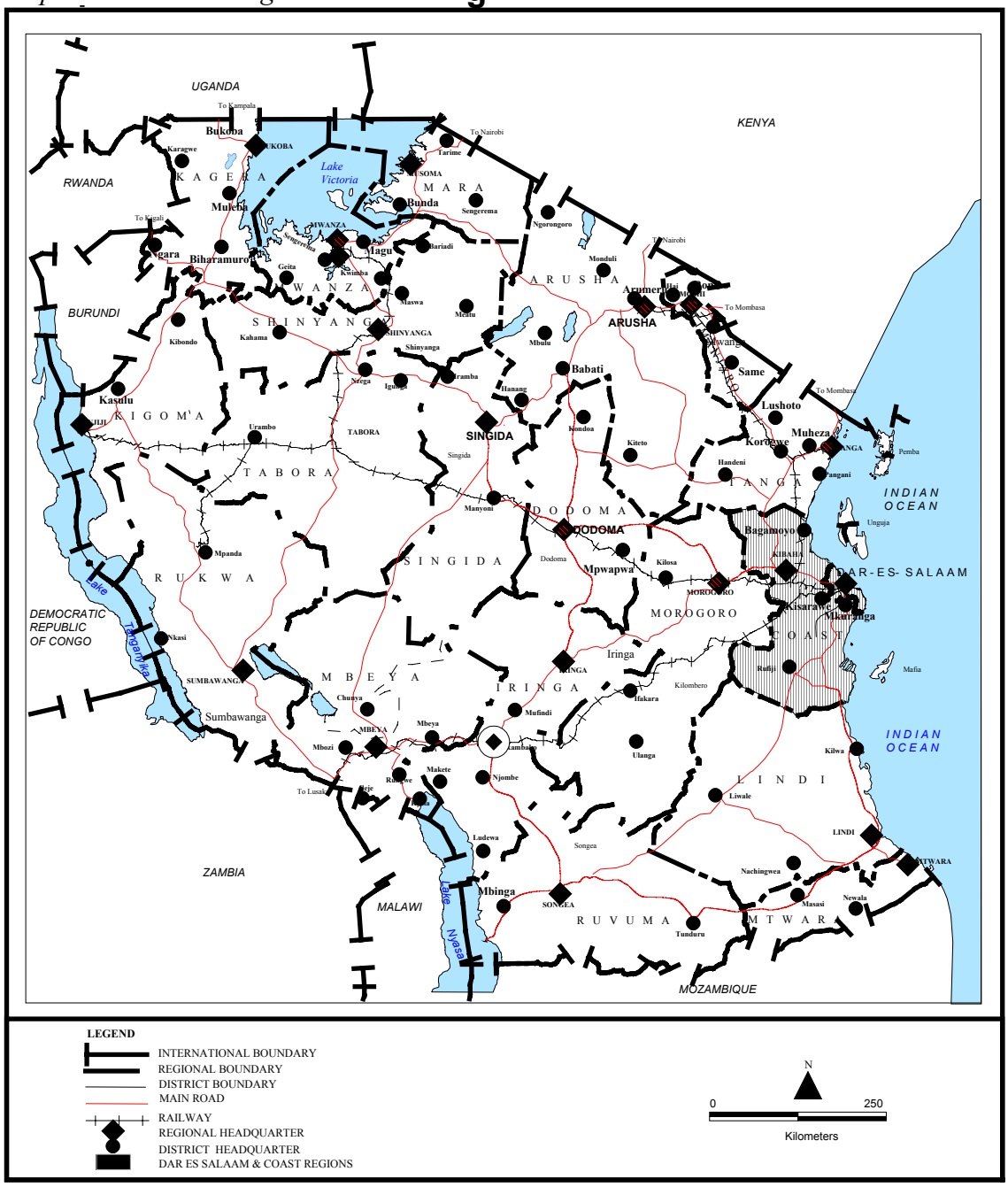
It is clear that the non-farm sector is by its nature extremely diverse, heterogeneous and complex; and this makes its presentation difficult. Interventions can have perverse effects. For instance, infrastructure development may, given time, weaken rather than strengthen the rural economy. There is a need to develop rural economy typologies (even if they must be provisional in the first instance), within which it is possible to be more definite about the non-farm employment opportunity and access issues affecting the poor, and hence provide pointers on appropriate policy and intervention. This type of analysis would be useful to policy-makers and assist in the development of research hypotheses and the identification of knowledge gaps.

Notwithstanding the need for a more detailed understanding of non-farm sector tendencies, rural economy scenarios in particular, it is still possible to identify a number of key areas which affect the non-farm sector and where there is scope for wider and more systematic application of the best practice. Priority areas include improving the accessibility of rural services to the poor and women; developing policies and measures which are supportive of the informal sector; developing appropriate effective local institutions to help anchor and co-ordinate non-farm sector policy development and implementation; improving the availability of rural financial services; and correcting the existing urban bias by provision of public services and infrastructure.

In the past, this aspect has received less attention than the factors that affect the availability of opportunities. Yet, if our interest in the non-farm sector stems largely from its potential to contribute to poverty reduction in rural areas, the access issues must be considered, otherwise only the better off will feel the benefits from non-farm opportunities. The key challenge is essentially "growth with equity".

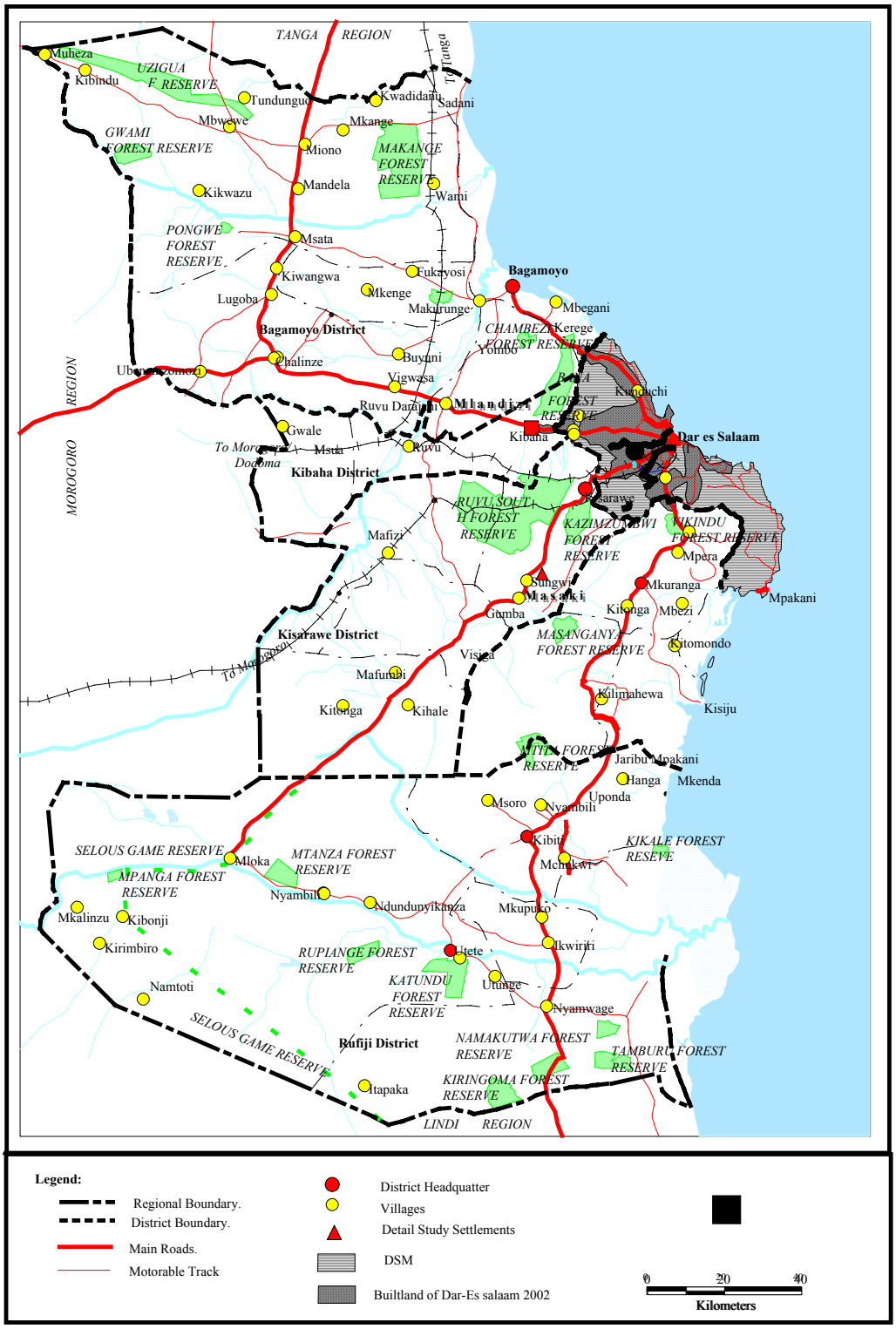
The non-farm sector in the impact region does not appear to be deeply rooted and dynamic. Is it possible that this applies to rural Tanzania as a whole? One often looks at the impact region areas first, for signs of diversification out of agriculture. However, this is an important empirical question, which merits additional investigation, because there are grounds for arguing (and evidence to suggest) that impact region households are well placed to concentrate on the production of agricultural goods and processed products that can be readily sold in the city market. If this hypothesis is correct, then we might expect to see more evidence of non-farm activities in areas further away from the periphery of large cities.

Map 1: National setting



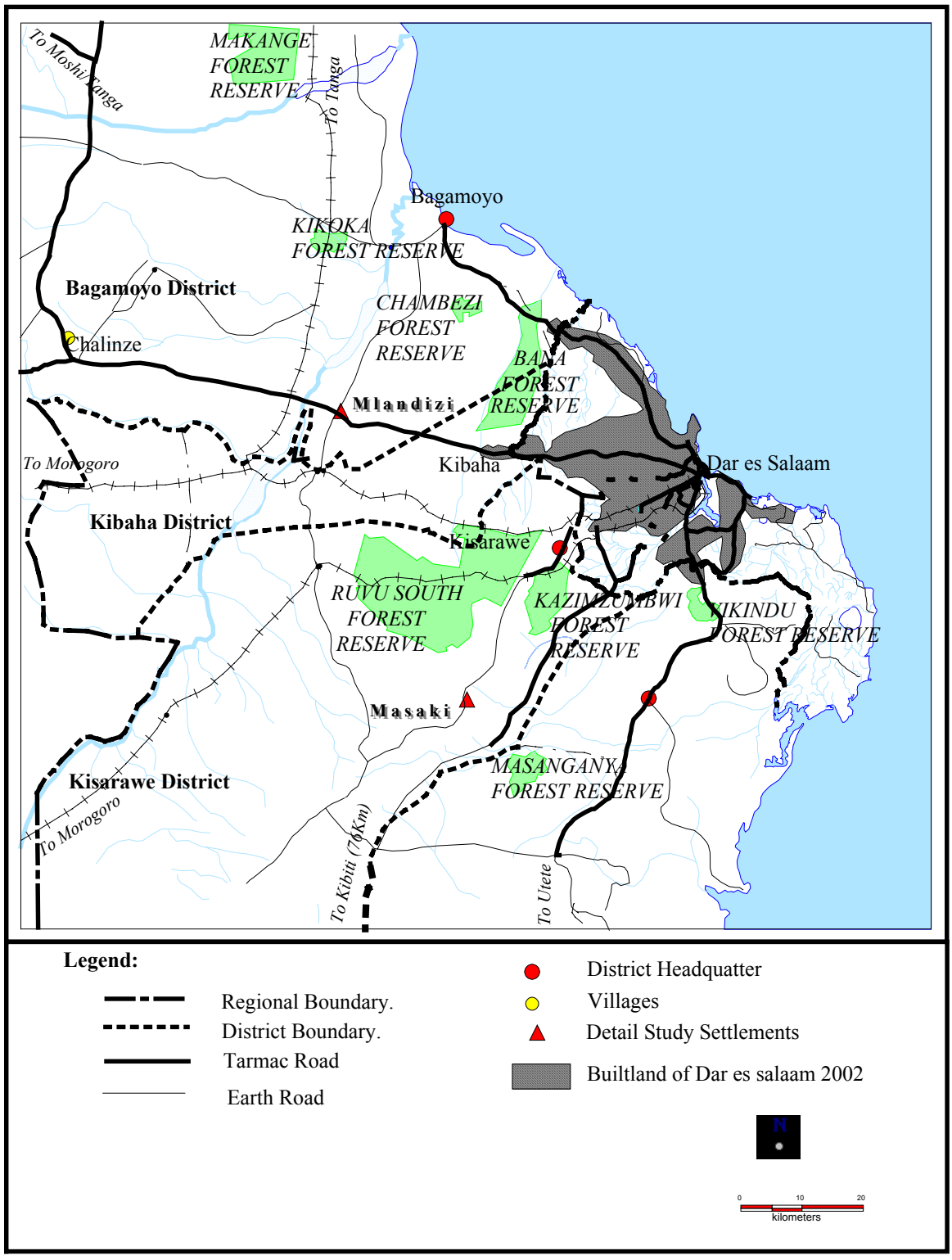
Source: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 2: Dar es Salaam impact region



Source: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 3: Road network in the impact region



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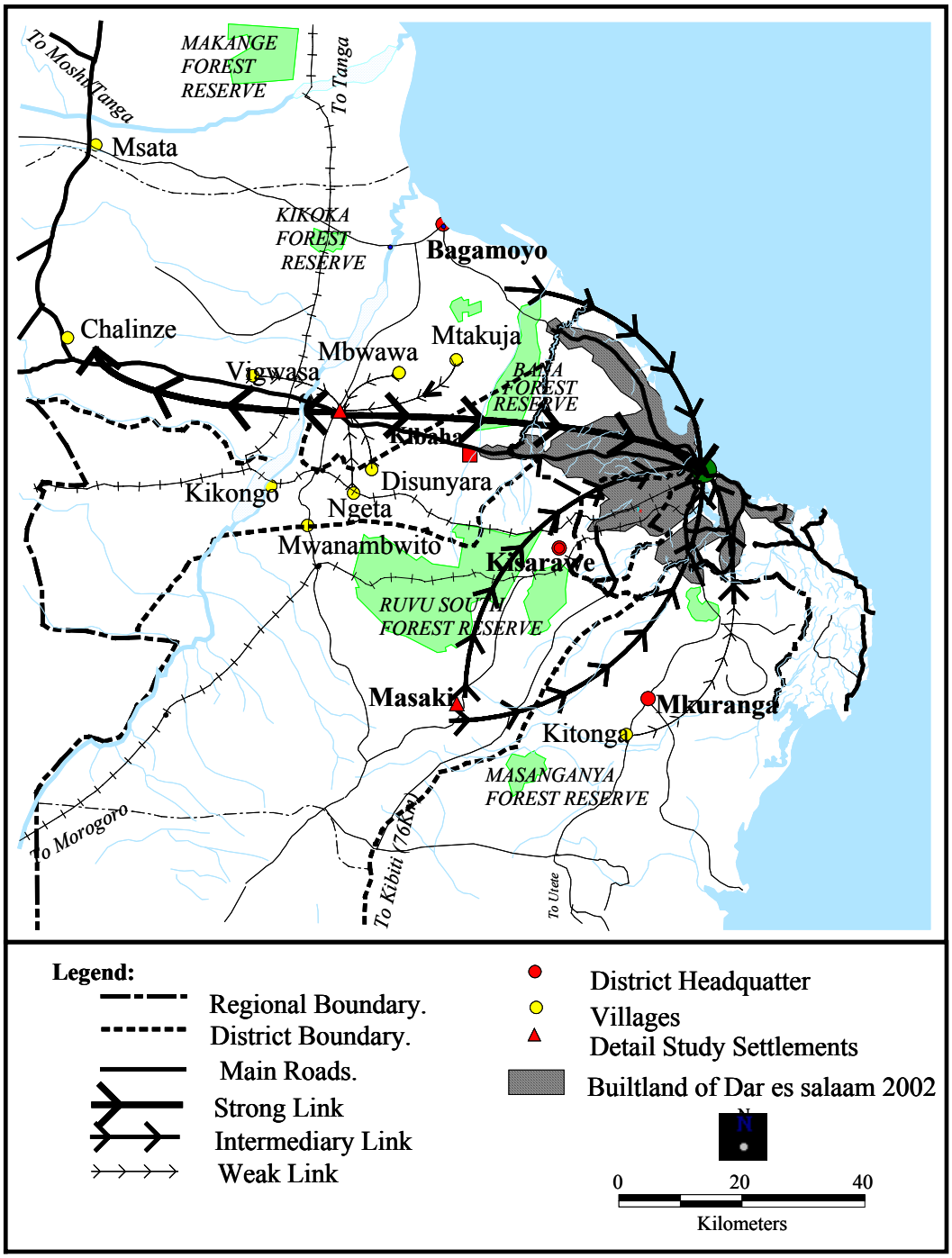
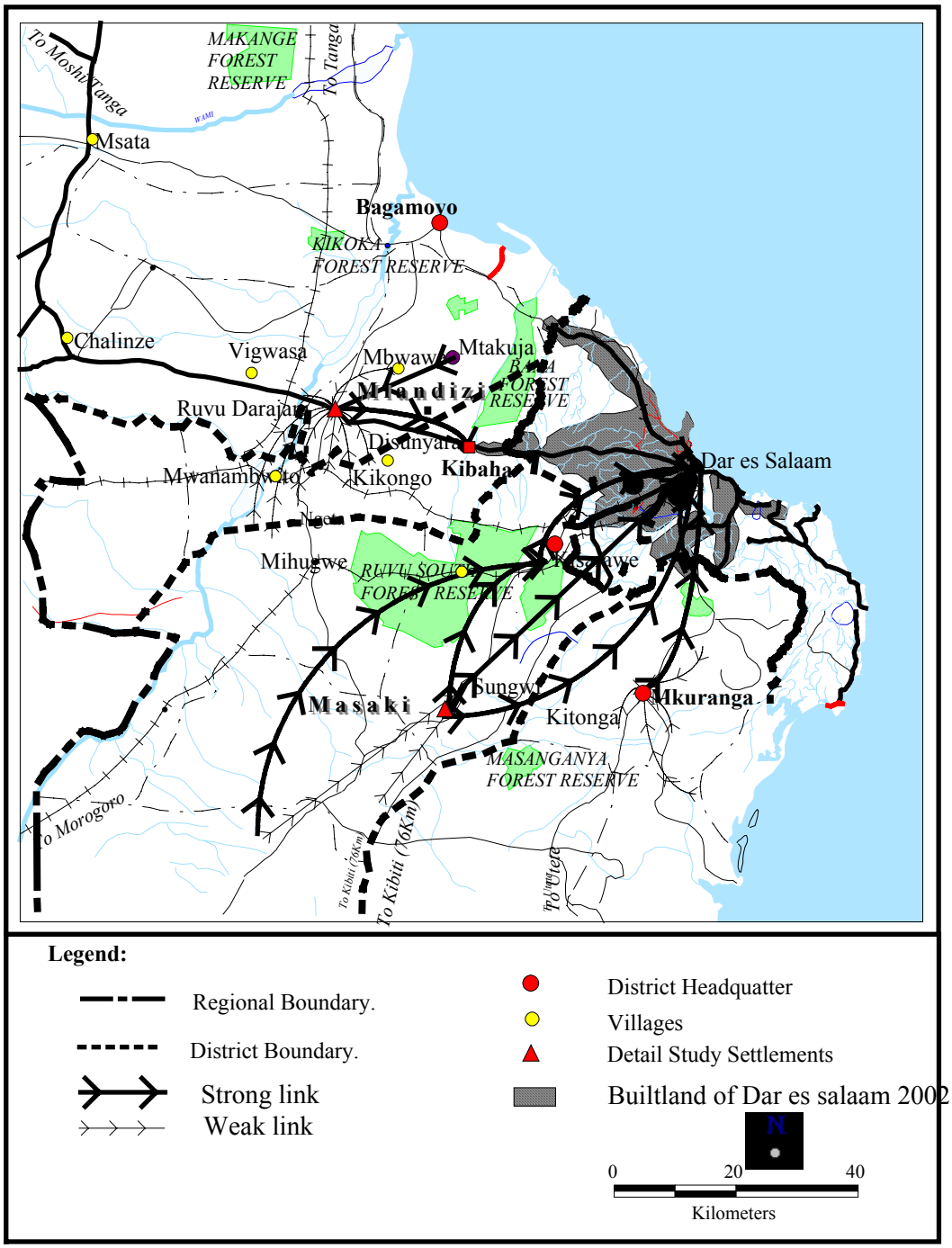
ource: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 4: Agricultural input linkages



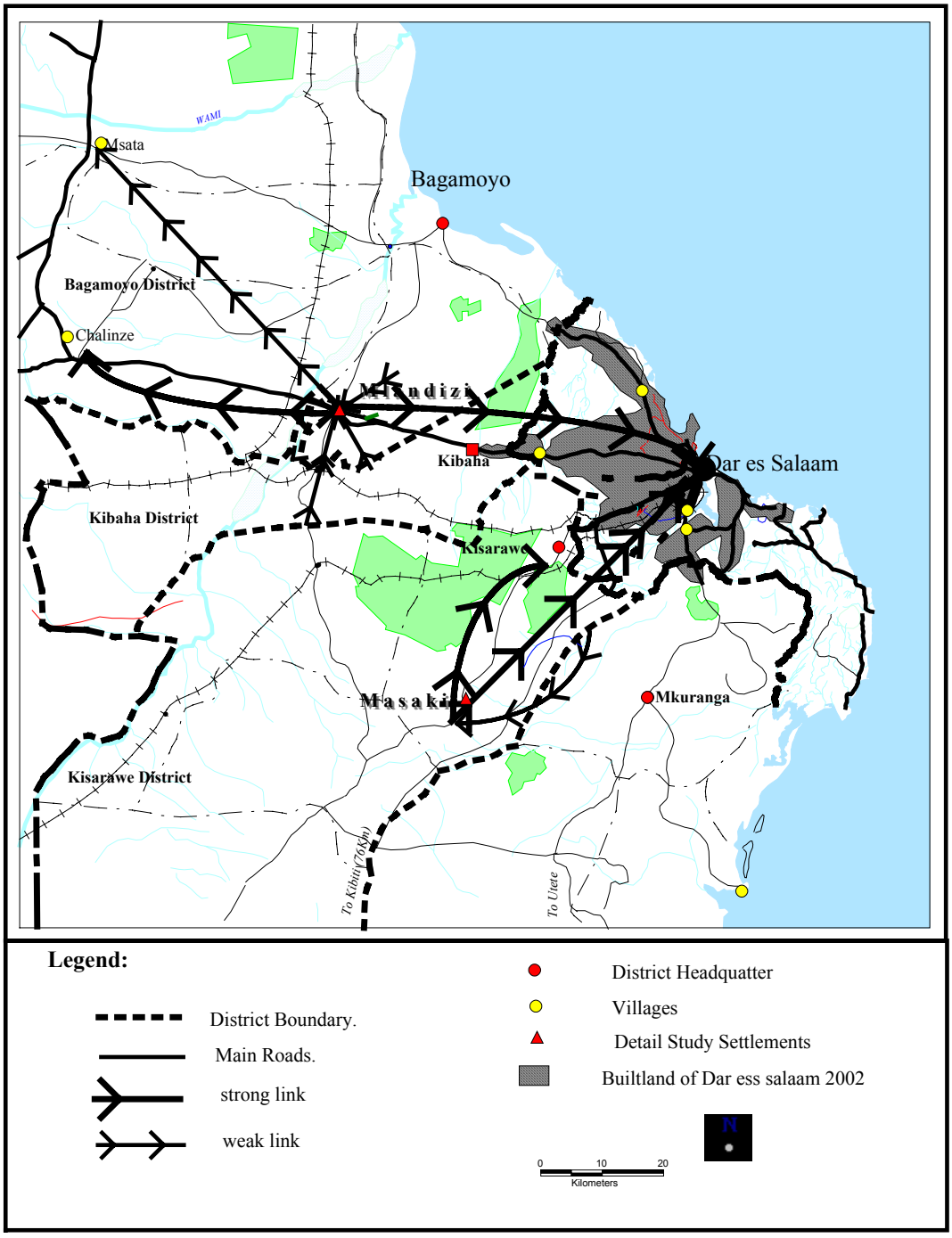
Source: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 5: Health linkages in the impact region



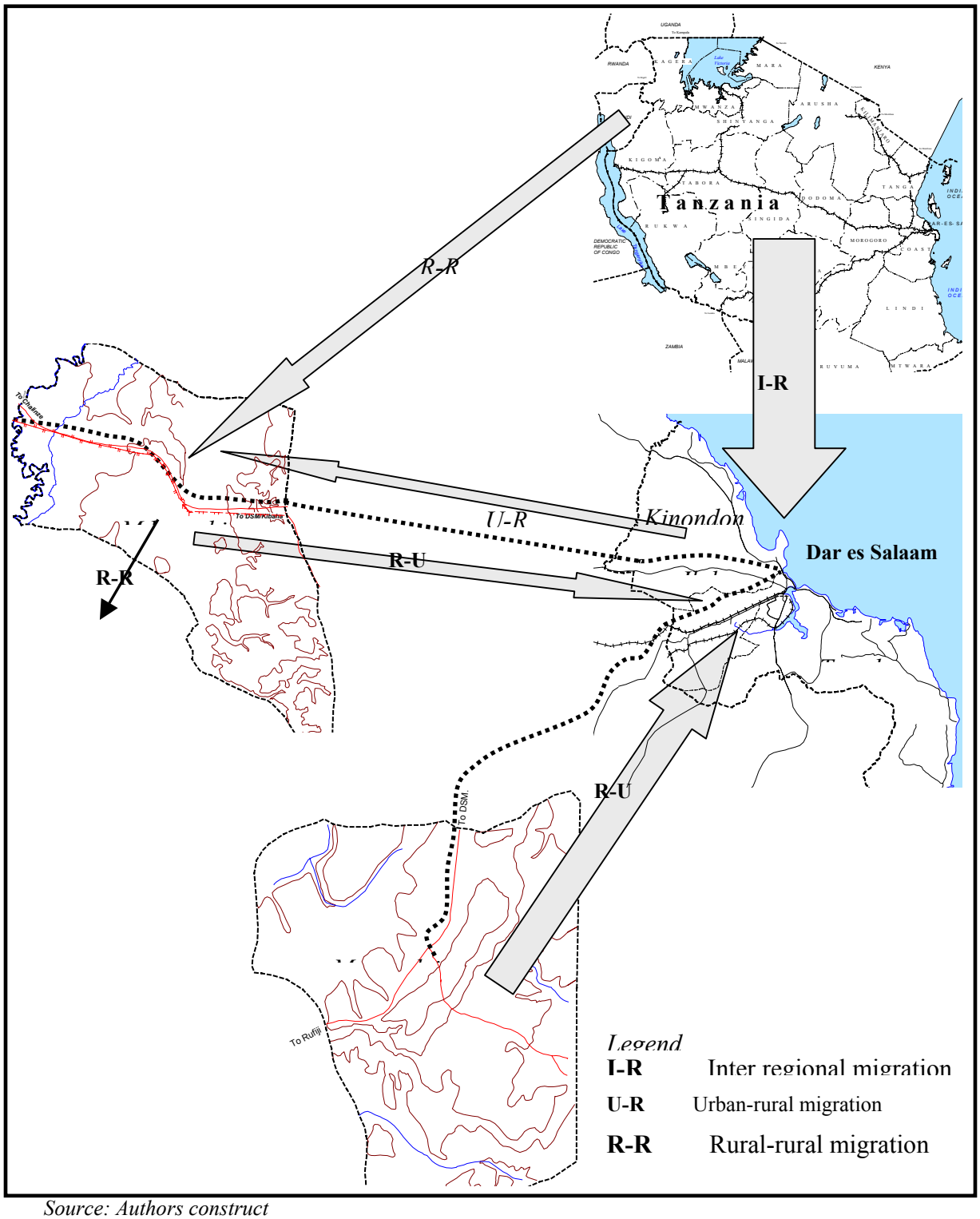
Source: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 6: Seasonal markets in the impact region



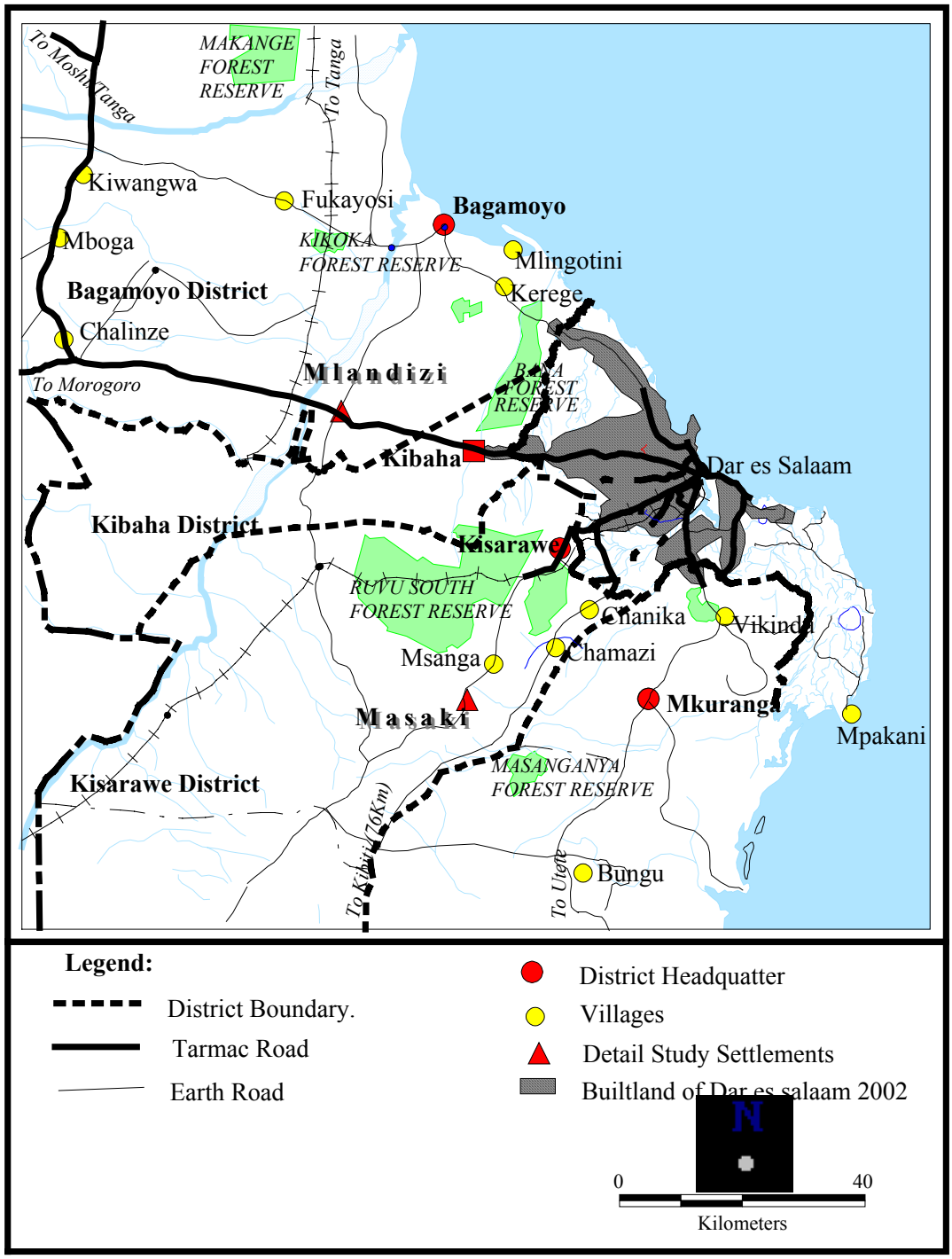
Source: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 7: Types of Migration



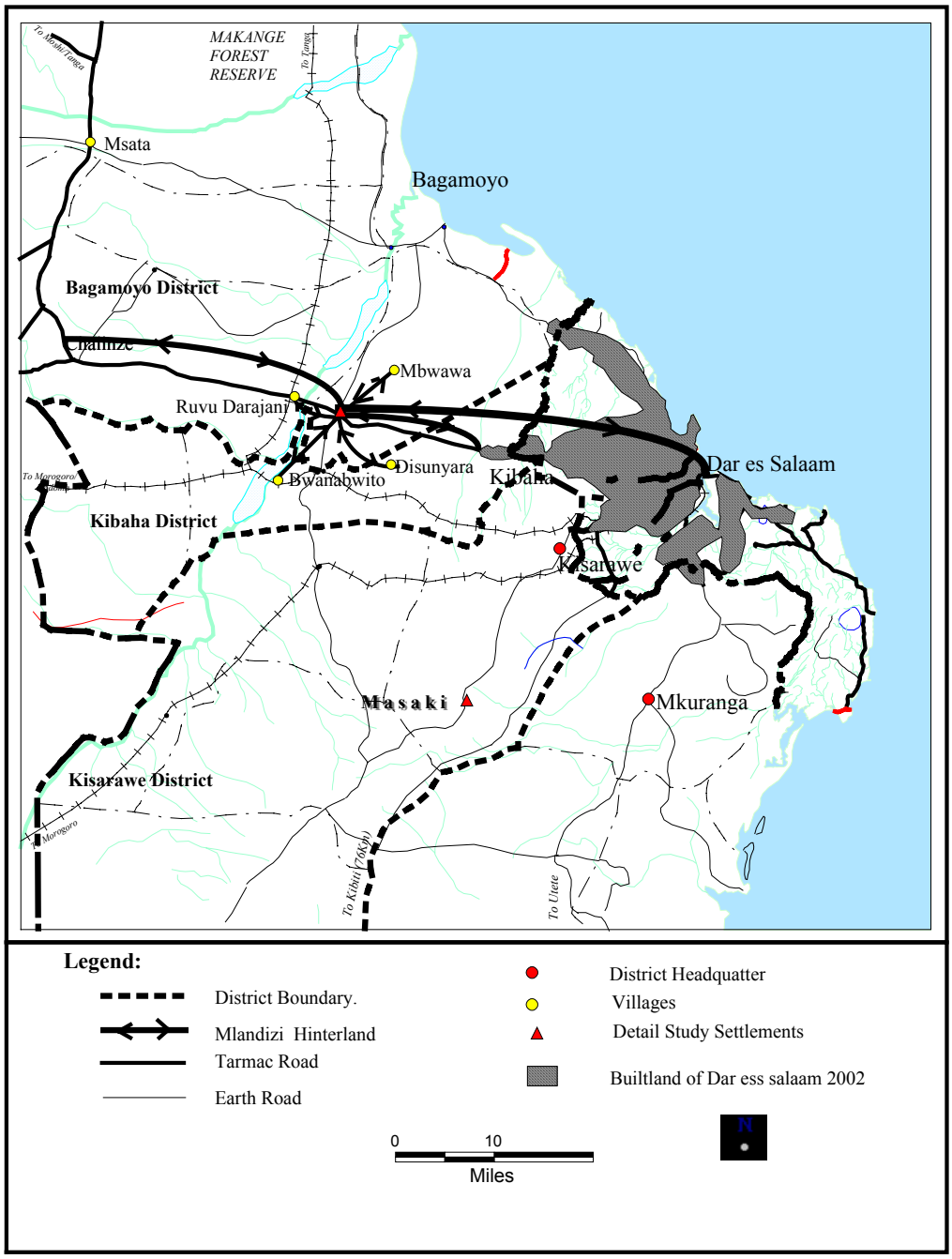
Source: Authors construct

Map 8: Study settlements in the impact region



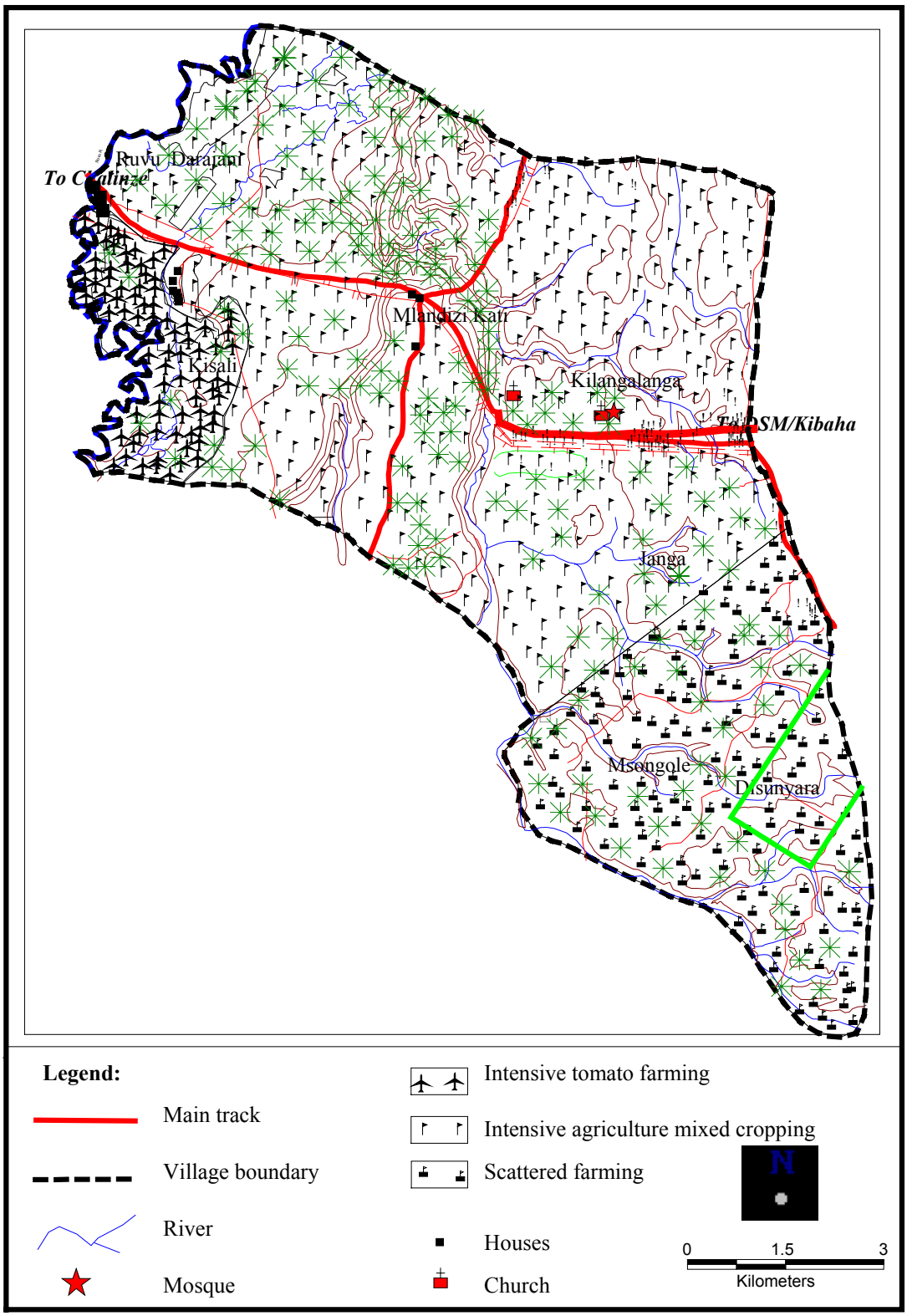
Source: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 9: Mlandizi as a hub in the impact region



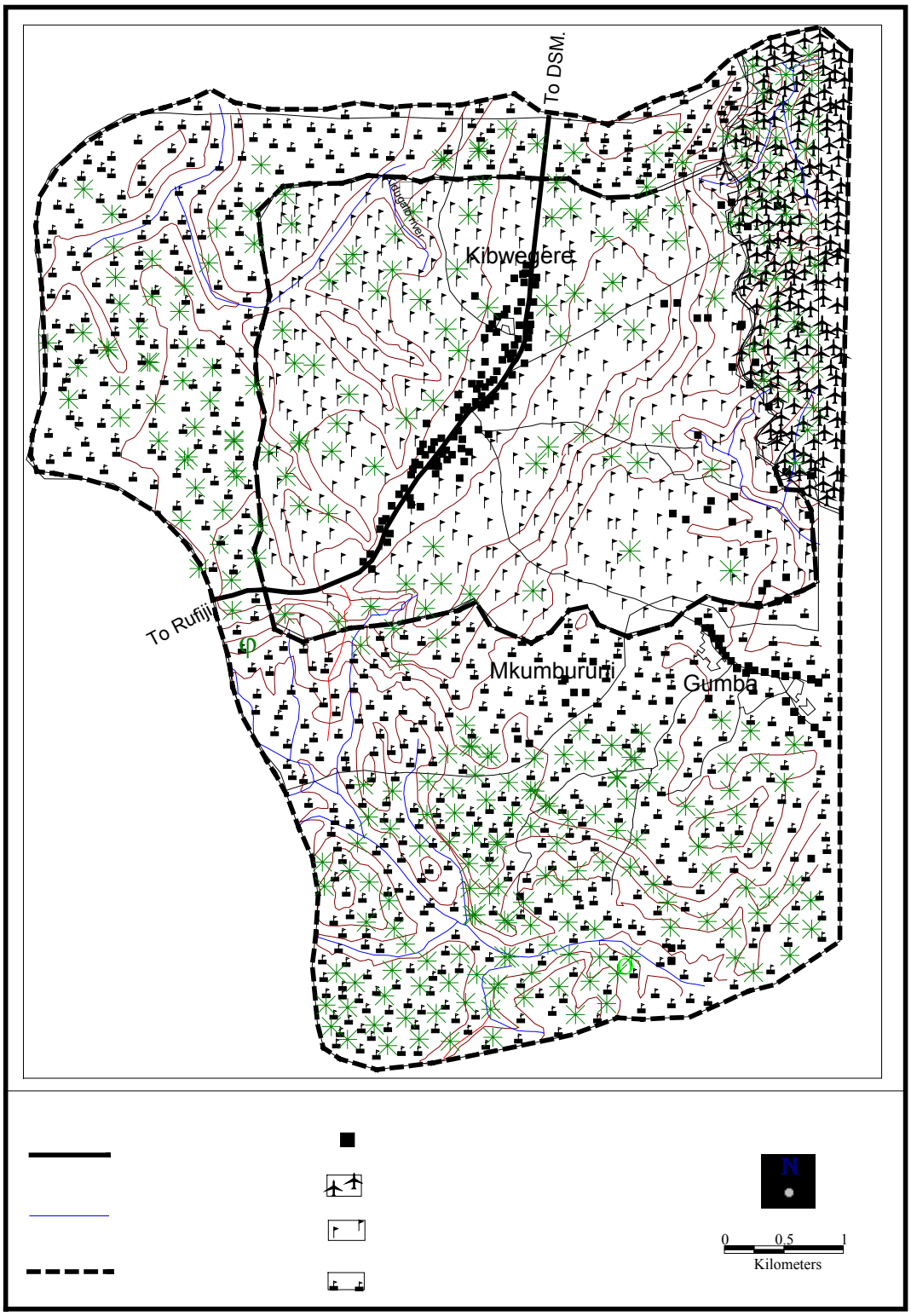
Source: Survey and Mapping Division Ministry of Lands and Human Settlement Development

Map 10: Mlandizi land use



Source: Authors construct

Map 11: Masaki land use



Source: Authors construct

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Appendices

A. 1: Dar es Salaam population structure 1978 and 1988

Dar es Salaam Region	0-4	5-14 (primary age)	15-24	25-64	65+	Total
1978	138,517	191,590	185,718	312,788	16,753	845,099
1988						1,360,850

Source: Census reports 1998, 1988 projection

A. 2: Urban and populations: Developed and developing countries 1994-2025

	Population in billions		Per cent Change	Per cent Of total	
Year	1994	2025	1994-2025	1994	2025
North urban	0.87	1.04	20	15	13
North rural	0.29	0.20	-31	5	2
North[1] total	1.16	1.24	7	21	15
South urban	1.65	4.03	144	29	48
South rural	2.81	3.03	8	50	37
South total	4.46	7.06	58	79	85
Urban total	2.52	5.07	101	45	61
Rural total	3.10	3.24	5	55	39
Total	5.62	8.31	48	100	100

Source: World Urbanisation Prospects; The 1994 revision (1995), UN New York

A. 3: Africa's rural and urban population 1994 and 2030 (in "000")

Country/Area	Urban		Rural	
	1996	2030	1996	2030
Africa	262308	863529	476422	725380
Eastern Africa	52347	225371	175295	304511
Middle Africa	28448	111364	57288	97925
Northern Africa	78414	182196	82958	89047
Southern Africa	23296	56334	25115	31608
Western Africa	79803	288264	135766	202290
Uganda	2600	14764	17655	35290
Kenya	8198	28938	19601	24693
United Rep. of Tanzania	7681	32992	23118	35579
Dem. Rep. of the Congo	13556	58370	33257	60615
South Africa	20980	48700	21413	27065
Nigeria	46525	166034	58495	95554
Ghana	5481	22544	11351	17096

Algeria	6240	36938	2543	3274

Source: United Nations department of economic and social affairs population division 1996

A. 4: Major policy and institutional changes 1960-2000

Years	Major policy changes	Strategies implemented	Remarks
1961-1963	Three year development plan	No clear strategy	Agricultural sector received very low priority
1964-1969	1st First Five Year Development Plan (World Bank Support)	Rural development Programme (Village settlement plan)	Too expensive (abandoned in 1965)
1967	Arusha Declaration	Ujamaa villages Voluntary (up to 1973) Compulsory rural settlement (from 1973).	Failed
1969-1974	2nd First Five Year Development Plan	Village planning emphasised	Too expensive (abandoned)
1972	Decentralisation, Local government abolished	Regional Development Directors and District Development Directors put in place representing the central government.	Lack of finances, manpower,
1976-1981	3rd First Five Year Development Plan (Financed by World Bank, OECD and many donor countries).	Regional Integrated Development Plans, Growth poles	Poor financing and implementation
1982-1985	Structural Adjustments Programme (SAPs)	-Increase in the share of development expenditure for agriculture, -Increased producer prices, -Rationalisation of the fast growing public administration, removal of subsidies, -Devaluation of the shilling and increase of imports.	
1982	Local government re-established -District Authorities Act -Urban Authorities Act		Control from central government

1984	Decentralisation second attempt		Devolution while power remained with the central government
1986-1989	Economic Recovery Programme (ERP)	-Regular monthly adjustments of the exchange rates, -Consolidation of partial import liberalisation measures, -Measures to improve agricultural marketing structures.	
1997		Regional and District Secretariats established (Regional Administrative Secretary, District Administrative Secretary. Regional Development Directors and District Development Directors abolished	To strengthen decentralisation (Too early to comment)

Source: Author

A. 5: Impact region population structure

Dar es Salaam Region	0-4	5-14	15-24	25-64	+65	Total
1978 1988	87,056 107,557	133,490 167,574	70,537 107,574	187,876 203,772	37,980 51,538	516,949 638,015
Per cent Change	0	+0.5	+3.2	-4.4	+0.7	

Source: Census reports 1978, 1988 and Coast Region social economic profile 1997

A. 6: Summary of revenue collections from forests products

Year	Round-wood	Charcoal	Firewood	Building poles	Fito (withies)	Other products	Total revenue
1985/86	550418	3359946	1412242	158348	17028	56174	5554156
86/87	876828	6279285	129334	1119249	45119	196582	8646397
87/88	1048450	4092294	92918	1774949	13952	53315	7075878

88/89	1428578	4411690	57815	183145	8020	2977761	9067000
89/90	3060305	4252170	143818	240125	42310	193807	7932535
90/91	10209417	8185980	173004	479790	7570	4959685	24015466
91/92	7596688	16421940	1998700	874600	10000	1271043	28222978
92/93	12728667	23571750	583300	2964258	13500	1816012	41673978
93/94	11787213	16271440	55200	1316350		3437042	32880745
94/95	14740700	29977700	1066500	805840		2266904	48857644
95/96	26939020	41248300	2141700	4097060		217339	74643419
Total	90966284	158072495	7854531	14013714	157499	17445664	288570196

Source: Coast Region Social Economic profile 1997:142

A. 7: Sources of food commodities by variety

Product	Source Region/District/country	Variety	Unit
1. Tomatoes	Moshi Tanga Mbeya Morogoro, Kibaha (Ruvu)	Marglobe Roma dumdum Money maker Romasoft	Crate
2. Onions	Mpwapwa Arusha Morogoro (Kidete) Iringa (Ruaha)	Khaki Red Bombay Red Bombay Red Bombay	Sack
3. Garlic	Mbeya (Njombe) Arusha	Big size Small size	Sack
4.Spring onions	Mpwapwa & Lushoto	Sprout onions	Sack
5. Leeks	Lushoto	Italic giant	Kg.
6. Egg plant	Kibaha & Dar es Salaam	Black beauty Chocolate	Sack
7. Garden egg	Mbeya Morogoro & Tanga	Long shape Oval/round shape	Sack
8. Fresh peas	Morogoro (Mgeta) Iringa (Kigua, Mwatasi)	Thick cooked Hard cooked	Sack
9. Cabbage	Lushoto (Mavuno)	Drumhead/ Comengo	Sack
10. Lettuce	Lushoto (mavuno)	Iceberg	Sack
11. Cauliflower	Lushoto (mavuno)	Snowball	Sack

12. Kale	Mgeta, Lushoto	Collard/Premier	Bundle
13. Spinach	Mgeta, Lushoto	Swiss chard	Bundle
14. Raddish	Mgeta, Lushoto	White	Bundle
15.Irish potatoes	Mbeya (Ndaga) Njombe, Lushoto (Mtae) West Kilimanjaro	Arka SA-I-P Kenya-1 Kenya-1	Bunch
16. Ripe Banans	Pwani (Msanga) Morogoro (Kinole, Makuyuni), Matombo	Kisukari Green Yellow	Bunch
17.Coconuts	Mafia, Coast region Tanga, Lindi	East African tall East African tall	Crate Crate
18. Peanuts	Zambia, Malawi Dodoma, Mpwapwa	Virginia runner Spanish Valencia	Sack

Source: Kariakoo Market Corporation, Statistics department July 1999

A. 8: Paddy production figures 1986/87-1995/96, Coast region

Year	Area under cultivation (ha)	Total production (tons)	Production/ha
1986/87	23,910	21,600	0.903
87/88	28,955	32,570	1.124
88/89	23,004	34,502	1.499
89/90	23,083	35,799	1.550
90/91	34,594	27,780	0.803
91/92	44,000	20,625	0.468
92/93	24,010	34,963	1.456
93/94	18,240	49,734	2.726
94/95	15,000	52,562	3,504

Source: Coast Region Agric Dept Office, Kibaha 1999

A. 9: Production of cashew nuts: 1983/74-1995/96, Coast Region

Year	Production in tons	Remarks
73/74	34,509	Production figures dropped from 34,509 tons in
75	225,266	1973/74 to 2,920 tons in 1992/93. This was due to
76	19,586	the following causes:
77	23,497	The dramatic spread of cashew disease which
78	12,099	reduced individual yields
79	15,606	Decline of producer prices.
80	11,379	The policy of villagisation whereby formers
81	7,790	homes were reallocated into villages for away
82	9,619	from their farms.
83	7,132	Poor supply of inputs by the co-operative
1984-1989	Very small	societies.
90	production	
91	3,549	
92	5828	
93	3773	

94 95 95/96	2,920 4481 12,200 9,446	

Source: Coast Region Agric Dept Office, Kibaha July and August 1999

A. 10: Pineapple production estimates: 1992/93-1996/97, Coast region

Coast Region	Area in Ha.	Production in tons				
Total Production in Tons	1,235	1992/93	93/94	94/95	95/96	96/97
		11,879	1,3619	15,959	18,156	19,971
Production tons per hectare		9.6	111.0	12.9	14.7	16.2

Source Coast Region Social Economic profile 1997:90

A. 11: Production estimates of tomatoes: 199293 to 1996/97, Coast region

Coast Region	Area (Ha)	Production in tons				
		1992/93	93/94	94/95	95/96	96/97
Total	412	5,165	6,000	6,935	7,912	8,710
Production tons per hectare		12.5	14.6	16.8	19.2	21.3

Source Coast Region Social Economic profile 1997:91

A. 12: River basin irrigation areas in Coast region

River basin	Potential area in hectares	Area under use hectares	Per cent age
Rufiji	80000	120	
Wami	40500	550	
Ruvu	68000	1490	
Total	188,500	2160	1.2

Source: Calculated from estimates given by Coast Region Socio-Economic Profile 1997

A. 13. Types of institutions visited

District	Officials	Types of information
Kisarawe	District Executive Director District Planner, Agric. Extension officer, land officer, community development officer, engineer and surveyor	Maps
Kibaha		Reports
Rufiji		Answered questionnaire
Mkuranga		Types of roads, earth tarmac
Bagamoyo		Rivers valleys
		Population figures
		Production and productivity

		Markets

A. 14: Family participation in agricultural activities

Activity	Father	Mother	Children	Labourers	total
Bush clearance	5			5	10
Tilling	2	4	2	2	10
Planting	2	4	1	3	10
Ploughing	4	1		5	10
Pesticide	3	3	2	2	10
Harvestin g	5	5			10
Selling	5	5			10
Total	26	22	5	17	70

Source: FGD[111] February 1999 at Mlandizi

A. 15: Family participation in household activities

Activity	Father	Mother	Children	Labourers	Total
Bush clearance	3	5		2	10
Tilling	2	6		2	10
Planting	1	6	1	2	10
Ploughing	1	5		4	10
Pesticide	4	2		4	10
Harvesting	3	4	1	2	10
Selling	8	2			10
Total	22	30	2	16	70

Source: Field survey Feb 1999 Masaki members: Salehe Seif, Charles Manega, Hamis Seif, Kombuken Simba, and Krispin Adeus

A. 16: Mlandizi village population structure 1978.

0-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	>65	Total
1117	1001	660	1083	1030	617	401	257	318	6484
17.2%	25.6%		16.7%	35.5%				5.0%	100%

Source: Population census 1978, 1988

A. 17: Mlandizi village population structure 1988

0-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	>65	Total
1900	1844	1669	2935	1827	1133	781	602	733	13,424
14.1%	26.2%		21.8%	32.4%				5.5%	100%

Source: Population census 1978, 1988

[111] Members FGD Feb. 1999 Mlandizi village: Mtendaji Kata (Mr. Kiwamba) Miss Rehema (Mkonge Shop), Miss Margaret Mapunda, Mohamed Juma, and Mzee Peter Joseph.

A. 18: Mlandizi village population structure 2000 (projected).

0-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	>65	Total
2438	2366	2142	3766	2345	1454	1002	773	991	17226
14.2%	26.2%		21.9%	27.9%				5.8%	100%

Source: Population census 1978, 1988

A. 19: Characteristics of Dar es Salaam-Mlandizi road

Route	Dar es salaam Mlandizi	Shoulder condition	Drainage112 facilities condition	Bridges & culverts
Chalinze-Dar es Salaam	Bitumen	V. Good	V. Good.	V. Good

Source: Field survey, and Kibaha regional engineers office, December 1999–January 2000

A. 20: Passenger travel cost and travel time

Parameters	Kibaha district
Average passenger travel cost per km.	TShs. 6.5 /km.
Average passengers travel time per km.	0.6 min/km.

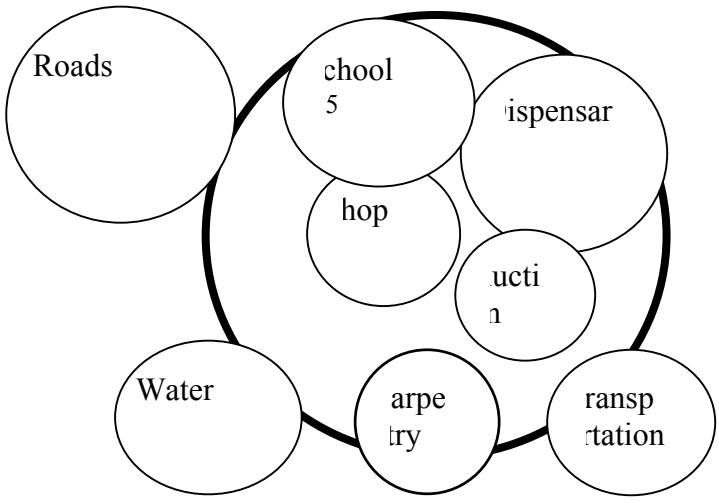
Source: Field survey, December 1999–January 2000

A. 21: Masaki population structure 1988

	0-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	>65	Total
Males	177	168	182	164	110	72	67	58	150	1148
Females	166	187	140	197	126	102	80	47	217	1262
Total	343	355	322	361	236	174	147	105	367	2410
%	42.4			38.1				19.5		100

Source: population census reports 1988

A. 22: Venn Diagram Masaki settlement



112 Shoulder and Drainage condition according to standards by The Ministry of Works; Dar es salaam

The diagram represents the importance and efficiency of services in Masaki village. The size of the circle indicates the importance of a particular service. The bigger the circle the more important the service is to the villagers. Placement of the circle in the big circle that represents the village boundary indicates the efficiency of a particular service. The closer the service is to the centre the more efficiency it is and the further it is from the centre the less efficiency it is.

Appendix 23: Questionnaire

Questions to farmers: A. Demographic

1. **What is your household size?**

Age group	Population		
	Male	Female	On safari/place/doing what?
0-14			
15-24			
24-44			
45-65			
Total			

B. **Access** to social economic infrastructure

2. Education
- Distance to primary school
- Distance to secondary school
- Problems

3. Health
- Distance to the heath facility
- Alternative
- Problems

4. Water
- Distance to water sources
- Quality of water
- Problems with water availability

5. Road access to the settlement
- Type of road (quality) explain
- Distance to all weather road

6. Types of activities:
   a) Farmer
   b) Labourer

c) Farmer/trader
d) Others

7. Access to resources

- Land ownership (gender)
- Housing

8. Do you have any migrants from other areas in your village?
9. What attracts people from other regions to settle here?

C: **Land** markets
10. How did you obtain the land?
a). Inheritance
b). Buying
c). Bush clearance
d). Others

11. If you bought the farm, what was the price per acre? Year?

Size	1 acre	2 acres	>2 acres
1980-1985			
1985-1990			
1990-1995			
1995-2000			

D: Marketing agricultural produce
12. Type of crops grown
a)
b)
c)
d)

13. Where do you sell your produce?
a) Market
b) Bought at home
c)
d) Others

14. Travel time from home to the market
a). 30 minute
b) 30-59 minutes
c) 60-89 minutes
c) >90 minutes

E: Costs of production
15. Costs of growing the most common commodity

	Costs	Remarks
Preparation of one acre		
Buying of seedlings		
Planting		
Caring		
Watering		

Pesticides		
Transport		
Labour		
Production		

How do you get money to deal with tomatoes farming?

16. If sold at home to the merchants, what prohibits you from sending them to the market?

a) The quantity produced is too little to merit travelling all the way to the market
b) It is more profitable to sell to the merchants
c)
d)

17. What difficulties do you encounter in buying inputs?

a) Prices are too high
b) It is expensive to transport the agricultural produce to the markets say in Dar es Salaam
c)
d) Others

18. Where do you obtain your agricultural inputs?

a) In the nearby town
b) I Dar es Salaam
c) In the village
d) Others

F. Questions to merchants

1. What products are brought to the market?

a)
b)
c)
d)

2. What is your experience as a merchant?

a) 5 years
b) 5-9 years
c) 10-14 years
d) 15-20 years

3. What are the quantities of the products handled?

	Product	Quantity	Source	Price	Unit
1					
2					
3					
4					

4. Do you visit other markets?

i). If no why?

a) Because of poor roads
b) There are no other markets here
c) I do not have enough capital
d) Others
e)

ii). If yes which ones:
a)
b)
c)
d)

5. How do you travel to the markets?
a) Bicycle
b) Foot
c) Bus
e) Truck

6. How much do you pay for the following items?

Activity	Cost	Remarks (too expensive/or?)
Transport		
Loading and unloading		
Food		
Accommodation		
Other costs		
Total		

7. Where do you normally?
a). Get your products?
a)
b)
c)
d)

b). Sell your products?
i)
ii)
iii)
iv)

8. Why do you prefer these places (markets)?
a)
b)
c)
d)

9. What prohibits you from visiting other markets?
a)
b)
c)
d)

10. Do you always pay cash in your transactions? Explain.

11. What problems do you encounter in business?

Problem	Cause	Possible remedy
1		

2		
3		
4		

12. Do you operate alone? Yes/No
If yes how?
a)
b)
c)
d)

13. If no with who do you operate, explain.
a)
b)
c)
d)
14. Give suggestions of the needed improvements to be undertaken to improve the transactions.
a)
b)
c)
d