Rural-Urban Linkages under Different Farming Systems

The Cases of Coffee and Non-Coffee Growing Regions in Ethiopia

Tegegne Gebre Egizabher

Social Science Research Report Series - no. 21

Organization for Social Science Research in Eastern and Southern Africa

OSSREA acknowledges the support of Ford Foundation, Swedish International Development Co-operation Agency (Sida/SAREC), Norwegian Agency for Development Co-operation (NORAD), The Netherlands' Ministry of Foreign Affairs, and International Development Research Centre (IDRC).

Printed in Ethiopia

Series editor: *Taye Assefa*
Text layouts: *Alemtsehay Zewde*

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ACKNOWLEDGEMENTS

The author is greatly indebted to the Organization for Social Science Research in Eastern and Southern Africa (OSSREA) for funding this study. The study would not have been realized without the generous help provided by OSSREA.

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RURAL-URBAN LINKAGES UNDER DIFFERENT FARMING SYSTEMS: THE CASES OF COFFEE AND NON-COFFEE GROWING REGIONS IN ETHIOPIA

Abstract: This study examines the nature and magnitude of rural-urban linkages in Robe and Limu Kossa Weredas of Oromiya region in Ethiopia. The study is motivated by the belief that sustainable development requires a symbiotic development of both rural and urban areas which is grounded on the assumptions of the virtuous circle model of rural-urban linkages.

The study uses data from surveyed farm and urban households and traders to provide background information and investigate ten testable hypotheses.

The study found out that the farm sector in the study areas shows consumption linkages in terms of expenditures on urban goods and selected social services. The hinterlands have also shown limited marketing linkages in the sale of rural products to the small towns. The main rural products brought to the small towns are: coffee in Limu Kossa Wereda and grain in Robe Wereda. Most of the expected linkages such as input, financial and processing linkages between the hinterlands and the small towns do not exist.

The linkage of the urban households to the rural hinterland varies in each study site. In Robe town, urban households mainly derive their grain needs from the local market where local grains are sold. In Limu Genet town, however, though most of the urban households purchase grains from the local market in the town, these grains are not produced in the surrounding hinterland but are brought from far off places by urban traders.

The urban traders survey revealed that both towns are collecting centres for the national and regional markets. Limu Genet town is a collecting centre for coffee while Robe town is a collecting centre for grains. The urban traders in the study sites, though with limited capital, are mainly family-run. They, however, play an important role in connecting the city and the hinterland to the national markets for different products.

The virtuous circle model of rural-urban linkages gets partial support in the study sites. It was found that a truncated linkage fits well the study sites. The subsistence nature of the rural economy, the functional composition of the towns which are limited to basic services and administration, the role of some state organizations and the lack of economic infrastructure to attract further investment in the towns and foster forward production linkages are some of the reasons for the truncated patterns of linkages observed in the study areas.

There are some policy implications that emanate from the study in order to strengthen rural-urban linkages and bring about a reciprocal relationship in the study areas. These are: the provision of infrastructure such as electricity and water supply in small towns to support processing activities; financial sector

reform to enable rural people to get access to banking services; involving private traders in input delivery; increasing the labour absorptive capacity of towns; strengthening the towns as sources of information and, improving the production capacity of rural areas.

1. INTRODUCTION

1.1 Background of the Problem

Development paradigms have constantly changed their emphases on the various conditions that are assumed to be vital for attaining development.

In the 1960s, after independence, many Third World countries subscribed to the urban and industrial development paradigm in the hope of achieving rapid development and catching up with the developed world. The 1970s saw that this trickle-down development paradigm could not achieve progress in the rural areas and bring about the desired development. This led to changes in emphasis and many developing countries subscribed to rural development strategies in which some strategies, such as the Integrated Rural Development, became popular. Integrated Rural Development has also failed simply because there was a neglect of the urban dimension in the development process. Urban centres are centres of modernisation and development. Recent awareness of this process has given emphasis to mutual development of both urban and rural areas. This mutual development is manifested through rural-urban linkages.

Such a relationship is designated as a virtuous circle of rural urban development and forms the basis for regional development strategies adopted by many governments (Evans 1992). The model operates as a result of various linkages that emanate from agriculture- based growth in rural towns and farm households' demand for urban consumption goods and services. These linkages are variously termed as production, consumption, service linkages etc. There are, however, some authors who do not agree on the existence of these linkages and hence doubt the applicability of the model (Southall 1988). Empirical research is therefore needed to ascertain the facts and find evidences.

Even if linkages exist, the strength, intensity and nature of these linkages and the factors that shape them, however, are not uniform and vary from location to location. A very significant factor that shapes these linkages is the nature of rural economies. Rural economies determine rural income, labour intensity, crop composition, degree of marketing of agricultural produces, and hence influence the nature and strength of linkages. For example, rural areas growing high value crops will have different patterns of linkages from those growing low value crops. Thus, a comparative analysis of linkages will provide a deeper understanding of the nature of linkages and insight into which linkage area should be stimulated or discouraged.

1. 2 Statement of the Problem

Ethiopia is a predominantly agricultural country whose prospects for development rely on rural progress. In the past, attempts to increase the productivity of agriculture and bring about rural development have focused on the structural sectoral problems. These problems relate to land tenure, lack of inputs, inadequate and fragmented farm size (Arnessen 1989), pricing (Tesfaye 1989) and overall macro policies of the country (Fassil 1977). These policies, however, are narrowly focussed because price changes, institutions and technical innovations alone will not bring the desired changes. Further, such measures cannot serve as remedies if farmers face other major obstacles in marketing their produce due to lack of demand or access to markets. Similarly, farmers may face obstacles in having access to supporting services and off-farm opportunities. The latter, for example, provides income diversification and enables farmers to be more risk taking in using inputs and technical innovations.

These opportunities could be realised if we exploit the linkages between agriculture and non-agriculture or rural-urban linkages. Generally, these linkages could be manifested in the different forms of demand that may be exhibited by households as consumers and producers. Households in rural areas demand urban goods and services while households in urban areas demand farm products. Farmers demand inputs for their farm production while manufacturers and business people demand raw materials and labour from rural areas. Non-farm earnings near urban areas are greater because of the better business and employment opportunities. These different forms of demand will translate into various types of goods, capital and flow of people between the urban and rural areas.

Small urban centres are of immediate importance to agricultural development in Ethiopia. These centres are closely inter-linked with the lives of rural people. Ethiopia has numerous small towns, and in fact the proportion of small towns (population less than 10,000) in all administrative regions is the highest in number. The mere presence of small towns by itself could not bring about the desired development unless the towns are capable of providing proper functions and stimulate rural urban linkages (Rondinelli 1983). These urban centres are expected to assist agricultural and rural development by serving as market, processing, service and employment centres for the rural hinterland. The extent to which positive rural urban linkages exist between small towns and their hinterland in Ethiopia needs an investigation as it is an important issue that is capable of addressing both rural and urban development. The forms and extents of linkages tell us the degree of complementariness or otherwise, found in these regions. Similarly, whether the interactions between rural and urban development, their outcomes and mechanisms are identical or not, deserve an important place in the development efforts of the country. In this regard, the linkage contrast in rural economies between high and low value crop growing

regions need to be known, since it has implication on differentiated policies regarding linkages.

1.3 Objectives

The study seeks to investigate the type and extent of rural-urban linkages, and the factors shaping these linkages in different rural systems of Ethiopia, by taking cases from predominantly coffee growing and non-coffee growing regions of the country. Coffee is a high value crop which brings cash for farmers. Other crops, though they could also be cash crops, are not as marketable as coffee.

The specific objectives of the paper are:

i.) To determine the forms and magnitudes of the rural-urban linkages found presently in the selected regions;

ii.) To identify factors influencing linkages in the selected regions;

iii.) To identify the institutional, economic and physical conditions that should be in place in the regions to enhance the linkages.

The specific questions of this research are:

i.) What is the nature of household demand for urban goods and services and how much of this is met by the small towns in the area? How does this differ between coffee and non-coffee growing rural economies?

ii.) What is the nature of farmers' demand for inputs, and where do they obtain their inputs? How does this differ between coffee and non-coffee growing rural economies?

iii.) To what extent is the region's production absorbed in the urban and rural market of the region itself? How does this differ between coffee and non-coffee growing rural economies?

iv.) To what extent is the rural sector a source of raw material and labour for the urban centres manufacturing, processing and commercial activities? What enterprises are presently depending on raw material supplies from the region? How do these differ between coffee and non-coffee growing rural economies?

v.) What is the nature and structure of the demand of urban households for rural produces? How does this differ between coffee and non-coffee growing rural economies?

vi.) What is the nature and extent of rural-urban migration in the region, and what identifiable causes exist for it? How does this differ between coffee and non-coffee growing rural economies?

vii.) What factors influence the observed interactions between urban and rural areas? How do these differ between coffee and non-coffee growing rural economies?

1. 4 Significance of the Study

Mutual development of urban and rural areas is the preferred development strategy in any country. Such development could be fostered through the linkages that exist between the two spatial units. Knowledge of the nature, magnitudes and factors of linkages could give clues about the character of socio-economic changes that could be induced for the adoption of symbiotic development of urban and rural areas. Since linkages are location specific, it is essential to study representative regions that may exhibit different linkages.

Thus, by identifying the forms, magnitudes and factors of linkages in different settings, this study will provide insight for strengthening helpful linkages, and forms a basis for regionally differentiated linkage policies.

1. 5 The Study Area

The study was conducted in the two zones of the Oromiya region (see fig. 1). Oromiya region has a diversified agro-ecological zone with cash crop regions and non-cash crop regions. Out of the three agro-ecological regions in the country, namely: High Potential Cereal (HPC), Low Potential Cereal (LPC) and High Potential Perennial (HPP), the two, HPC and HPP are found in the region. The study is meant to take representative regions from the HPP and HPC zones of the Oromiya region.

The first study area is in Southwest Ethiopia, which is known for its coffee production. The study wereda is the Limu Kossa Wereda, which is found in the Jimma Zone. Within the Wereda the particular study areas are the Limu Genet town, the capital of Limu Kossa Wereda, and the surrounding peasant associations. Jimma zone is one of the highest coffee producing zones of the region and is found in the HPP agro ecological zone

The second study area is in the Central Highland in Arssi zone. Robe Wereda is the study Wereda within the Arssi zone while Robe town and the surrounding peasant associations are the specific research sites. Arssi is the highest cereal-producing zone of the region and is found in the HPC agro-ecological zone. Agricultural expansion in Arssi zone is well recorded in different sources (Tegegne and Tilahun 1996) and statistics also indicates that Jimma zone has shown increases in coffee production in the past years.

1. 6 Data and Methodology

1. 6. 1 Data

This study is a research in the form of a sample survey. To identify the different types of linkages, interviews were conducted with members of rural households, urban households and traders. Three questionnaires pertaining to rural households, urban households and urban traders were prepared. The questionnaires included questions related to linkages such as expenditure items, input use, market use, raw material use, labour use, migration, off-farm activities

and some pertinent socio-economic characteristics such as demography, land holding and other agricultural data to aid the explanations of some phenomena.

The household survey was conducted in both the rural and the urban area, and traders survey was conducted in the urban area. For the rural survey, following some researchers' method (Gaile and Ngau 1996), a radius of 10 kms was designated around the capital of the weredas as an area of intensive interaction between urban and rural area in the coffee and non-coffee crop growing areas. Hence, the target population are the rural households within the 10 kms of radius from the urban centre, urban households and traders found in the small town. The units of analysis are therefore rural households, urban households and trading units.

A two-stage sampling design was used in the data collection. For the rural household survey, two peasant associations, which fall within 10 kms of radius from the wereda capital, were chosen randomly in the first stage (see fig. 2 and 3). In the second stage, 10 percent of the households or a minimum of 40 households (which ever was the largest) were selected from each peasant association. The roasters of peasant associations were used as a sampling frame. The total number of rural households selected was 212. The distribution of the total households and the samples by weredas and peasant associations (PAs) is given in table 1.

Table 1. Distribution of samples in the study area

Wereda	Town	Sampled PAs	Total number of households	Number of sample household	Sample as % of total household	Distance from main town (kms)
Limu	Limu	Chime	480	48	10	9
Kosa	Genet	Bofa Tegibe	350	40	11.4	3
Robe	Robe	Teba Robe	557	60	10.8	4
		Sude Welte	640	64	9.65	5
Total			2027	212	10.45	

For the urban households, about 40 residents were randomly selected from each kebele found in both towns. The urban dwellers association roasters were used as a sampling frame. The total number of kebeles in each town and their population is shown in table 2.

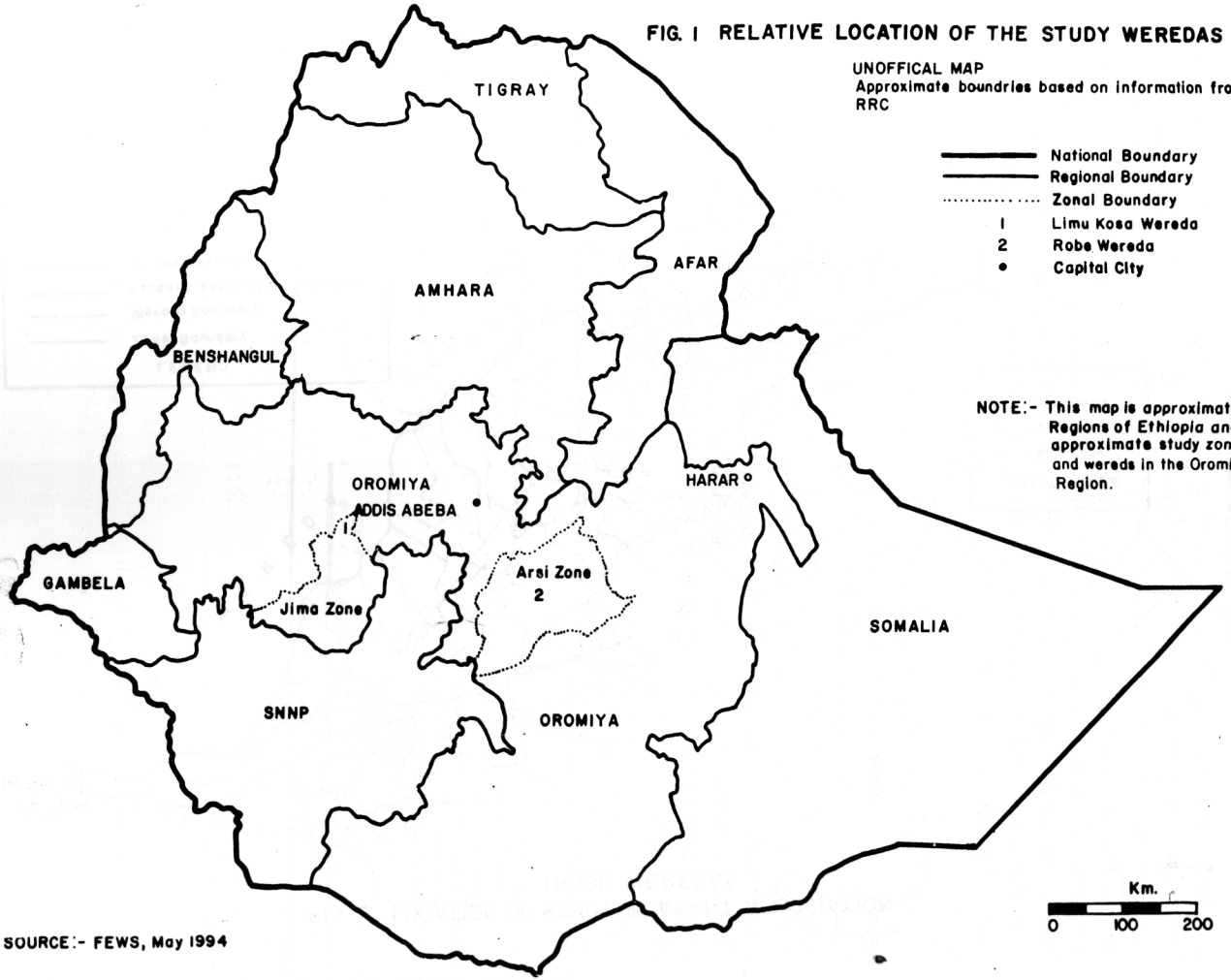
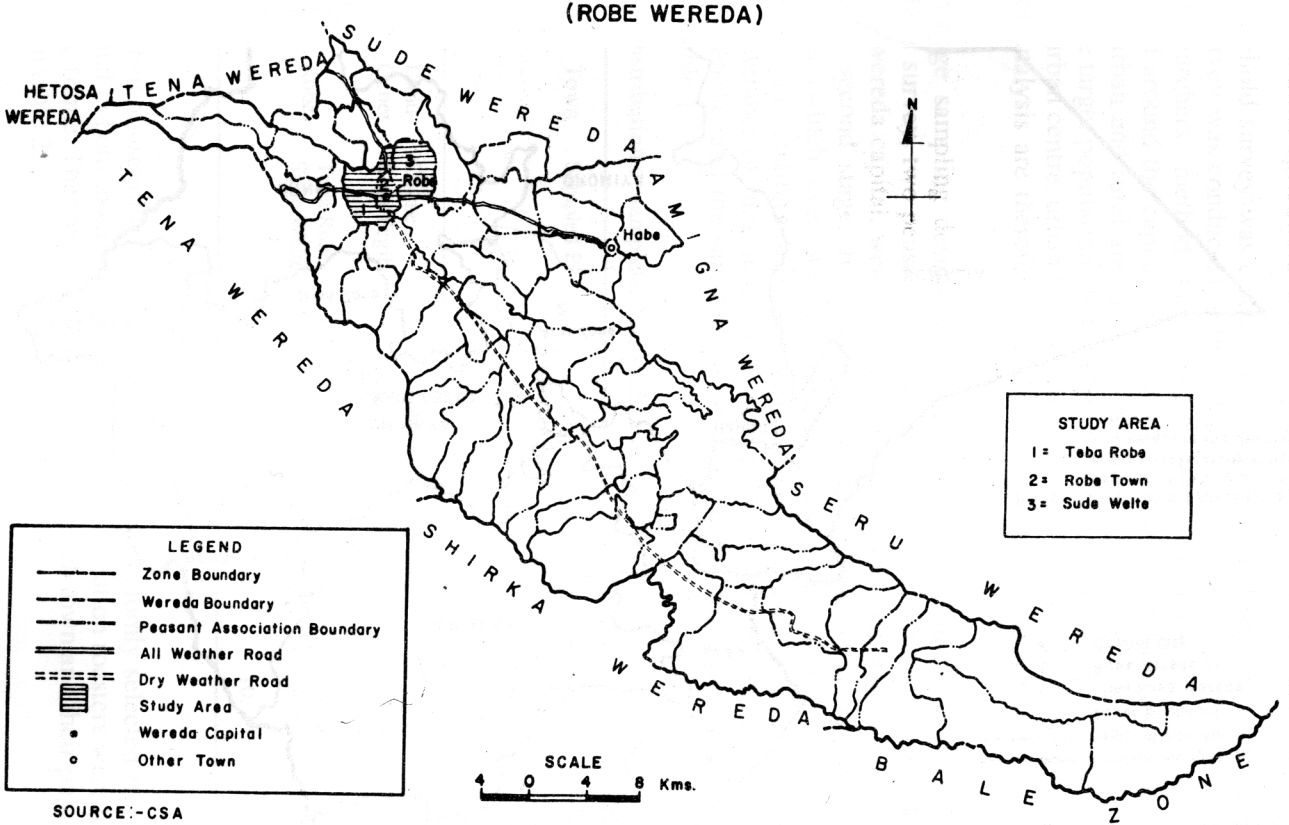


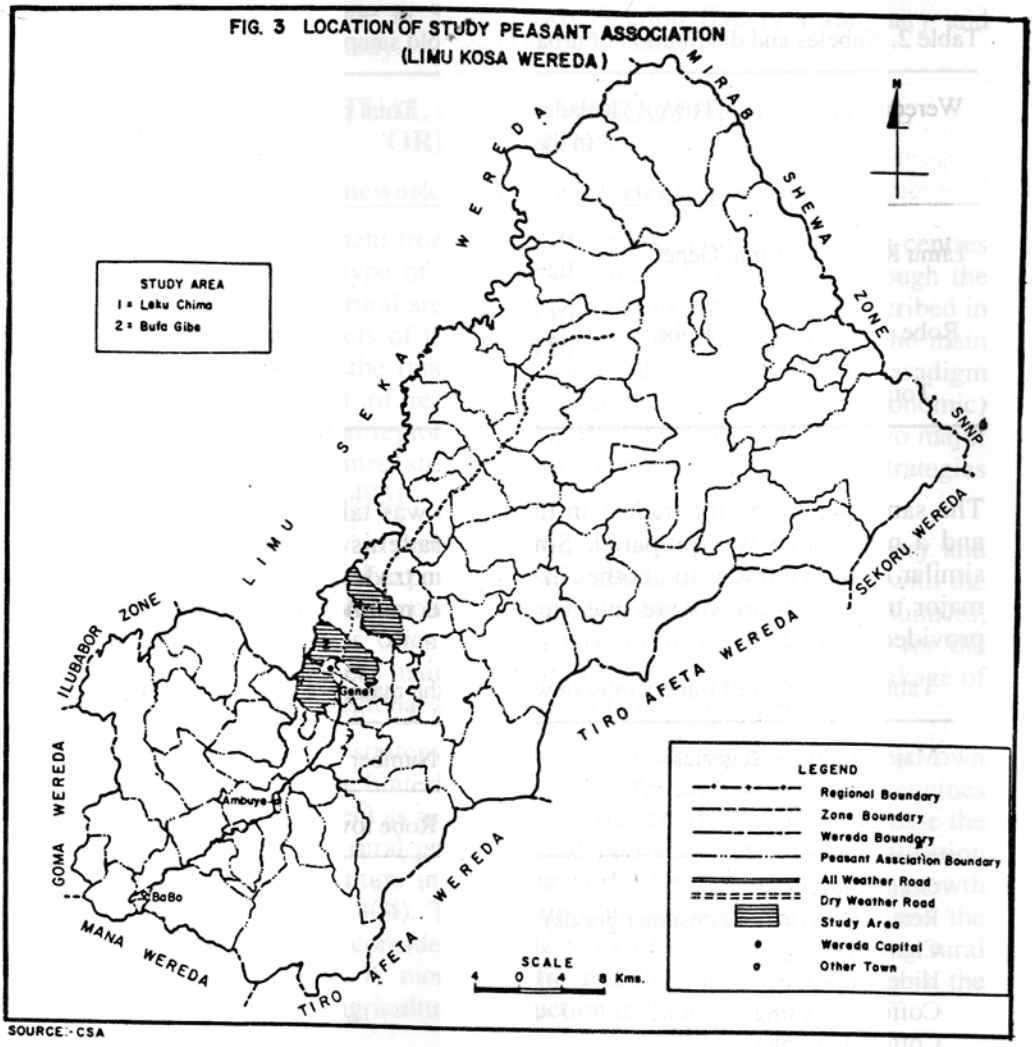
FIG. 1 RELATIVE LOCATION OF THE STUDY WEREDAS
UNOFFICAL MAP
Approximate boundries based on information from RRC
National Boundary
Regional Boundary
Zonal Boundary
1 Limu Kosa Wereda
2 Robe Wereda
Capital City
NOTE:- This map is approximate Regions of Ethiopia and approximate study zones and wereds in the Oromiya Region.
TIGRAY
AFAR
AMHARA
BENSHANGUL
OROMIYA
ADDIS ABEBA
HARAR
GAMBELA
Jima Zone
1
Arsi Zone
2
SOMALIA
SNNP
OROMIYA
Km.
0 100 200
SOURCE:- FEWS, May 1994

FIG. 2 LOCATION OF STUDY PEASANT ASSOCIATION (ROBE WEREDA)



SOURCE:-CSA

FIG. 3 LOCATION OF STUDY PEASANT ASSOCIATION
(LIMU KOSA WEREDA)



SOURCE:- CSA

Table 2. Kebeles and distribution of urban household samples in towns

Wereda	Town	Kebeles found in the towns	Total population in Kebele	Number of sample households
Limu Kosa	Limu Genet	01 Kebele	978	40
		02 Kebele	1500	40
Robe	Robe	01 Kebele		40
		02 Kebele		40
Total				160

The sampling frame for traders in the towns was taken from the municipalities and a new frame was prepared. Since the patterns of trade were found to be similar from one trader to another in any given trade, only a few traders from the major trade categories were interviewed. The number of traders interviewed is provided in table 3.

Table 3. Number of traders interviewed from the major trading categories in towns

Major trading categories	Number of traders interviewed	
	Robe town	Limu Genet town
Grain trade	3	5
Retail trade (major consumer goods)	6	6
Chat trade	3	4
Hides and skins	3	3
Coffee collecting	5	5
Coffee supplying	5	5

1. 6. 2 Methods of Analysis

Summary statistics and tabulation of field data are used to identify the forms, extent and magnitudes of rural-urban linkages. Qualitative analysis is also used to formally present arguments pertaining to rural urban linkages.

1.7 Format

The second section of the paper elaborates a conceptual framework, literature review and hypotheses of the study. Section three describes the nature of the hinterland and the rural towns of the study area. The patterns of rural-urban linkages are discussed in Section four. In this Section we present evidence for or

against the hypotheses made in Section two. Section five is a summary and policy implications of the study.

2. THE CONCEPTUAL FRAMEWORK/THEORETICAL ORIENTATION

2.1 The Conceptual Framework/Theoretical Orientation

Rural-urban linkages emanate from two spatial units, namely the urban centres and rural areas. The first type of rural-urban linkage is envisaged through the impact of urban centres on rural areas. This type of linkage has been described in different theories and models of the regional development literature. The main paradigm in this regard is the functional regional development. This paradigm considers the development of regions as a function of national (economic) development. The functional regional development gets expression in two major strategies, viz. growth centre strategies and rural services centre strategies (Hinderink and Titus 1988, 403).

The growth centre strategy is derived from Perroux's growth pole theory and advocates an urban industrial expansion in few selected growth centres with the hope of the spread effects for modernising rural areas. In developing countries, however, the spread effects often appear to be of little consequence for the smaller centres and rural areas mainly because of the strong economic linkage of growth centres with extra regional and overseas clients and suppliers.

The rural service centre strategy focuses on small centres for their own development and that of the hinterland. These centres are considered as engines of growth. Their development as market and service centres helps to increase the productive capacity of the rural producers and promotes the commercialisation and specialisation of agriculture in the framework of national economic growth (Hinderink and Titu 1988, 404). This relationship between the centre and the surrounding countryside is considered as the crux of the strategy to bring rural and regional development. A more specific relationship which concerns the impact of these centres on agricultural production include:

i.) The service centres act as local markets or collecting points for the produce of local farms designed for consumption within the region;

ii.) The service centres act as collection centres for exported produce, the beginning of a chain of movement from the farm to an overseas consumer; and

iii.) The service centres provide specific agricultural inputs or services to encourage the rural population to introduce technical change in production (Funnel 1976, 96).

Other relationships of the service centre and the hinterland involve consumer goods and social services. The rural population is considered as a market for manufactured goods. The relative prices of the products, the institutional structure of supply and collection of the goods, however, determine the nature of

this linkage (Funnel 1976, 94). The social service relations comprise services such as health, education, extension services, administration, legal and community services between the centre and the hinterland (Funnel 1976, 90).

The second type of linkage in the rural-urban interaction is envisaged through the impact of rural areas on the urban centres and on non-agricultural activities. Though regional development literature recognises that the quality and diversity of functions of small centres depend on the developments in the hinterland (Hinderlink and Titus 1988, 412), it is the rural growth linkage literature, which ably expresses this linkage.

The theoretical starting point in this line is *The New Economics of Growth* by Mellor. The central point of the argument is that under certain macro conditions, a boom in food grain production would stimulate growth in agri-related sectors (trade, transport, services, etc.) and brings industrial expansion (Dunham 1991, 2). This is achieved through linkages emanating from exogenously growing agriculture. The linkages most frequently cited are forward consumption linkages, backward production and forward production linkages (Ranis 1990). Forward consumption linkages results from the expenditure of farm incomes on locally produced consumer goods and services. Backward production linkage is manifested as agriculture absorbs inputs, e.g. machinery and fertiliser produced by local industry. Forward production linkage refers to the local processing of agricultural outputs.

Linkage studies have revealed that a number of factors are important in affecting the nature and strength of linkages. The first requirement for a dynamic rural sector is a sustained growth in agricultural output (Stewart and Ranis 1990; Ranis 1990). Thus macro and sectoral policies, which favour the agricultural sector, promotes rural linkages. The strategy of agricultural growth is also crucial for rural linkages as it affects the nature of agricultural growth and income distribution within the agricultural sector (Ranis 1990). A dualistic or bimodal agricultural development leads to weaker linkages than to more egalitarian agriculture. This is because if the income is more evenly distributed, consumption of locally produced goods will be greater. Higher income farmers also spend more on non-food products, but import a higher proportion of these products from large urban centres or abroad (Bagawacha and Stewart 1992: 163-166). Low income households tend to spend a higher proportion of their income on locally produced products, when considering both food and non-food products. Consumption linkages tend to increase with labour use since most labour incomes are spent locally.

Labour use varies according to the type of cultivation practices (Bagawacha and Stewart 1992: 169).In terms of inputs, labour intensive farming and small farmers use more local inputs (Stewart and Ranis 1990) while modern inputs such as fertilisers and machinery are imported and are used by large scale farmers. Thus smallholder farms which use locally manufactured tools have greater potential for generating backward linkages than large-scale farms which use modern imported machinery (Bagawacha and Stewart 1992, 172).

Forward linkages which includes the processing and distribution of agricultural products could be distinguished between household processing and commercial forward linkages. The former is for own consumption and accounts for a considerable proportion of local processing (Bagawacha and Stewart 1992, 172). The commercial forward linkages depend on the degree of marketing of agricultural outputs, crop composition, technological choices, the organisation of marketing and the location of markets (Bagawacha and Stewart 1992, 172).

The rural urban link described above in the two theoretical frames, namely the rural service strategy and the rural growth linkages can be envisioned as the virtuous circle model of urban and rural development. The model envisions a mutually reinforcing pattern of linkages between town and the hinterland and spurs the growth of both agricultural and non-farm activities (Evans 1992, 641).

At a disaggregate level the linkages are manifested through households and business demand patterns. Households can be seen as playing four main economic roles that link it to the regional economy. These four economic roles are consumer, producer, labourer and financier (Wanmali 1996, 189). As a consumer, the household demands consumption goods and services needed for daily life. This demand or expenditure-inducing linkage is seen as flowing forward to the economy (Wanmali 1996). As a producer, the household demands production-enhancing inputs, both traditional and non-traditional. Businesses found in rural areas or towns demand raw materials for processing, which is mainly derived from the surrounding rural areas. Businesses also demand labourers from the surrounding area as production factor. Thus households and businesses are the final units where linkages are expressed and such linkages through aggregation transform to regional and national economies (Wanmali 1996, 190).

One important factor in linkages studies is the fact that linkages are location specific (Ranis 1990) and their potentials vary from place to place. Different types of agriculture generate different linkages since input intensity and processing requirements vary across cropping systems (Hazell and Haggblade 1989, 196). The nature of rural economies determines the nature of labour use; the crop composition; the income distribution; the degree of marketing of agricultural products and the types of services and functions needed.

2. 2 Literature Review

The 1950's and early 1960's saw export oriented industries in large cities as engines of growth and trickling down effects were expected to incorporate the rural population and stimulate agricultural production. The result, however, was not as expected; and in fact many rural people were by passed and the trickle down effects did not work. Consequently, during the late 1960's and early 1970's, it was advocated that agriculture is the driving force of development for poor and rural economies. During the late 1970's, increased agricultural output was considered the only hope to better standard of living for many third world countries.

Rondinelli (1984, 1) argues that such analysis led to the formulation of policies that misrepresent the relationship between urban growth and agricultural development and also overlooked or ignored the mutually beneficial linkage between them. It is now argued that mutual development of the two spatial units is essential for lasting development of both units.

In line with this argument, several researchers have studied rural-urban linkages and have come up with different forms, magnitudes and extent of linkages and identified different factors that affect the linkages. The focus of the research is varied; in all studies, however, rural urban linkages are at the centre and it is through the strength and nature of these linkages that conclusions are reached.

In studying the importance of market access or small urban centre for agricultural development of the hinterland, Gaile and Ngau (1996, 211) compared and contrasted isolated farm household economies with farm households, which have better access to market centre in Kenya and Zimbabwe. The finding revealed strong differences in farm production between farmers with and without access to urban centres in Kenya. Kenyan farmers with greater access to the small urban centres were found to cultivate a greater percentage of their available acreage and receive higher income per cultivated land while those with less access sell the greater percentage of their crops to purchasers who come to the farm and engage in higher level of subsistence (Gaile and Ngau 1996, 211). In Zimbabwe, however, the study revealed that there was no difference among farmers on the basis of access to market in terms of acreage cultivated, income received, percent of crops sold on farm or on the levels of subsistence (Gaile and Ngau 1996, 215). The reason was the role of state grain marketing board which was the major purchaser of agricultural output and the subsidised inputs provided to farmers (Gaile and Ngau 1996, 215).

After examining two case studies in Molo and Naivasha towns in Kenya, Demese (1996, 90), concluded that the two towns are linked to the rural hinterlands and agriculture is the main link as agriculture oriented businesses and services are the ones which make rural-urban linkages to prevail. Zinyama's (1996, 183) study of the Murehwa town in Zimbabwe found that the town predominantly plays an administrative role though there are some economic and commercial roles played by the town. The intensity, frequency and character of these commercial and economic roles, however, are influenced by a variety of factors such as household income, participation in off farm employment, accessibility of transport services and proximity to alternative centres providing similar services (Zinyama 1996, 183). Easy accessibility and the presence of alternative service centre made some of the inhabitants of the Murehwa to obtain their requirements directly from other places such as Harare and Maronduma.

Hariss and Hariss (1989) investigated whether a market town of Arni in India functions as a growth pole or not. The context of their study is one in which there is an expansion of agriculture due to green revolution. The findings support that Arni market town is parasitic rather than generative in relation to its rural hinterland (Hariss and Hariss 1989, 100). Though the silk handloom industry in

the town recorded growth, it was not connected to the rural hinterland neither through inputs nor outputs. In addition, though the silk industry employs labour and hence was able to transfer wages to rural people, the value of wages in relation to the turn over was small in comparison with the profit which accrues to the urban silk manufacturing (Hariss and Hariss 1989, 100).

Studies on the influence of hinterlands on small towns have emphasised that the development of the rural hinterlands is key to the growth of urban centres. Hinderink and Titus (1988, 412) indicated that the quality and diversity of small urban centres function depends on the development of their hinterland instead of the other way round. Some empirical studies however are shy from ascertaining this fact. For example, Tegegne and Tilahun (1996, 135) concluded that agricultural improvement in itself will not guarantee strong linkages and they emphasised that there should be conducive environment to nurture the limited linkages and bring about symbiotic development of urban and rural areas. Based on case studies of Mkhota and Lobi in Malawi, Maliro and Mataya (1996) showed that agricultural development in the vicinity may not be a significant factor for stronger linkage and urban growth. The study revealed that though the sites were located in a relatively developed area and are isolated from the major transport route, they did not show any capacity to grow (Maliro and Mataya 1996, 53). In contrast, Lobi, which is found in a slightly marginal area, has a capacity of growth because of its easy access to transport facilities and major urban centres (Maliro and Mataya 1996, 53).

Without specifying the direction of impacts, Evans (1992) conducted a household level study of rural-urban linkages in Kutus town. His main findings showed that small towns play a vital role in supporting the growth of agricultural production and rural income and that they can absorb rural population. The study also revealed that a vibrant hinterland stimulates growth in nearby urban centres by initiating a wide range of small-scale non-farm activities. Unlike other studies, his findings closely approximate the theoretical town-hinterland relations outlined above.

In the rural growth literature the main focus is on the identification of the different linkages such as production and consumption linkages. Researches have also focused on ascertaining which of these effects are stronger. These studies generally are more aggregate, find evidences from urban centres and use changes in employment data as indicators.

Gibb (1984, 116), in analysing the sources of growth in and around four towns of a central Luzon subregion, found that as a result of increased agricultural output and income in the decade of 1961-71, consumer activities accounted for larger proportion of employment growth. Assuming that employment growth is synonymous with town growth, the study concluded that consumption related activities are important than production related ones in determining the size and scope of activities. Consequently, the market centres serve principally the agricultural households as consuming unit rather than as producing unit (Gibb 1984, 110).

Other study in the Philippines in Gapan area found that consumption related activities accounted for 58.6 percent of total agricultural employment in 1971. Whilst the public services accounted for 24.4 percent with forward and backward linkages of 18.1 percent. Similarly, in Upper Pampanga river area, forward and backward linkages accounted for only 6.8 percent of employment in the two investigated towns in 1979; while the balance was accounted by consumption related linkages (Ranis and Stewart 1987, 146). In Taiwan, about two-third of rural non-agricultural employment in 1966 was consumption related which included public services (Ho cited in Ranis and Stewart 1987, 147)

In terms of rate of increase in linked activities, however, it was found that though all types of activities (backward, forward and consumption activities) increased, accompanying increases in agricultural output, there appears to be some tendency for the greatest proportion of increase to be found in forward linkages (Ranis and Stewart 1987, 147). For example, in Philippines, in the decade of 1961-71, forward linkage industries such as rice trading and milling employment increased by 9.6 percent per annum, backward linkage industries by 7.9 percent per annum and consumption related industries grew by 8.4 percent per annum (Gibb 1984). In the Upper Pampanga project area, from 1975-79, employment in forward linkage activity rose by 17.1 percent per annum, backward linkage industries by 6.7 percent per annum and in consumption related industries by 6.5 percent per annum (Ranis and Stewart 1987, 147).

The foregoing discussion assumes that small urban centres play a positive role in the linkages by providing markets, service centres and input provisions. There are, however, some researchers who believe that this is a far cry and instances in which small urban centres are playing anything like an adequate positive role is rare (Southall 1979, 213). This line of research ascertains that small cities are vanguards of exploitation of the rural areas with detrimental relationships. Ahmed and Rahman (1979) illustrated this by using two case studies of Radoam and Kongor urban centres in Sudan. Radoam has developed into an administrative and trade centre through external factors and the resources of the area have been developed by agents who received cash advances from financiers (Ahmed and Rahman 1979, 264). Money was advanced on credit to hunters and for hashish growers. These people were made to repay in kind which was worth more than the credit advanced to them (Ahmed and Rahman 1979, 265). The profit margin goes to financiers in cities and towns. In Konger, which is found in the midst of kin-ordered mode of production, the court and the marketing facilities are the two major functions that attract people to the centre. The court through the system of payment of fines has introduced cash into the economy (Ahmed and Rahman 1979, 267). The presence of government structure also created job opportunities in the public service sector.

The foregoing discussion illustrates various points and arguments in the international literature. National studies on rural urban linkages in Ethiopia, however, are very limited. Among the few studies, Baker (1986) found that small towns in northern Ethiopia served only as regional markets. In assessing the

growth and functions of small urban centres in Ethiopia, he noted that these centres provide important ranges of economic and social services, although the utilisation of services found to be problematic due to poor accessibility (Baker 1990). Baker's study focuses only on small urban centres and does not deal with the linkages. Mesfin (1995) studied market linkages in West Shoa zone and reported that there is a poor integration between rural and urban areas and lack of proper infrastructure for enhancing linkages. This study, however, is limited only to the marketing linkages. Tegegne and Tilahun (1996) studied two small towns and indicated that except trade linkages, other forms of rural-urban linkage are minimal or non-existent. The study is highly aggregate in its approach without delving into household patterns of linkages.

Rural-urban linkages in Ethiopia are not well studied as manifested by few studies. The few studies in themselves are partial or focus on only the urban centres. In addition, there is no comparative study in the country, which would illuminate differences or similarities in rural-urban linkages in different rural settings. This study hopes to fill this gap by elaborating on the nature of linkages that are expected to be found in different settings in rural Ethiopia.

2. 3 Hypotheses

A number of testable hypotheses could be derived from the virtuous circle model of urban-rural development as envisaged in the theoretical notions of the rural service centre and the rural growth linkages.

i.) Farmers in the hinterland of small towns have better access to inputs and are encouraged to use the inputs and services required to raise agricultural productivity.

This hypothesis emanates from the fact that service centres provide agricultural inputs and services and hence farmers have easy access to these inputs. In addition, a rise in agriculture requires inputs that connect the rural households with the urban centres in backward production linkages. The extent to which local farmers use inputs and services and what proportion of this is obtained from the small towns will help evaluate this hypothesis. The variables to be used are number and percent of farmers using inputs and number and percent of farmers obtaining inputs from different sources.

ii.) Farmers in the hinterlands of small towns are encouraged to market their produce and hence a significant proportion of their output is marketed.

This hypothesis claims that service centres provide marketing locations and facilities and hence encourage farmers to bring a higher output of their produce to the market. Assuming other things being equal, the proportion of farmers' output sold in small towns will indicate the marketing opportunities that small towns provide to the farmers in the vicinity. Crops output, crops sold, proportion of crops sold as percent of crops output; crops sold by type of buyer will be the variables used to test the hypothesis.

iii.) Rural households have: a) demand for urban goods and much of these goods are provided in the small towns; b) demand for urban services and much of these services are provided in the small town.

The hypotheses refer to the provision of consumption goods and different services by the urban centres and to the consumption linkages thought to emanate from increased agricultural production. The extent to which rural households purchase urban goods and services and where the origin of these goods and services will generate evidence to evaluate the hypotheses. Variables on household annual spending for different items and sources of purchase (outside or inside the regions) will be used to test the hypothesis.

iv.) Rural households exhibit financial linkages with town based financial institutions in the forms of securing loans for different purposes and saving deposits.

The hypothesis ascertains the financial linkages of towns and small service centres. The extent to which farmers take loan and deposit money in the bank in the towns will help test the hypothesis.

v.) Urban households are linked to the hinterland through the purchase of farm produces from their surroundings.

Households in urban areas demand food and other farm produces that are expected to be met by the hinterland. Consumer spending by the urban households will constitute several items of which demand for farm products and food from the surrounding will be a significant portion. The extent to which urban households meet their demands from the surrounding hinterland will help assess the hypothesis. Variables on household annual spending for food items and sources of purchase (outside or inside the regions) will be used to test the hypothesis.

vi.) Small urban centres are major destinations of migrants from the surroundings.

Small urban centres are expected to slow down migration from the rural areas to large centres and as a result serve as major attractors of migrants. The origin and proportion of migrants in the small centres will indicate whether the small urban centres are the major attractor of migrants from the surroundings. Variables on previous place of residence will be used as test variables for this hypothesis.

vii.) Increased job opportunity in the small centres are the main causes of migration to the surrounding.

Though there are numerous causes of migration, job availability is considered to be the main cause of rural-urban migration in this study. Rural areas in Ethiopia are characterised by poverty and low standards of living. Hence, economic reasons will outweigh all other reasons for migration among rural inhabitants. Variables on reasons for moving will be used as test variables for this hypothesis.

viii.) Town business activities create demand for rural raw material and labour from the surrounding areas, thereby generate increased income for rural households.

This hypothesis emanated from the idea of forward production linkages, which a vibrant rural economy is expected to have with the urban centre. The extent to which town business activities use local raw material and employ rural labourers will help evaluate the hypothesis. Types and sources of raw materials used by business and origin of labourers employed in business will be collected as test variables for the hypothesis.

ix.) There is a predominance of backward production linkage in cash crop regions than in non-cash crop regions.

The reason is, farmers in cash crop regions are expected to have higher income and hence will be more willing to purchase inputs from the urban centres showing more backward production linkages. Differences in the extent of input purchase in the two regions will help assess the hypothesis.

x.) Urban households meet most of their demands for rural produces from the surrounding hinterlands in non-cash crop regions than in the cash crop regions.

The expectation is that in cash crop regions, there are less food crops and hence, urban households may import from other places unlike the non-cash crop regions where urban households to a large extent rely on the rural hinterlands. The proportion of food produces bought from the rural hinterlands in both regions will help to test hypothesis.

3. THE NATURE AND CHARACTER OF THE HINTERLANDS AND THE TOWNS

3.1 The Nature and Character of the Hinterlands

3. 1. 1 Limu Kosa Wereda

Limu Kosa Wereda is one of the thirteen weredas found in the Jimma zone. It borders Goma Wereda in the west, Tiro Afeta Wereda in the south, North Shewa in the north, east and west, Wellega in the northwest and Welkete town in the east. The total area size of the Wereda is estimated at 277, 052 hectares. The Wereda has a total population of 182, 160, of which 171,019 or 94 % live in rural areas and 11,141 or 6 % live in urban areas (CSA 1994).

The Wereda is divided into 58 rural kebeles and 2 urban kebeles. In rural areas, the size of the kebele ranges from 180 households to 800 households, with an average of 360 households. .

The average rainfall is 1516.30 mms. The altitude of the Wereda ranges from 1590 meters to 1850 meters above sea level. The average maximum temperature

is 27.34 degrees centigrade while the average minimum temperature is 11 degrees centigrade.

Land use

The land use data for the Wereda (table 4) shows that land use in the Wereda is dominated by forestland accounting for 35.38% of the land. Natural forest is dominant, accounting for 34 % of the area. The area is one of the few places in the country where the natural forest is known to exist in tact. Grazing land forms about 20% of the area. Land under annual accounts for 12 %, while land under perennial accounts for 10 %.

Table 4. Land use in Limu Kosa Wereda (area in hectares)

Land use types	Kossa [1]	Kossa [2]	Total	Total (%)
Land under annuals	19,952	12980	32,932	11. 88
Land under perennials	8,599. 71	19,228	27,827. 71	10. 01
Coffee	5,885.71	10,788	16,673. 71	6. 01
Banana, Chat, Mango	2,714	8,400	11,114	4. 01
Forest area	89,096	8928	98,024	35. 38
Natural forest	85,075	8,747	93,822	33. 86
Plantation	4,021	181	4,202	1. 52
Land under grazing	40,387	15,023	55,410	19. 99
Cultivable land	15,922	20, 239	36,161	13. 05
Unproductive land	10,692	165	10,857	3. 92
Settlement area	1967	2208	4,175	1. 50
Others	5430	6235	11,665	4. 21
Total	192,046	85,006	277,052	99. 95

Source: Limu Kossa Agriculture Bureau

Coffee Production and Processing

Out of the total land under perennials, coffee with 16,673.71 hectares of land accounts for 6%. Coffee is a very important cash crop in the region. Limu Kossa is one of the five coffee producing weredas of the Jimma zone. The other weredas are Gera, Limu Seka, Goma and Manna weredas. Coffee production in the Wereda is either under a state farm project or under private peasant holdings. There are three coffee state farms in the wereda with an estimated land of 3,956 hectares. The state farms are the Suntu, Gumer and Kossa.

There are different people involved in coffee transactions and processing. Coffee cleaning and washing are the two main coffee-processing activities. In terms of coffee transactions, licenses are given to coffee collectors and coffee suppliers. There are 327 coffee collectors in the Wereda and these individuals collect coffee

from farmers and sell it to suppliers in not more than 5 days. There are 64 coffee suppliers that clean the coffee and supply it to the central market in Addis within 10 days time. In 1998, 4112 tons of washed coffee and 315 tons of unwashed coffee was supplied from the Wereda. At the time of the study, there were 4 coffee pruning and 3 coffee cleaning machines in the Wereda.

3. 1. 2 Robe Wereda

Robe wereda is one of the 51 weredas in the Arssi Zone of Oromiya region. Sude Wereda borders the wereda in the north, Tena Wereda in the south and in the west, and Amigna Wereda in the east. The total areal size of the wereda is 127, 981 hectares. The Wereda is divided into 28 peasant associations and 2 urban kebeles. The altitude of the Wereda ranges between 950 to 2950 meters above the sea level with most of the land being in dega zone. Temperature in the Wereda ranges between 17 degrees and 28 degrees.

In 1989, the total population of the Wereda was 113, 484 of which 61,173 or 53.9 % were male and 52, 311 or 46. 09% female. The rural household size was 15,081 out of which 1,283 households were female-headed households. The Wereda had an urban population of 13, 805 or 12. 16 %.

Land use

The major land use type in the Wereda is agricultural land (table 5). This accounts for 29% and it includes land devoted to annual and perennial crops. The cultivable land is also very significant in the Wereda. About 22% of the land is arable land indicating the chance for expansion in the Wereda. Land under bush accounts for about 9% while land under forest cover is only slightly over 1%. This indicates that extensive deforestation has taken place in the area.

Table 5. Land use in Robe Wereda

Land use types	Area (ha)	Percent
Agricultural land	35,758	29. 01
Arable land	27, 434	22. 26
Grazing land	6,661	5. 40
Forest cover	1,582	1. 28
Land under bushes	10,690	8. 67
Others (settlement, school, church, mosque etc)	3, 696	2. 99
Unproductive land	37, 415	30. 35
Total	123,238	99. 96

Source: Robe Wereda agriculture extension division.

3. 1. 3 Characteristics of Sample Population of the Rural Households

Demography

The Oromo are the dominant ethnic groups in both weredas. Hence, the language spoken predominately is Oromiffa. Islam is the predominant religion though there are some Coptic Christians in Robe Wereda. The total sample in Limu Kossa Wereda is male, while 15% of the sample in Robe is female. The overwhelming majority of the sample population in both weredas are married.

In terms of education, 31% of the population in Robe Wereda and 48% in Limu Kossa Wereda can read and write. Nearly 40% of the sample in Limu Kossa Wereda and 18% in Robe Wereda have education level of 1-6 grade. Limu Kossa Wereda seems to be in a better position in terms of educational attainment than Robe Wereda. See table 6 for the basic demographic characteristics of sample rural households.

Table 6. Basic demographic characteristics of rural households

Affiliation and status	Robe Wereda	Limu Kossa Wereda
Ethnicity		
Amhara	0. 8 (1)	4. 5 (4)
Oromo	99. 2 (125)	95. 5 (84)
Language		
Amharic	0. 8 (1)	1. 1 (1)
Oromiffa	99. 2 (125)	84. 1 (74
Oromifaa and Amharic	-	14. 8 (13)
Religion		
Christian (Coptic)	23. 8 (30)	8. 0 (7)
Muslim	72. 2 (91)	90. 9 (80)
Protestant	4. 0 (5)	1. 1 (1)
Sex		
Male	85. 7 (108)	100. 0 (88)
Female	14. 3 (18)	20. 0 (16)
Education		
Read and write (% Yes)	31. 0 (39)	47. 7 (42)
1-6	18. 4 (23)	39. 9 (35)
7-8	5. 6 (7)	6. 8 (6)
9-12	1. 6 (2)	-
Marital status		
Married to one wife	77. 0 (97)	76. 1 (67)
Married to many wives	7. 9 (10)	19. 3 (17)
Divorced	1. 6 (2)	-
Temporarily separated	1. 6 (2)	-
Widowed	11. 9 (15)	1. 1 (1)
Single	-	3. 4 (3)

Note: Numbers in parenthesis are reporting farmers.

Migration Status of Rural Households

The migration status of the rural people reveals that there are very few migrants in both weredas (see table 7). About 75% of the rural people in Robe and nearly 81% in Limu Kossa Wereda indicated that their previous place of residence was within the same wereda. If we include all those whose previous place of residence is within the same Wereda, the figure rises to 83% for Robe and to 88% for Limu Kossa Wereda. Only 15% in Robe Wereda indicated that their previous place of residence is outside the Wereda. In Limu Kossa Wereda, those who mentioned their previous place of residence as being outside the Wereda are 10%. The majority of those who mentioned other place of residence in Robe Wereda have indicated that their previous place of residence was rural. Hence, it is rural-rural migration that dominates the patterns observed in Robe Wereda. In Limu Kossa Wereda however, the rural-rural and urban–rural migration seems to be in equal proportion.

Table 7. Migration characteristics of in-migrants (percent of households)

Previous place of residence	Robe Wereda	Limu Kossa Wereda
Within this Peasant Association	75. 4 (95)	80. 7 (80)
Other Peasant Association but in the same wereda	7. 9 (10)	6. 8 (6)
Other Peasant Association but in the same zone	7. 1 (9)	-
Other rural area	7. 1 (9)	4. 5 (4)
Town from this wereda	-	-
Town from the wereda but within this zone	0. 8 (1)	-
Other town	0. 8 (1)	5. 7 (5)

Note: Figures in parentheses are reporting farmers.

The main reason for leaving previous place of residence in Robe Wereda is marriage, while in Limu Kossa Wereda joining relatives is the most important reason. Those who have given these reasons amount to be 14% in Robe and 15% in Limu Kossa weredas. Hence, in both cases social reasons seems to be the major reason for leaving a previous place of residence. Farmers were also asked the reasons for coming to their present place. The majority of respondents from Limu Kossa Wereda cited opportunities for better life as an economic reason for coming to the particular place. The reasons for coming to the present location in Robe Wereda are similar to those given for leaving the previous place of residence. Thus, at least in Limu Kossa Wereda once social reasons forced people to leave a particular place, it is quite possible for economic reasons to be significant in destination selections.

Occupational Structure of Rural Households

The primary occupation in both weredas is farming, where the overwhelming majority have identified themselves as farmers (table 8). Other occupational types as primary occupation are very limited. Few farmers in both weredas have indicated trade as their secondary occupation. Hence, 13% in Robe and 7% in Limu Kossa are farmer-traders. There is no other significant secondary occupation for farmers in the study areas. This indicates that rural non-farm activities are very limited in the rural regions of both the study areas.

Table 8. Occupational types in Robe and Limu Kossa Weredas

Occupational types	Robe Wereda		Limu Kossa Wereda	
	Primary	Secondary	Primary	Secondary
Farmer	96. 0 (121)	-	96. 6 (85)	-
Labourer	-	4. 8 (6)	1. 1 (1)	1. 1 (1)
Trader	-	12. 7 (16)	-	6. 8 (6)
Carpentry, weaving, pottery and tailoring	0. 8 (1)	2. 4 (3)	1. 1 (1)	2. 2 (2)
Teacher	0. 8 (1)	-	-	-
Govt. employee	-	1. 6 (2)	-	1. 1 (1)
Guard	-	-	-	1. 1 (1)
Mill operator	-	1. 1 (1)	-	-
House wife	2. 4 (3)	0. 8 (1)	-	-

Note: Figures in parenthesis are reporting farmers.

Land and Livestock Ownership

The average holding size in Robe and Limu Kossa weredas are 2.25 and 2.40 hectares respectively (table 9). These figures are higher than the national average of 0.98 hectare per household, and the Oromiya regional average of 1.22 hectares per household (CSA, 1997/98). The land size distribution in both weredas shows that, the majority of farmers have land size between 1-2 hectares. At the same time, there are also a significant number of farmers with land size between 2-3 hectares (table 10). The average size of cultivated land in Robe Wereda is 1.55 hectares and 1.91 hectares in Limu Kossa Wereda. This indicates that on average, about 69 % of the total holdings is cultivated in Robe Wereda in Limu Kossa Wereda is 80%. Different forms of land transactions such as land renting and sharecropping are very limited in both weredas. For example, only 6 farmers reported renting land in Robe weredas while, only 2 farmers reported the same in Limu Kossa Wereda. Sharecropping is reported by only 10 farmers in Robe and by 8 farmers in Limu Kossa Wereda.

Table 9. Landholding size in Robe and Limu Kossa Weredas

	Robe Wereda			Limu Kossa Wereda		
	Mean	SD	No. of cases	Mean	SD	No. of cases
Total holding size (ha)	2. 25	1. 02	123	2. 40	1. 19	87
Total cultivated land	1. 55	0. 79	117	1. 91	1. 00	85
Land under family holding	1. 48	0. 74	105	1. 94	1. 01	86
Land rented in	0. 70	0. 33	6	0. 75	0. 35	2
Land sharecropped in	0. 72	0. 39	10	0. 40	0. 31	8
Land acquired through gift	-	-	-	1. 12	-	1
Land cultivated by other family	0. 75	0. 41	20	0. 73	0. 55	11
Land rented out	0. 67	0. 31	7	1. 25	1. 06	2
Land sharecropped out	0. 77	0. 47	9	0. 80	0. 58	9
Land given as gift	0. 79	0. 43	6	0. 45	0. 07	3
Fallow land	0. 43	0. 25	20	0. 54	0. 42	55
Private grazing land	0. 65	0. 40	115	0. 41	0. 12	14

Table 10. Size of land distributed (percent of farmers)

Size distribution (hectares)	Robe Wereda	Limu Kossa Wereda
0-1	13. 5 (17)	11. 3 (10)
1. 1-2. 0	42. 9 (54)	39. 6 (35)
2. 1-3. 0	27. 0 (34)	22. 6 (20)
3. 1-4. 0	10. 4 (13)	16. 9 (15)
4. 1-5. 0	3. 2 (4)	5. 7 (5)
5. 1-6. 0	0. 8 (1)	2. 2 (2)

Note: Figures in parenthesis are reporting farmers.

Farmers in the two study weredas have indicated that they possess different types of livestock. Table 11 shows that on the average farmers in Robe Wereda have higher number of livestock ownership than those in Limu Kossa Wereda. In particular, there are more pack animals in Robe than in Limu Kossa Wereda. Farmers in both weredas have a little less than 2 oxen, which signifies that farming is not seriously hampered by lack or shortage of oxen.

Table 11. Average livestock ownership of sample population

	Robe Wereda	Limu Kossa Wereda
Cows	2. 32 (100)	2. 23 (73)
Oxen	1. 96 (109)	1, 80 (75)
Heifer	1. 81 (58)	1. 63 (33)
Bulls	1. 45 (42)	1. 56 (25)
Calves	1. 71 (67)	1. 71 (52)
Sheep	3. 14 (57)	2. 50 (12)
Goats	1. 71 (7)	1. 50 (10)
Horses	1. 12 (25)	2. 0 (1)
Donkeys	1. 24 (50)	1. 07 (14)
Mules	1. 00 (7)	1. 50 (2)
Hens	3. 65 (40)	3. 23 (42)

Note: Figures in parenthesis are reporting farmers.

Cropping Pattern and Problems of Agriculture

The predominant types of crops in the Meher season in Robe are *teff* and wheat (see table 26). These are crops grown by large number of farmers. Line seed, maize, Niger seed and beans follow these crops in terms of popularity among farmers. The amount of land allotted to these crops, however, is smaller than for other crops.

Farmers in Robe indicated that they want to expand their *teff* and wheat crops on their land. About 84% preferred to grow more *teff* and about 87% preferred to grow more wheat. The major crops grown by many farmers in Limu Kossa Wereda are *teff*, maize and coffee. Coffee has the largest acreage followed by barley. Only few farmers grow the later. The preferred crops for further expansion by farmers in Limu kossa Wereda are *teff*, maize and coffee. The latter is mentioned by 64% of the farmers while *teff* and maize were mentioned by 77% of the farmers.

Land and capital shortage are the two most important problems of farmers in both study weredas. Capital shortage is considered as the most significant in Limu Wereda whilst in Robe Wereda, it is the second most significant problem. It is surprising to learn that capital shortage is cited as the most significant problem among farmers that earn more cash income. This may be due to the fact that whatever is earned by farmers in Limu Kossa may not be used for agricultural development and hence agriculture suffers from lack of capital. The importance of land shortage as a significant factor in both weredas is also striking because both regions, as described above, are relatively better endowed with land size compared to the national and regional averages. Pests and weeds are mentioned by significant number of farmers as problems. One may assume that farmers in these study areas use pest and weed controls to deal with these problems. This, however, is not true. It can be noted from table 12 that farmers in the study weredas have not identified marketing, transport and extension as problems in their region. This was to be expected since they are found near the small towns which serve as market centres, and the transport problem is also very minimal.

Table 12. Major agricultural problems of Robe and Limu Kossa Weredas as perceived by farmers

Types of agricultural problems	Robe Wereda	Limu Kossa Wereda
Land shortage	48. 4 (61)	42. 0 (37)
Manpower shortage	15. 9 (20)	28. 4 (25)
Transport	2. 4 (3)	3. 4 (3)
Lack of capital	42. 1 (53)	73. 9 (65)
Lack of extension	6. 3 (8)	1. 1 (1)
Lack of market	No	No
Pests	19. 0 (24)	37. 5 (33)
Weeds	15. 9 (20)	33. 0 (29)

Note: Figures in parenthesis are reporting farmers.

3. 2 The Role and Functions of the Towns

3. 2. 1 Limu Genet Town

Limu Genet town, which was established in 1954, is found 75 kms away from Jimma, the zonal capital. The town is found off the main road from Jimma to Agaro. At present the town has a population of 9000 living in the two kebeles of

the town. The two kebeles in the town are 01 and 02 kebeles. The town used to be an awraja capital and had enjoyed a higher administrative status before it was relegated to its present status of a wereda capital.

The town has limited electric service that starts at 6:30 pm and stops at 11:00 pm or 12:00 am. . The town has a major water shortage, especially during the dry season. The town's municipality is attempting to solve the problem by developing small springs. At present, there are 10 standpipes and some piped water from where the town's people get services.

The town has health centres, private pharmacies, an elementary school and two junior secondary schools. The town, however, depends on Jimma for higher level health and education services such as hospitals and senior secondary level education. In terms of other services, the town has one bank, one post office and a manually operated telecommunication service.

Recently, the town has witnessed an increase in population with an attendant housing shortage. A horizontal expansion of the town is very difficult as the surrounding land is devoted to coffee production.

As Limu town is mainly a coffee collecting and service centre, the main source of livelihood of the people is trade and coffee processing. Coffee collecting, cleaning and exporting is the main function of the town. There are 122 coffee collectors, 13 exporters and 6 coffee cleaning industries in the town (see table 13). Retail business is also an important activity in the town. All other functions of the town are service functions.

3. 2. 2 Robe Town

Robe town was founded in 1924. Legend has it that a person named Roba founded the town after whom the town was named. Robe town was formerly a capital of Ticho 'awraja', one of the previous 'awrajas' of Arssi Administrative region. The town was relegated to a wereda town during the transition period. Currently, the town is the capital of Robe wereda. The town has 2 kebeles, 01 and 02 kebeles, and the total population is estimated to be 11,000. The town is found about 70 kms off the main Nazreth - Assela road from the junction of Iteya town.

Two old electric generators serve the town until 11:00 pm. Ground water is the source of dinking water for the town. Electricity and water are the two main problems of the town that seemed to have a negative effect on the town's development. Town officials believe that the lack of adequate electricity and water has created problems for investors who would like to come to the town. The town has also a severe transportation problem. The gravel road from Itheya to Robe is a difficult road for travel. The road for practical purposes also stops at Robe hence limiting its communications to other towns and weredas.

Table 13. Main business types in Limu Genet town

Business types	Number
Bars	16
Restaurants	10
Snacks	5
Bakery	7
'Tej bet'	45
Butchery	8
Grain mills	15
Grain traders	10
Chat traders	12
Retail shops	111
Shoe selling places	6
Tailors	22
Photographic	2
Hides and skin	2
Gas station	2
Tire repair	2
Garage	1
Wood work	3
Watch repair and music shops	4
Pharmacy	5
Lawyer	1
Coffee collectors	122
Coffee cleaners	6
Coffee exporters	13

SOURCE: Limu Town Municipality.

The town has one health station, one post office, a bank and a manual telecommunication service. The town is provided with elementary, junior and secondary schools. The main economic activity of the town population is trade. It is estimated that 65% of the town's population are engaged in trade activity, while 15% are government employees and 20% are farmers. Trade in the town is dominated by retail and grain trade. There are 106 licensed retail traders and 30 grain traders (see table 14). In addition, there are about 4 hides and skin traders who collect hides and skin and export it to bigger towns such as Nazareth and Addis Ababa. In addition to the trading activity, the town serves as a trade and service centre. Contrary to what is often assumed, the towns are not centres of agro processing activities.

Table 14. Business types in Robe town

Business type	Number
Hotels and restaurants	24
Grocery	6
Snack bars	7
Bakery	2
Tej bet	27
Butchery	6
Grain mill	10
Grain trade	30
Retail trade	106
Photographic	2
Textiles	42
Shoe selling place	3
Hides and skin	4
Tire repair	2
Gas station	2
Music shops	2
Pharmacy	3
Horse accessory shop	1
Lawyer	3
Wood work	13
Chat trade	14
Poultry trade	7
Barbers	6
Yarn	4
Stone Quarry	1

SOURCE: Robe town municipality.

3. 2. 3 Characteristics of Sample Population of Urban Households

Demography

Table 15 provides the basic demographic characteristics of the urban households in both towns. Oromo is the dominant ethnicity followed by the Amhara in the Robe town. In Limu Genet, the Guraghe are the dominant ethnic group among the sample population, followed by the Oromo. It is interesting to note that the Gurage, which are found in the neighbouring region of SNNPR, are the dominant ethnic groups among the sampled population. These people must have migrated from their origin for business and other activities. Amharic is the dominant language in Robe while Amharic and Oromiffa are the dominant languages in Limu Genet.

The sample population in both towns is mainly Christian, though Muslims are nearly half of the population in Limu Genet. Males dominate the households in both towns. Also, over three-quarter of the population have the ability to read and write. A significant number of the sampled population in Robe have higher education. In both towns, most of the sampled households are married.

Table 15. Basic demographic characteristics of urban households

Affiliation and status	Robe town	Limu Genet
Ethnicity		
Amhara	34. 9 (29)	23. 8 (19)
Oromo	51. 8 (43)	30. 0 (24)
Gurage	13. 3 (11)	37. 5 (30)
Yem/Jangaro	-	2. 5 (2)
Keffa	-	2. 5 (2)
Tigray	-	3. 8 (2)
Language		
Amharic	56. 6 (47)	25. 0 (20)
Oromiffa	30. 1 (25)	6. 3 (5)
Guragegna	1. 2 (1)	-
Oromifaa and Amharic	10. 8 (9)	31. 3 (25)
Guragenga and Amharic	1. 2 (1)	21. 3 (17)
Yem and Amharic	-	2. 5 (2)
Keffigna and Amharic	-	1. 3 (1)
Keffigan and Oromiffa	-	1. 3 (1)
Guragena, Amharic and Oromifafa	-	11. 3 (9)
Religion		
Christian(Coptic)	83. 1 (69)	55. 0 (44)
Muslim	16. 9 (14)	45. 0 (36)
Sex		
Male	83. 1 (69)	80. 0 (64)
Female	16. 9 (14)	20. 0 (16)
Education		
Read and write (% Yes)	79. 5 (66)	77. 5 (62)
1-6	25. 2 (21)	42. 6 (34)
7-8	9. 6 (8)	6. 3 (5)
9-12	18. 0 (15)	12. 6 (10)
>12	15. 7 (13)	-
Marital status		
Married to one wife	73. 5 (61)	66. 3 (53)
Married to many wives	2. 4 (2)	5. 0 (4)
Divorced	3. 6 (3)	3. 8 (3)
Temporarily separated	3. 6 (3)	1. 3 (1)
Widowed	15. 7 (13)	18. 8 (15)
Single	1. 2 (1)	3. 8 (3)

Note: Figures in parenthesis are reporting farmers.

Occupational Structure of Urban Households

The primary occupation in both towns is trade (see table 16). Limu Genet has nearly 67% engaged in trade while Robe has nearly one-third of the population engaged in trade. Unlike Limu Genet, government employ ment is very important in Robe town. Other occupation types are less important in both weredas.

Table 16. Primary occupation of urban households

Occupation type	Robe town	Limu Genet
Trader	33. 7 (28)	67. 5 (54)
Government employee	27. 7 (23)	8. 8 (7)
Tailors, weavers, carpenters and builders	14. 4 (12)	3. 8 (3)
Laborers	4. 8 (4)	6. 3 (5)
Farmers	3. 6 (3)	2. 5 (2)
Housewives	2. 4 (2)	2. 5 (2)
Pensioner	7. 2 (6)	3. 8 (3)
Repair and technicians	-	3. 8 (3)
Others (hairdressers, tela sellers, etc.)	6. 0 (15)	-

Note: Figures in parentheses are reporting farmers.

3.2.4 Urban Traders

Different types of small scale trading activities are carried in both towns. The most important trades are grain, retail, 'chat', hides and skins and coffee trade. The latter is exclusively found in Limu Genet town. The following discussion highlights the main features of these types of trades by identifying those factors, which are relevant for rural-urban linkages. The main feature of each trader from the different trading category is listed below.

Grain Traders

Five traders from Limu Genet town and three traders from Robe town were interviewed (see table 17). Individuals that reside in the same town own almost all the businesses. Resident trades own almost all the businesses in the towns. The traders' capital in Limu Genet ranges from almost 3000 to 50,000 Birr with an average capital of about 20,000 Birr. The grain traders in Robe Wereda have smaller amount of capital with an average of 7,000 Birr. The weekly sales, however, are higher in Robe than in Limu Genet town. Relatives and own assets are the two most important sources of capital in both towns.

The major difference in grain traders in Limu and Robe towns is that in Limu Genet, all the traders mentioned that they invariably purchase grain from out of the region namely from Jimma, Addis Ababa and Dedo. The customers in the town are town dwellers and surrounding farmers. Limu Genet is therefore a grain-importing town. Traders in Robe town on the other hand indicated that they purchase the grain from Robe town and invariably sell the grains out of town

mainly in Nazreth and Addis Ababa. Their customers are traders and consumers in these bigger towns. Robe town is therefore a grain collecting and exporting centre.

Grain trading is mainly a family business, hence, few people are hired as labourers on market days. These few people are drawn from the towns as opposed to from rural areas.

Retail Traders

Retail traders in Robe town are small shop owners. They operate privately and sell consumable (consumer) goods. The average capital of a retail shop is about 5500 Birr with weekly sales of 175 Birr (table 18). Banks are not important sources of capital for retail traders. Relatives and self are the main sources of capital for the business. The business caters to the town dwellers and customers that come from the surrounding areas. The businesses are entirely family-owned with one or two members working in the shops. The shops do not hire any labourers. The business owners purchase their items from Addis Ababa and some from Nazareth. Hence, almost all the goods sold by the retail traders are brought in from somewhere else.

Table 17. Selected features of grain traders in Limu and Robe towns

	Limu Genet town						Robe Town			
Grain traders	1	2	3	4	5	Avg.	1	2	3	Avg.
Business ownership	Private	Private	Private	Private	Private		Private	Private	Private	
Owner Residence	LG	LG	LG	LG	LG		Robe	Robe	Robe	
Current capital (birr)	50,000	2875	10925	25140	11850	20158	10000	8000	3000	7000
Average weekly sale (birr)	2000	600	300	1000	500	880	2500	2000	500	1667
Source of capital	Bank/ Relative	Bank	Relative	Relative	Self		Bank	Bank/ self	Relatives	
Place of purchase of grains	Dedo, Jimma/AA	AA	Jimma	Jimma	Dedo, Jimma		Robe	Robe	Robe	
Place of sell of grain	LG	LG	LG	LG	LG		Nazreth, AA	Nazreth, AA	Nazreth, AA	
Customers	Town folk	Nearby farmers	Town folk/ nearby farmers	Town folk	Town folk		Traders	Traders/ consumers	Traders	
No. of hired labor on market day	3	No	No	No	No		2	3	No	
No. of hired labor on non-market day	1	No	No	No	No		-	-	No	
Sources of hired labor	Urban/ Rural	-	-	-	-		Town	Town	-	
Family labor on market day	2	2	2	2	3		1	3	2	
Family labor on non-market day	1	2	1	2	3		1	2	2	

Note: LG = Limu Genet

Table 18. Selected features of retail traders in Robe town

	Retail traders						
	1	2	3	4	5	6	Avg
Ownership of business	Private	Partnership	Private	Private	Private	Private	
Owner residence	Robe	Robe	Robe	Robe	Robe	Robe	
Capital (Birr)	2000	5000	10000	8000	3000	5000	5500
Weekly sales (Birr)	150	250	50	200	100	300	175
Source of capital	Bank	Earnings from agriculture	Business itself	Relatives	Self	Relatives	
Place items purchased	Addis Ababa	Addis Ababa	Addis Ababa	Addis Ababa, Nazreth	Addis Ababa	Addis Ababa, Nazreth	
Place items sold	Robe town	Robe, Habe, Bele	Robe	Robe	Robe	Robe	
Customers	Town dwellers/ nearby farmers	Town dwellers/ nearby farmers	Tows dwellers/ nearby farmers	Town dwellers/ nearby farmers	Town dwellers/ nearby farmers	Town dwellers/ nearby farmers	
No. of hired labourers on market day	No	No	No	No	No	No	
No. of hired labourers on non-market day	No	No	No	No	No	No	
Source of hired labour	-	-	-	-	-	-	
No. of family labour on market day	2	2	2	1	2	2	
No. of family labour on non- market day	2	1	2	1	2	2	

Most of the characteristics of retail traders observed in Robe town are also true for Limu Genet town retail traders. Hence, ownership is mostly private, sources of loan are relatives and personal, customers are town dwellers and the surrounding farmers, sold items are imported from outside the region and the business is entirely run by family labour employing one or two workers (see table 19). The major difference in the retail trade of the two towns is observed in the amount of capital and the weekly sales. Traders in Limu Genet have higher amount of capital and higher amount of weekly sale. This could be a reflection of a higher purchasing power that exists in the region because of the coffee crop that easily brings money to the surrounding people. This also indicates that there is more demand for consumable (consumer) goods in Limu Genet town, which makes the retail businesses hold larger stocks with higher amounts of capital.

'Chat' Traders

Chat is a stimulant, is mostly used by local people in the two study areas. Hence, there are town traders that are involved in the business of chat selling. This is a small business with very small capital and small weekly sales (see table 20). The main customers of chat traders in both towns are town dwellers. In Limu Genet town, the source of chat is the surrounding area while in the case of Robe wereda, chat is brought to the town from other nearby weredas and areas. Chat traders in Limu usually hire one or two labourers on market days. The labourers usually come from rural area.

Hides and Skins traders

Hides and skin trade in both towns are privately owned (see table 21). In Limu Gent, the owners have relatively higher amount of capital. Traders in Robe could not tell their capital stock because they did not have any left in their store at the time of the interview. They have, however, indicated that usually they collect hides and skins worth about 100,000 Birr for sale to the central market. Both towns are collecting centres to supply the Addis Ababa market. Personal asset is the main source of capital. The business in both towns is a family business, with no hired labourers.

Table 19. Selected features of retail traders in Limu Genet town

	Retail traders						
	1	2	3	4	5	6	Avg.
Business ownership	Relative's	Private	Private	Relative's	Private	Private	
Owner residence	Limu Genet	Limu Genet	Limu Genet	Limu Genet	Limu Genet	Limu Genet	
Capital	50000	20000	80000	15000	5000	10000	30,000
Weekly sell	2000	1000	5000	400	500	500	1567
Source of capital	Other business	Relatives	Business itself	Business itself	Agric. earnings	Bank	
Place items purchased	Jimma	Jimma	Jimma	Jimma	Jimma	Jimma	
Place items sold	Limu Genet	Limu Genet	Limu Genet	Limu Genet	Limu Genet	Limu Genet	
Customers	Town folks/ nearby farmers	Town folks/ nearby farmers	Town folks/ nearby farmers	Town folks/ nearby farmers	Town folks/ nearby farmers	Town folks/ nearby farmers	
No. of hired labor on market day	No	No	No	No	No	No	
No. of hired labor on non-market day	No	No	No	No	No	No	
Source of hired labor	-	-	-	-	-	-	
No. of family labor on market day	3	1	1	2	2	2	
No. of family labor on non- market day	3	1	1	1	1	1	

Table 20. Some features of chat traders in Limu Genet and Robe towns

	Limu Genet town					Robe Town		
Trader	1	2	3	4	Avg.	1	2	Avg.
Business ownership	Private	Private	Private	Private		Private	Private	
Residence of owner	Limu Genet	Limu Genet	Limu Genet	Limu Genet		Robe	Robe	
Capital (Birr)	2000	3000	2000	3000	2500	2500	2000	2250
Weekly sale (Birr)	200	400	500	400	375	120	160	140
Source of capital	Relatives	Relatives	Relatives	Relatives		Business itself	Business itself	
Place of purchase of chat	Nearby rural area	Nearby rural area	Nearby rural area	Nearby rural areas		Amigna Wereda	Dixisis Wereda	
Place of sale of chat	Limu Genet	Limu Genet	Limu Genet	Limu Genet		Robe town	Robe town	
Customers	Town folks	Town folks	Town folks	Town folks		Town folks/ nearby farmers	Town folks/ nearby farmers	
Number of hired labor on market day	1	1	2	1		No	No	
Number of hired labor on non-market day	1	1	1	1		No	No	
Source of hired labour	Rural	Rural	Rural and urban	Urban		-	-	
Number of family labor on market day	1	1	-	-		2	3	
Number of family labor on non-market day	1	1	-	-		2	2	

Table 21. Selected features of hides and skin traders in Limu Genet and Robe towns

	Limu Genet			Robe town			
Trader	1	2	Average	1	2	3	Average
Business ownership	Private	Private		Private	Private	Private	
Residence of owner	Limu Genet	Limu Genet		Robe	Robe	Robe	
Capital	135,000	100,000				2000	
Weekly sales							
Source of capital	Agric. earnings and relatives	Business		Agric. earnings	Bank	Self	
Place of purchase of hides and skins	Town dwellers, hotels and farmers	Farmers		Robe and Sedika	Robe and its vicinity	Robe	
Place of sale of hides and skins	Addis Ababa	Addis Ababa		Addis Ababa	Addis Ababa	Robe	
Customers	Traders	Traders		Traders	Traders	Traders	
Number of hired labor on market days	2	No		No	No	No	
Number of hired labor on non-market days	-	No		No	No	No	
Sources of hired labor	Urban	-		-	-	-	
No. of family labor on market day	4	3		3	6	2	
No. of family labor on non-market day	4	3		2	4	2	

Coffee Collectors and Suppliers

These traders are found exclusively in Limu Genet town. In fact, the major business of the town is coffee collecting and exporting. Coffee collecting and supplying requires huge capital compared to other businesses in the town (see table 22). Hence, both collectors and suppliers have indicated a higher amount of coffee purchased in the week of the study. On average, coffee collectors have bought coffee worth of 130,000 Birr in the study week, while the suppliers have bought coffee worth 258, 000 Birr at the same time. The two activities of collecting and supplying are linked together in financing and marketing. Hence, the most important sources of capital for coffee collectors are coffee suppliers who advance money to collectors so that they could collect large amounts of coffee. Coffee suppliers receive coffee from the collectors in Limu town and sell the coffee to the central market in Addis Ababa. Banks are the major source of capital for coffee suppliers. Coffee collecting is entirely a family business, though many people are involved in the collecting efforts. Coffee suppliers process the coffee before it is shipped to the central market. The operation requires both machinery and labourers. Almost all the coffee suppliers rent their processing machines from Limu and purchase the raw materials needed from other places such as Addis Ababa, Jimma and Limu town. Almost all coffee suppliers hire labourers. These labourers, however, are drawn mainly from the town.

The foregoing discussion on urban traders revealed that trade in both towns is a small scale activity which involves one or two persons. . The amount of capital used in the business is also very limited. Thus, trade in the towns are not important sources of employment for the surrounding people. The different types of trade, however, link the hinterland and the town with other towns in the urban hierarchy. Both towns and their hinterlands are linked to Addis Ababa, the national capital. In addition, Jimma and Nazareth two important towns, show intense interactions with Limu Kossa and Robe weredas, respectively.

Table 22. Selected features of coffee collectors and suppliers in Limu Genet town

Trader	1	2	3	4	5	1	2	3	4	5
Business ownership	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private
Owner residence	Limu Genet	Limu Genet	Limu Genet	Limu Genet	Limu genet	Limu Genet	Limu Genet	Limu Genet	Limu Genet	Limu Genet
Amount of coffee purchased this week	175,000	110,400	100,500	197,200	68,000	450,000	150,0000	160,000	180,000	350,000
Source of capital	Other business	Suppliers' advance and other business	Bank	Suppliers' advance	Suppliers' advance	Bank	Bank	Bank	Bank and other business	Self
Place of coffee purchase	Nearby farmers	Nearby farmers and farmer traders	Limu Genet farmers	Limu Genet farmers	Limu Genet farmers	Limu Genet collectors	Limu Genet collectors	Limu Genet Collectors	Limu Genet collectors	Limu Genet collectors
Coffee processing (drying, cleaning etc)	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Source of raw material for coffee processing	No	No	No	No	No	Addis Ababa	Jimma and Limu Genet	Addis Ababa and Jimma	AA., Jimma and Limu	Limu Genet
Source of machine for coffee processing	No	No	No	No	No	Rented from Limu Genet	Rented from Limu Genet	Rented from Limu Genet	Rented from Limu Genet	Rented from Limu genet
Place of coffee sale	Limu Genet	Limu Genet Coffee	Limu Genet	Limu Genet Coffee	Limu Genet Coffee	Addis Ababa Central coffee	Addis Ababa Central coffee market	Addis Ababa Central coffee	Addis Ababa Central coffee	Addis Ababa Central coffee
Customers	Coffee suppliers and cleaners	suppliers	Coffee suppliers	suppliers	suppliers	market		market	market	market
No. of hired labour on market days	No	No	No	2	No	6	10	6	8	1
No. of hired labour on non-market days	No	No	No	-	No	6	1	1	8	10
Source of hired labour	-	-	-	-	-	Town	Town	Town	Town and rural	3
No. of family labour on market days	5	5	4	4	3	3	4	2	2	3
No. of family labour on non-market days	2	2	1	2	1	-	2	-	2	

4. PATTERNS OF RURAL-URBAN LINKAGES

4.1 Inputs, Agricultural Services and Extension Service Usage

Small towns are expected to improve farmers' access to agri-inputs and services. The extent to which local farmers use agricultural inputs and extension services, and whether the small towns are sources of these services to the local farmers will reveal the impact of small towns on the nearby farmers. It will also reveal the nature of backward linkages the hinterlands may have with the small towns.

Table 23. Average expenditure and number of farmers reporting use of inputs and agricultural services

Inputs and agricultural services	Robi		Limu Kossa	
	Average expenditure	% and no. of farmers	Average expenditure	% and no. of farmers
Improved seeds and seedlings	114.06	8.87 (11)	118.03	29.54 (26)
Fertilizers	151.33	70.16 (87)	147.80	57.95 (51)
Herbicides	31.12	16.12 (20)	58.07	18.18 (16)
Pesticides	51.75	3.22 (4)	40.00	3.40 (3)
Tractors	168.75	3.17 (4)	300.0	1.11 (1)
Harvester	70.0	0.80 (1)	-	-
Threshing	16.0	0.80 (1)	20.0	1.11 (1)
Sprayers	7.91	4.83 (6)	79.16	7.95 (7)

Note: Figures in parenthesis are reporting farmers.

4.1.1. Inputs and Agricultural Services

The types of inputs used in the two regions are outlined in table 23. The predominant type of input used in both weredas is fertilizer. It is reported that 70% of farmers in Robi and 58% in Limu Kossa use fertilizer. In addition to tractor, fertilizer is also the input for which high average expenditure is reported. The latter is due to the nature of the services, which require high expenditure. According to past study, this is high compared to the national average of 20% of farmers who use fertilizers in the country (Mesfin 1991). Other inputs used in the weredas include herbicides, improved seeds and seedlings. The latter is used by nearly 30% of the farmers in Limu Kossa Wereda as these farmers use coffee seedlings in their farm. Herbicides are relatively highly used in Limu Kossa Wereda than in Robe. There is a low farm capital utilization in both weredas.

Table 24 shows that in Robe Wereda the major source of fertilizers is the service cooperative which is found in the rural areas. The role of traders and other town-

based institutions in supplying fertilizers in Robe wereda is very limited. This indicates that Robe town has a minimal role in supplying fertilizers to farmers.

In Limu Kossa Wereda, the town based agricultural bureau is the most important source for fertilizers. Town based traders are not important in Limu Wereda. The sources of other inputs also show the same pattern as that of fertilizers.

4.1.2 Extension Services

Extension service is one of the inputs needed to better the agricultural conditions of the farmers. Table 25 provides the extension and veterinary service usage of farmers. The frequency of contact for extension and veterinary services indicates that both weredas have less utilization of the service. Farmers in Limu Kossa have much less veterinary usage than their counterpart in Robe wereda.

In Robe Wereda, the rural areas have access to the extension services. While Robe town serves as the major centre for veterinary services. Similarly, in Limu Kossa Wereda veterinary services are found in Limu town, while extension services are found in the rural areas. The reason why veterinary services are found in towns in both weredas could be due to the nature of the services, which require some centres where professionals could provide the service. Hence, as far as extension services are concerned, the towns provide partial service for farmers in the hinterlands.

Table 24. Source of inputs and agricultural services

Inputs	Robi					Limu Kossa					
	Robi town (trader)	Service coops.	Rural agri. bureau	Town agri. bureau	Others	Limu town (trader)	Service coops.	Rural agri. bureau	Town agri. bureau	Others	Town trade and agri. bureau
Improved seeds/seedlings	-	5.6 (7)	1.6 (2)	1.6 (2)	-	1.1 (1)	-	5.7 (5)	25.0 (22)	-	
Fertilizers	1.6 (2)	60.3 (76)	2.4 (3)	1.6 (2)	2.8 (1)	2.3 (2)	2.3 (2)	8.0 (7)	43.2 (38)		1.1 (1)
Herbicides	6.3 (8)	2.4 (3)	0.8 (1)	1.6 (2)	0.8 (1)	9.1 (8)	-	1.1 (1)	5.7 (5)	1.1 (1)	
Pesticides	0.8 (1)	-	0.8 (1)	0.8 (1)	0.8 (1)	-	-	1.1 (1)	2.3 (2)		-
Tractors	0.8 (1)	-	-	-	1.6 (2)	-	-	-	-		1.1 (1)
Harvesters	-	0.8 (1)	-	-	-	1.1 (1)	-	-	-		-
Threshing	-	-	-	-	-	1.1 (1)			-		
Sprayers	-	0.8 (1)	0.8 (1)	-	0.8 (1)	1.1 (1)	3.4 (3)	-	2.3 (2)	1.1 (1)	

Note: Figures in parenthesis are reporting farmers.

Table 25. Frequency of contact and source of extension services

Type of service and wereda	Average frequency of contact in the last 12 moths	Farmers reporting source of service in Robe Wereda			Farmers reporting source of service in Limu Kossa Wereda		
Area		Atab Robe PA	Sudie Wolte PA	Robe town	Chime PA	Bufeta Gibe PA	Limu town
Extension							
Robe	3.88	16.7	35.7	12.7			
	(96)	(21)	(45)	(16)			
Limu Kossa	5.61				47.7	13.6	28.4
	(75)				(42)	(12)	(25)
Veterinary service							
Robe	4.45	1.6	5.6	49.2			
	(94)	(2)	(7)	(62)			
Limu Kosssa	1.26				6.8	5.7	62.5
	(45)				(6)	(5)	(55)

Note: Figures in parenthesis are reporting farmers.

The hypothesis that farmers living in the vicinity of a town will use more inputs and extension services, and that the towns function as sources of these inputs and services is not strong. The only input reported is that farmers use fertilizers. This input is not derived from the towns but distributed through other means outlined above. Similarly, the rate of extension usage and the sources of extension services are not in line with what is assumed in the hypothesis.

The hypothesis that coffee growing regions will show more backward production linkage than non-coffee growing regions does not get support. In fact, what is observed is the contrary, in that more farmers in Robe use fertilizers while only about 50% of the farmers in Limu reported the use of the same. The patterns in the use of other types of inputs are not also different from that of fertilizer.

4.2 Outputs and Marketing Channels

Small towns connected to the hinterlands and the larger centres are expected to remove problems of marketing of agricultural produce. The availability of markets creates incentives for farmers to bring their produce to markets. This is because it allows them to avoid high transportation cost and also to respond to the demand in small towns. Similarly, traders also avoid high cost of collecting produce from dispersed settlements. On the other hand, if market towns are not connected to the hinterlands, subsistence production will prevail and there will be little brought to the market.

Table 26 provides the average acreage, production, amount sold both in quantity and value, the place of sale and the types of agents to whom the produces are sold for Robe Wereda. Table 27 also reveals the same information for Limu Kossa Wereda.

Niger seed and linseed are the most important crops brought to the market in Robe. About 70% of the farmers who produce Niger seed reported that they sell it in the market. Similarly, 67% of the farmers that reported producing linseed sell it in the market. *Teff* is brought by nearly one-third of the farmers to the market. Nearly one half of the average production of *teff* is brought to the market. About 72% of the produced linseed is brought to the market. Linseed, *teff*, wheat and Niger seed are the most important marketable crops which have higher average sale. Town traders in Robe town are the most important agents for buying the grains from the farmers.

Table 26. Crop output, sales and marketing channel in meher season, Robe Wereda/town

Crop type	Avg. size (hectare)	Avg. production (quintals)	Avg. sold (quintals)	Avg. sold (Birr)	No. reporting	Avg. travel time to market (minutes)	No. of farmers selling to:		
							Local farmers	Town traders	Town consumers
Teff	0.58 (110)	2.52 (110)	1.38 (36)	154.33 (36)	27	39.10 (35)	2	22	3
Wheat	0.64 (106)	3.38 (104)	1.58 (17)	134.35 (17)	13	36.89 (16)	1	11	-
Barley	0.27 (15)	1.43 (11)	-	-	-	-	-	-	-
Maize	0.27 (34)	1.43 (29)	-	-	-	-	-	-	-
Millet	0.83 (3)	8.5 (2)	3 (1)	330 (1)	1	60	-	1	-
Sorghum	0.38 (1)	6.00 (1)	-	-	-	-	-	-	-
Dagussa	0.25 (1)	0.50 (1)	0.50 (1)	70 (1)	1	30	-	-	1
Horse bean	0.33 (33)	0.94 (29)	0.91 (3)	91.0 (3)	1	19.0 (3)	-	1	-
Field peas	0.22 (6)	0.50 (6)							
Niger seed	0.37 (33)	2.61 (27)	1.11 (19)	126.75 (20)	15	30.12	-	14	-
Linseed	0.50 (39)	1.32 (34)	0.92 (23)	179.04 (24)	20	34.94 (25)	-	21	-
Sesame	0.41 (11)	0.52 (10)	0.78 (7)	125.0 (6)	7	48.42 (7)	-	6	-
Fenugreek	0.25 (5)	1.0 (5)	1.0 (4)	107.5 (4)	4	60.50	-	3	-
Onion	.50 (2)	1.50 (2)	3.0 (1)	300 (1)	-	40	-	-	-
Grass	.25 (1)	.25 (1)	-	-	-	-	-	-	-

Note: Figures in parenthesis are reporting farmers.

Table 27. Crop output, sale and marketing channel in meher season- Limu Kossa Wereda

Crop type	Avg. size (hectare)	Avg. product (quintals)	Avg. sold (quintals)	Avg. sold (Birr)	Place of sale			Avg. travel time to place of (minutes)	No. of farmers selling to:					
					Li tw	Li ru	Other		Lofa	Totr	Toco	Comi	Co tg	Totr/ Coag
Teff	0.49 (76)	2.25 (75)	2.10 (10)	473.85 (7)	9	-	1	41.66 (9)	2	3	5	-	-	
Barley	0.75 (3)	9.5 (2)	-	-	-			-	-	-	-			
Maize	0.59 (79)	8.19 (78)	2.71 (21)	209.16 (18)	15	4	2	35.47 (19)	2	2	15			
Sorghum	0.44 (22)	4.02 (21)	2.45 (5)	136.80 (5)	5	-	-	70.50 (4)	-	-	5			
Dagussa	0.21 (7)	1.12 (7)												
Horse bean	0.25 (1)	0.50 (1)												
Niger seed	0.29 (8)	0.75 (8)		30.1 (1)	1	-	-	20.0 (1)	-	-	1			
Linseed	0.25 (1													
Coffee	0.92 (79)	4.62 (84)	4.59 (84)	1536.56 (82)	82	2	-	63.21 (84)	1	29	1	2	40	8
Chat	.42 (8)	0.50 (1)	9.0 (1)	167.29 (17)	9	5	-	28.28 (12)	2	12	2			
Mango				45.44 (9)	9	2	-		1	3	6			
Banana				15.3 (3)	3	-	-		-	1	2			
Pineapple				14.0 (2)	2	-	-		-	-	2			
Orange				27.50 (2)	2	-	-		-	-	2			
Zeituna				41.66 (3)	3	1	-		-	1	3			
Spices				30.0 (1)	1	-	-		-	-	1			

Notes: Lito= Limu town; totr= town trader; toco=town consumer; LiRu= Limu rural; Comi=cofee mill operator; Lofar= Local farmer; coag=coffee agent.
(Figures in parenthesis are reporting farmers.

Coffee is the major crop brought to the market by all farmers, with 100% of the produce sold in the market. Coffee agents and local traders are the major buyers of the coffee in the region. These are all town-based agents. The second most important crop brought to the market is maize. It was reported that nearly 27% of the farmers bring about on average 33% of the produced maize to the market. Maize is mainly sold to town consumers. Unlike Robe Wereda, *teff* is not the major crop brought to the market in Limu Kossa. Only a few farmers or 13% reported bringing a small amount of *teff* to the market.

In both weredas the town is the major market for the produce of the hinterlands. The varieties and the amount of crops coming to the market, however, are limited. In terms of variety, only four crops in Robe Wereda have a significant market, while other crops are very poor in their marketability. Similarly, in Limu Kossa Wereda, coffee is the only crop which is extensively brought to the market. In terms of magnitude, all crops are brought in limited amount, except coffee, which is the major cash crop of the region.

4.3 Livestock and Livestock Products Sale and Marketing Channel

The arguments made for marketing crops could be made for marketing of livestock and livestock products as well. Hence, farmers in small towns are expected to stimulate higher sales of livestock and livestock products to earn income.

Sheep, cows, and oxen are reported to have been brought to the market in Robe Wereda by nearly 22% of farmers. Other types of livestock are less marketed. Robe town is the major market place for selling livestock, though other places including rural villages are also mentioned by farmers. A comparison of livestock ownership with livestock sales indicates that while 86% of the farmers own livestock, it is only 22% who reported sale of some livestock. This implies that owners use most of the owned animals. Sheep, on the other hand, are sold by nearly 50% of those who reported to own sheep. This is due to the fact that sheep are easily liquidated. In fact, a comparison of table 28 and table 11 reveals that the average number of sheep reported to have been sold in the past 12 months is greater than the average reported to have been owned during the same period. The discrepancy could be due to the fact that some farmers purchase sheep for immediate sale and these are not reported as owned by the farmers.

The pattern of livestock sales in Limu Kossa is quite different from Robe. Very few farmers reported selling and purchasing livestock in Limu Kossa Wereda. The ownership pattern, however, is not very different from that of Robe Wereda.

The sale of livestock products such as eggs, milk, hides and skins is very limited in both weredas. Very few farmers dare to sell such products in the markets.

Table 28. Livestock sales and purchases and marketing channels in Robe Wereda

Livestock	Average number sold in the past 12 months	Average amount of sales	Place of sale				Number bought in the last 12 months	Amount purchased	Place of purchase			
			R	H	D	V			R	H	D	V
Cows	1.29 (27)	385.92 (27)	15. 9	1. 6	-	-	-	-	-			
Oxen	?	716.15 (26)	12.7	4.8	0.8	-	1.22 (9)	638.88 (9)	1.6	3.2	-	-
Heifer	1.13 (15)	218.75 (16)	10.3	-	-	0.8	1.00 (1)	400.0 (1)	-	-	0.8	-
Bulls	1.66 (9)	263.75 (8)	4.8	0.8	-	-	2.0 (2)	650.0 (2)	0.8	-	-	-
Calves	1.22 (9)	140.0 (8)	7.9	0.8	-	-	1.0 (1)	250.0 (1)	0.8	-	-	-
Sheep	5.58 (31)	129.03 (28)	18.3	-	-	0.8	2.80 (5)	160.0 (5)	3.2	-	-	-
Horses	2.0 (3)	330.0 (3)	0.8	1.6	-	-	1.0 (3)	433.33 (3)	-	-	0.8	1.6
Donkeys	-	-					1.0 (2)	175.0 (2)	0.8	-	0.8	-
Mules	1.0 (1)	600.0 (1)	-	0.8	-	-	-	-	-			
Hens	4.22 (9)	17.88 (9)	5.6	-	-	-	-	-	-			

Notes: R= Robe town; H= Habe; D= Dixsis; V= Village. (Figures in parenthesis are reporting farmers.)

Table 29. Livestock sales and purchases and marketing channels in Limu Kossa Wereda

Livestock	Average number sold in the past 12 months	Average amount of sales	% of farmers reporting market place		Number bought in the last 12 months	Amount bought	% of farmers reporting market place	
			LG	V			LG	V
Cows	1.66 (6)	708.33 (6)	3.4	2.2	1.0 (3)	430.0 (3)	2.3	-
Oxen	1.28 (7)	728.57 (7)	3.4	2.2	1.33 (6)	783.33 (6)	5.7	1.1
Heifer	1.00 (2)	300.00 (2)	1.1		1.25 (4)	252.50 (4)	3.4	1.1
Bulls	1.00 (2)	350.0 (2)	-		-	-	-	
Sheep	2.00 (2)	140.0 (2)	2.3	-	1.50 (2)	73.50 (2)	1.1	-
Donkeys	1.0 (1)	250.0 (1)	1.1	-	1.0 (3)	330.0 (3)	1.1	2.3
Hens	3.0 (7)	18.57 (7)	4.5	3.4	1.5 (2)	10.0 (2)	-	2.3

Notes: LG= Limu Genet: V= Village. (Figures in parenthesis are reporting farmers.)

Table 30. Sells and marketing channels of livestock products

Livestock product	Robe Wereda			Limu Kossa Wereda			
	Value of sales	% of farmers reporting market place	Distance of market place	Value of sales	% of farmers reporting market place		Distance of market place
					LG	V	
Milk	217.50 (4)	1.6	41.00 (3)	171.25	-	2.3	15.00 (3)
Cheese	36.50 (3)	2.4	34.00 (3)	43.50 (3)	2.3	1.1	25.66 (3)
Eggs	15.61 (18)	9.5	34.36 (18)	11.66 (3)	-	3.4	26.00 (3)
Hides	14.00 (3)	1.6	32.33 (3)	23.00 (5)	5.7	-	45.25 (4)
Honey	72.00 (3)	2.4	29.00 (3)	407.00 (2)	2.3	-	65.00 (2)

Notes: R= Robe; LG= Limu Genet; V= Village. (Figures in parenthesis are reporting farmers.)

The hypothesis that farmers near market towns are encouraged and have significant proportion of their output marketed, gets partial support as there are some crops brought to the market. The fact that the town traders and consumers are major buyers of these crops does provide some evidence on the importance of market-towns as collecting centres. The hypothesis, however, seems to be less relevant for the sale of livestock and livestock products by surrounding farmers. Livestock and livestock product sale is less important and hence, small towns are not very encouraged by such sources of income in both areas.

4.4 Purchase of Consumption Goods by Rural Households

One of the assumptions of many rural-urban linkage studies is that farm households create demand for urban goods and small towns can meet such demands (Gaile, 1992). Data on household spending was used to determine types of rural household expenditures and where such demands are met. Table 31 shows household expenditure on durable and non-durable goods and place of purchase. In terms of both types of goods, it can be shown that rural households make some expenditure. With regards to the non-durable goods, a significant portion of farmers in both weredas make expenditure particularly in consumables such as soaps, tea, sugar, oil, etc. The expenditure amount and the number of farmers making the expenditures, however, is higher in Limu Kossa Wereda except for shoes and cloths. In this regard, the expenditure of farmers on shoes and cloths was found to be more in Robe Wereda Robe and Limu Genet towns play a very significant role in supplying farmers with non-durable goods. The

fact that these towns are major sources could be due to the fact that the towns are relatively isolated and there are not major towns within a shorter distance. Additional interviews with traders however revealed that all the non-durable goods are brought from other bigger towns mainly Jimma and Addis Ababa in the case of Limu Genet, and Nazreth and Addis Ababa in the case of Robe town. Hence, all the expenditures in this regard are on items sold but not made in the towns.

In terms of the durable goods, it was found out that farmers in Robe wereda make very little spending while those in Limu Kossa wereda have higher amounts of spending. This could be related to the nature of the region which is cash crop region and hence farmers can afford to spend on durable goods such as radios, wristwatches, etc.

The hypothesis, which presupposes that the small towns meet the demand of the household for urban goods and services get support from the foregoing discussion. Both Robe and Limu towns are major sources of these items, though, the items are only sold and not manufactured there.

Table 31. Average expenditure and source of place of purchase of durable and non-durable goods for rural households

Goods	Robi				Limu Kossa						
	Expenditure & reporting farmers		Place of purchase		Expenditure & reporting farmers		Place of purchase				
	Average expense*	% and no. of farmers reporting	Robi Town	Nazreth	Average expense (birr)	% and no. of farmers reporting	Bufeta Gibe	Chime	Limu Genet	Jimma	Rural
NDG											
Soap/omo	3.51	93.6 (118)	73.2 (93)	-	4.64	97.7 (86)	1.1 (1)	27.6 (24)	59.8 (52)	-	2.3 (2)
Sugar/tea	6.98	42.85 (54)	33.9 (43)	-	8.45	73.9 (65)	1.1 (1)	20.7 (18)	50.6 (44)	-	1.1 (1)
Matches/ candles	1.11	80.15 (101)	63.8 (81)	-	3.29	93.18 (82)	1.1 (1)	29.9 (26)	58.6 (51)	-	1.1 (1)
Kerosene	7.09	26.19 (33)	24.4 (31)	-	5.43	75.0 (66)	1.1 (1)	18.4 (16)	48.3 (42)	-	1.1 (1)
Cloths	100.0	26.98 (34)	23.6 (30)	-	352.37	9.09 (8)	-	-	9.2 (8)		
Shoes	65.86	17.46 (22)	14.2 (18)	0.8 (1)	58.84	14.77 (13)	1.1 (1)	2.3 (2)	10.3 (9)	-	-
DG											
Radio/tape	118.33	2.3 (3)	2.4 (3)	-	193.0	22.72 (20)	-	2.3 (2)	20.7 (18)	-	-
Wristwatch	98.0	3.96 (5)	3.1 (4)	-	159.66	13.63 (12)	-	1.1 (1)	11.5 (10)	1.1 (1)	-
Household utensils	-	-	-	-	99.52	19.32 (17)	-	10.3 (9)	5.7 (5)	-	2.3 (2)
Jewellers	105.0	0.79 (1)	0.8 (1)	-	702.14	7.95 (7)	-	-	5.7 (5)	1.1 (1)	-
House mill	1798.50	1.58 (2)	-	-	4230.0	5.68 (5)	-	1.1 (1)	2.3 (2)	-	1.1 (1)

Notes: NDG = Non-durable goods; DG = Durable goods. Figures in parenthesis are reporting farmers.

* Average expenditure is in the last month for the non-durable goods and for the last year for the durable goods.

4.5 Non-Farm Activities

A small town nearby is expected to stimulate rural non-farm activities, as it presents demand for the produces of these non-farm activities. It is also expected to serve as a source of raw materials and inputs for non-farm activities.

It is surprising to find out that in both regions, rural non-farm activities is very underdeveloped, as only very few farmers reported to be engaged in these activities (see table 32). The insignificance of rural non-farm activities in these weredas indicate that the small towns could not serve to stimulate this production in the regions. Hence, the rural people are entirely dependent on agriculture with little base for further rural industrialization in the regions. This fits well with the occupational structure of rural households noted in table 32, where the overwhelming majority did not report anything other than farming as their occupation.

A number of factors could be related to the limited development of non-farm activities. Lack of capital could be cited as one factor, because most farmers do not get any credit support from financial institutions. Similarly, the centre is not capable of creating adequate demand and provide raw materials, and secure the support of others to stimulate rural non-farm activities.

4.6 Financial Linkage

The financial linkage of small towns to its hinterlands is based on the availability of financial institutions in the small towns, which will stimulate the rural people to use these institutions for loan and savings. Both towns are provided with bank services, which are expected to stimulate the local people to show financial linkage.

Table 32. Number of farmers reporting non-farm activities and average income

Types of non-farm activities	Robe Wereda		Limu Kossa Wereda	
	Number of farmers engaged in non-farm activities	Average income (Birr)	Number of farmers engaged in non-farm activities	Average income (Birr)
Brick making	-	-	1	3500
Carpentry	-	-	5	498.0
Kiosk retail	3	300.0	1	10,000
Welding/blacksmith	-	-	1	5000
Tailoring	2	285.0	2	1860.0
Pottery	14	195.0	-	-
Shoe-making	1	250.0	-	-
Charcoal production	1	700.0	-	-
Photography	-	-	4	153.50
Maintenance	-	-	1	150.0
Radio repair	-	-	2	70.0
Grass/straw vendor	1	120.00	-	-
Firewood vendor	1	1000.0	-	-
Gas retailing	3	374.66	-	-
Broker	1	400.0	-	-
Guard	-	-	1	360.0
Weaving	1	20.0	-	-
Handicraft	5	395.0	-	-
Spinning	1	15.0	-	-
Bar/hotel/restaurant	1	3264.1	-	-
Civil servant	1	8.00	-	-
Tea room	2	1050.0	-	-
Daily labourer	1	600.0	-	-
Sheep trader	1	5960.0	-	-
Religious teacher	1	1200.0	-	-

4.6.1 Loan

Table 33 provides the average amount of loan and the sources of loan of the hinterlands' population. The number of farmers reporting loan in Robe Wereda are nearly 20% while in Limu Kossa Wereda they are nearly 31%. Hence, there is a higher utilization of loan in Limu Kossa Wereda than in Robe Wereda. The average amount of loan is also much higher in Limu Kossa Wereda than in Robe Wereda. In fact, the average amount of loan is nearly five times higher in Limu Kossa Wereda. The major source of loan in both weredas are relatives. For Robe Wereda, most of these relatives live in Robe town while for Limu Kossa Wereda, they live in the rural areas. Banks as a source of loans are very insignificant as they are reported only by 2% and 1% in Robe and Limu Kossa weredas respectively. Money lenders, in both urban and rural areas are also very insignificant sources. Small number of farmers in Robe Wereda reported government and rural credit services as sources of loan. This indicates that both hinterlands are not linked with the towns for financial loans. Among those,

farmers who reported loan, the main reason for taking loan is for agricultural inputs in both weredas (see table 34). In Limu Kossa Wereda, a similar number of farmers have also reported that they take loan for education and medical services. The second important reason for loan in Robe Wereda is for business and trade. Thus, it seems that those farmers who take loans in the two weredas have used the money for productive uses.

Table 33. Average amount of loan and sources of loan in Robe and Limu Kossa Weredas

	Robe Wereda	Limu Kossa Wereda
Farmers reporting loan	24.6 (31)	26.13 (23)
Average amount of loan (Birr)	559.72	2661.87
Source of loan		
Bank	2.4 (3)	1.1 (1)
Relatives	8.7 (11)	17.0 (15)
Friends	1.6 (2)	10.2 (9)
Service cooperatives	-	2.3 (2)
Rural credit service	3.2 (4)	-
Money lender/ urban	0.8 (1)	1.1 (1)
Money lender/rural	-	2.3 (2)
Government	5.6 (7)	1.1 (1)
Place of loan		
Limu town		11.4 (10)
Robe town	15.1 (19)	
Peasant Associations	7.9 (10)	21.6 (19)
Other town	-	1.1 (1)

Note: Figures in parenthesis are reporting farmers

The role of towns and banks in terms of savings is very insignificant. Farmers reported that they mostly save their money at home in a box or carry their money in their pockets (see table 35). It is interesting to note that relatively small number of farmers reported that they do not save. Thus, farmers in rural areas seem to save some money from their earnings.

Table 34. Reasons for loan

Reason for loan	Robe Wereda	Limu Kossa
To buy consumable items	6.45 (2)	21.73 (5)
For education and medical services	12.90 (4)	30.43 (7)
To buy agricultural tools	3.22 (1)	4.34 (1)
Agricultural inputs	45.16 (14)	30.43 (7)
For business and trade	12.90 (4)	9.67 (3)
For marriage	3.22 (1)	-
To buy oxen and seeds	16.12 (5)	-

Note: Figures in parenthesis are reporting farmers.

4.6.2 Savings

The role of towns and banks in terms of savings is very significant. Farmers reported that they mostly save their money at home in a box or carry their money in their pockets (see table 35). It is interesting to note those who reported no saving are relatively less in number. Thus, farmers in rural areas seem to save from their earnings.

Table 35. Place of savings in Robe and Limu Kossa Weredas

Place of savings	Robe Wereda	Limu Kossa
Bank	-	4.5 (4)
Traditional savings/equb, etc.	1.6 (2)	1.1 (1)
Rural credit union	1.6 (2)	-
Home in a box	31.0 (39)	68.1 (60)
Pocket	33.3 (42)	6.8 (6)
Don't deposit	10.3 (13)	1.1 (1)

The hypothesis, which predicts that rural households will show financial linkages with town based financial institutions, does not get support from the foregoing discussion. Farmers are not beneficiaries of banks in terms of securing loans or depositing money.

4.7 Services and Visits to Towns

One of the manifestations of rural-urban linkage is in public and other service provisions. This is because small towns house schools and health facilities. Some of these services also require some threshold hence they cannot be located in rural areas. For example, a high school or higher health facilities cannot be located in dispersed settlements.

4.7.1 Public Services

The average expenditure on health service is higher in Limu Kossa Wereda compared to Robe Wereda (see table 36). Health centres are the major health institutions used in both regions, while other institutions such as hospitals and clinics are used by lesser number of people. In both regions, the towns of Robe and Limu Genet are places where the majority of the rural people get health services.

Table 36. Health service expenditure and place of health institutions

Health institutions	Robe Wereda	Limu Kossa
Average health expenditure	146.38 (96)	207.14 (84)
Health institutions:		
Health post	-	1.1 (1)
Health centre	61.9 (78)	62.5 (55)
Clinic	15.9 (20)	9.1 (8)
Hospital	2.4 (3)	-
Health centre and clinic	12.7 (16)	13.6 (12)
Health centre and hospital	3.2 (4)	2.3 (2)
Location of health institution:		
Robi	82.5 (104)	
Limu Genet		79.5 (70)
Addis Ababa	0.8 (1)	
Average distance (Minutes)	49.31 (120)	79.89 (78)

Note: Figures in parenthesis are reporting farmers.

Concerning primary school services, though there are some people who send their children to towns, the rural areas are the major providers of primary education for a significant portion of farmers. In Robe Wereda nearly 28% receive primary school service from the rural areas while the figure is nearly 32% for Limu Kossa Wereda. The situation for secondary school is quite different. Robe offers a secondary school while Limu Genet does not. Hence, farmers in Limu areas send their children to Jimma town, which has the nearest high school.

Table 37. Primary and secondary schools

	Robe Wereda	Limu Kossa
Primary school		
Location		
Robi town	35.7 (45)	
Sude Wolte Peasant Association	21.4 (27)	
Ayaba Peasant Association	5.6 (7)	
Ataba DoYo Peasant Association	0.8 (1)	
Limu Genet town		25.0 (22)
Chime Peasant Association		31.8 (28)
Average travel time (minutes)	34.47 (98)	25.41 (51)
Secondary School Location		
Robe town	55.6 (70)	
Jimma town		25.0 (22)
Average travel time (minutes)	47.76 (87)	93.49 (23)

Note: Figures in parentheses are reporting farmers.

4.7.2 Selected Service Types Usage

In addition to the public services of education and health, towns provide other urban services that could be used by the population of the hinterlands. Pipe water, electricity, telephone and gas are selected as urban services in this study. Table 38 shows that there is minimal utilization of pipe water in the surrounding. It also reveals that the people of the surrounding areas do not utilize electricity and telephone services. The minimal pipe water utilization of the hinterlands is derived mainly from the Robe and Limu Genet towns. As the rural people do not have access to electricity, they use gas for lighting purposes. Gas is mostly obtained from Robe and Limu Genet towns. Hence, the towns do not have the capacity to provide all the service types

4.7.3 Travel to Towns and Purposes of Travel

To the hinterland people, towns provide numerous services, including use mostly as markets for outputs and as sources of urban goods and services. Towns also provide other functions such as employment, recreation, administration, information, etc. majority of farmers reported that they go to towns once or twice a week, though in Limu Kossa, a significant number go less frequently (see table 39). Farmers go to the market often on foot, with limited use of animals. A significant number of farmers in Limu Kossa, however, use both foot and transportation.

Table 38. Selected service types and their usage (percent of farmers)

Location	Types of services							
	Robe Wereda				Limu Kossa			
	Pipe water	Electricity	Telephone	Gas	Pipe water	Electricity	Telephone	Gas
Percent farmers using the service	8.7 (11)	-	-	94.4 (119)	4.5 (4)	-	2.3 (2)	83.0 (73)
Average monthly payment	2.73 (11)	-	-	4.12 (118)	4.0 (4)	-	5.0 (1)	6.89 (70)
Location of service								
Robe town	8.7 (11)	-	-	77.0 (97)				
Nazreth town				0.8 (1)				
Sudie Wolte Peasant Association				1.6 (2)				
Limu Genet town					2.3 (2)		1.1 (1)	33.0 (29)
Bufeta Gibe Peasant Association								1.1 (1)
Chime Peasant Association								29.5 (26)
Gibye Peasant Association					2.3 (2)			3.4 (3)
Rural unidentified								10.3 (7)
Average distance to location of service	9.36 (11)			41.89 (119	6.5 (4)			29.11 (63)

They visit towns mainly to buy and sell items. In both regions other functions are not very important. The role of towns as centres of employment, recreation and administration is not supported in this study.

Table 39. Frequency of visit to towns, modes of transport and purposes of visit

	Robe Wereda	Limu Kossa
Frequency of travel to towns		
Daily	10.3 (13)	3.4 (3)
Once/Twice a week	76.2 (96)	42.0 (37)
Three/Six times a week	6.4 (8)	15.9 (14)
Once in two weeks	4.0 (5)	20.5 (18)
Once in a month	1.6 (2)	13.6 (12)
Once in a year	-	1.1 (1)
When called upon for meeting	-	1.1 (1)
Mode of transport to towns		
On Foot	94.4 (119)	67.0 (59)
Animal back	2.4 (3)	-
Modern transport (Lorry/Isuzu)	-	3.4 (3)
On foot and transport	-	25.0 (22)
On foot and animal back	2.4 (3)	1.1 (1)
Reasons for visiting towns		
Buy and sell items	77.8 (98)	81.8 (72)
To get information	-	1.1 (1)
For medical treatment	-	1.1 (1)
Look for jobs and buy and sell items	6.4 (8)	-
Recreation and buy and sell items	2.4 (3)	6.8 (6)
Administration and buy and sell items	4.8 (6)	-
Other reasons (medical, recreation, Administration and religious activity)	4.8 (6)	4.5 (4)

Note: Figures in parentheses indicate reporting farmers.

URBAN HOUSEHOLDS

4.8 Consumption Linkages of Urban Households

One of the ways that urban households are believed to be linked with rural households is thorough the purchase of food items. Examining the purchase of food items, both cops and dairy products, by urban households, helps to test this hypothesis. Tables 40 and 41 show that the food consumption of urban households of Limu Genet and Robe weredas and the places of purchase.

In Limu Genet wereda, the food crops bought by many urban households are *teff*, beans, maize and wheat respectively (in that order). In all cases, more than 65%

of the households have reported the purchases of these crops. Limu Genet is the main marketplace where households get these crops. In Robe town, the main crops purchased are *teff*, wheat and beans. These crops are purchased in Robe town.

The tables, however, have to be seen in conjunction with urban traders survey, which identified the places of purchase and sale of grain traders in both towns. Traders in Robe have indicated that they purchase grain from the surrounding farmers and ship the grains to other bigger places such as Addis Ababa and Nazareth. This indicates that food grain does not come to Robe from other places via traders. The hinterland is the main source of grain and urban households' purchase comes from the same place. The situation in Limu is different from Robe. All grain traders in the town indicated that they purchase grain from other towns such as Dedo, Jimma and Addis Ababa. They then sell the grains in Limu Genet town. This implies that the hinterlands of Limu Genet are poor suppliers of grains to the town. This confers with the patterns of sales indicated in table 27 where small grain sale is registered from Limu Kossa. Thus, urban households in Limu town, even if they purchase grain from the town are not linked to the hinterlands as other bigger towns are supplying them.

Table 40. Consumption and place of purchase of food items of urban households in Limu Genet town

Food item	Consumption in last month		Percent of farmers indicating place of purchase			
	Average amount (units)	Average amount (birr)	Limu Genet	Jimma	Welkite	Addis Ababa
Teff (kg)	65.49 (75)	123.33 (75)	88.8 (71)	1.3 (1)	1.3 (1)	1.3 (1)
Wheat (kg)	18.52 (55)	33.60 (56)	65.0 (52)	1.3 (1)	-	-
Barley (Kg)	14.27 (35)	20.36 (36)	43.8 (35)	-	-	-
Maize (Kg)	22.82 (61)	27.60 (61)	73.8 (59)	-	-	-
Millet (kg)	12.10 (10)	19.04 (11)	15.0 (12)	-	-	-
Horse bean (kg)	12.96 (61)	29.34 (64)	77.5 (62)	-		1.3 (1)
Potato		27.54 (68)	80.0 (64)	1.3 (1)	-	-
Tomato		8.2 (15)	17.5 (14)	-	1.3 (1)	
Cabbage		8.45 (51)	58.8 (47)	1.3 (1)	1.3 (1)	
Milk (litre)	15.75 (33)	74.61 (30)	38.8 (31)	1.3 (1)	-	-
Meat (kg)	5.32 (55)	66.09 (65)	76.3 (61)	1.3 (1)	-	-
Chicken		19.70 (30)	36.3 (29)	-	-	-
Egg (no.)	37.80 (40)	8.87 (37)	47.5 (38)	-	-	-
Butter (kg)	2.65 (72)	43.66 (72)	85.0 (68)	2.5 (2)	-	-

Note: Figures in parenthesis are reporting farmers.

Table 41. Consumption and place of purchase of food items of urban households in Robe town

Food item	Consumption in last month		Percent farmers indicating place of purchase		
	Average amount (units)	Average amount (birr)	Robe	Addis Ababa	Nazreth
Teff (kg)	63.53 (78)	140.75 (74)	90.4 (75)	1.2 (1)	-
Wheat (kg)	37.84 (77)	58.63 (74)	89.2 (74)	-	-
Barley (Kg)	24.90 (40)	43.00 (41)	49.1 (41)	-	-
Maize (Kg)	13.94 (36)	16.01 (38)	44.6 (37)	-	-
Millet (kg)	-	-	-	-	-
Horse bean (kg)	18.94 (69)	35.85 (69)	80.7 (67)	-	
Potato		12.19 (62)	69.9 (58)		-
Tomato		10.47 (29)	30.1 (25)	-	
Cabbage		7.15 (41)	44.6 (37)	1.2 (1)	
Milk (litre)	22.94 (53)	32.42 (38)	41.0 (34)	-	-
Meat (kg)	6.32 (52)	53.29 (50)	60.2 (50)	-	-
Chicken		14.12 (32)	38.6 (36)	-	-
Egg (no.)	31.02 (43)	10.06 (43)	51.8 (43)	-	-
Butter (kg)	1.73 (53)	35.02 (49)	54.2 (45)	-	-

Note: Figures in parenthesis are reporting farmers.

The hypothesis that urban households are linked to the hinterlands through the purchases of farm produces is supported in Robe Wereda but not in Limu Kossa Wereda. This attests to the fact that in cash crop region, there is little linkage between urban households and the hinterlands in terms of purchase of farm goods. Hence, the hypothesis made to this effect is supported.

4.9 Migration Status of Urban Households

Small towns are believed to serve as attraction points for the surrounding people. This function of small towns can reduce the migration of the surrounding people to other big centres.

The two small towns in both regions have lived up to this expectation by showing that a higher number of their residents are actually migrants from outside the district. The outside wereda migrants are higher in Limu Genet than in Robe wereda, indicating that Limu Genet attracts migrants from outside the wereda. (table 42). The number of people who reported that their previous place of residence is rural both from within and outside the wereda in both towns are nearly two-third. Rural-urban migration is the dominant form of migration witnessed in both towns.

In terms of length of residence, most migrants are long-term or permanent migrants who have stayed in the same place for many years. The average length of residence is about two and half decades.

Table 42. Migration status of in-migrants (percent of households)

Migration status	Limu Genet	Robe town
Previous place of residence		
Outside the wereda	82.4	53.0
Rural	66.3	62.7
Length of residence in town		
0-3 years	2.5	1.2
4-10 years	6.5	10.8
11-20 years	16.4	33.6
21-30	35.2	24.0
31+ years	39.4	30.4
Average length of residence	27.59	24.96
Average age of the household head	47.62	45.73

The most important reason for migration in both towns is the search for better life. This reason, however, is more important for Limu Genet than for Robe town, perhaps indicating the fact that Limu is a place, which attracts people who migrate for economic reasons. Marriage is also a major force for migrants to come to the towns. In Robe town, joining family and education are also important reasons for in-migration (table 43).

Table 43. Selected reasons for migration

Reason for coming to the towns	Limu Genet	Robe town
For better life	72.5 (58)	34.9 (29)
Marriage	7.5 (6)	7.2 (6)
To live with family	3.8 (3)	10.8 (9)
Education	1.3 (1)	7.2 (6)
Villagization and resettlement	1.3 (1)	3.6 (3)

Note: Figures in parenthesis are reporting farmers.

The two hypothesis predicting that small towns are destinations for migrants from the surrounding, and that economic reasons are the most important reasons for migrating to the small towns get support from the forgoing discussion.

4.10 Truncated Rural-Urban Linkages: A Generalization of Patterns

The virtuous circle model of rural-urban linkage presupposes the presence of strong and circular linkages between rural and urban areas. The assumption of the model is that this will be manifested through consumption, production, and financial service linkages. Evidences of these linkages in our study areas are scanty and the existing linkages are partial. In the two study areas, it was found out that the towns are sources of consumption goods; places where farm households obtain higher social services, major destinations of migrants and shopping centres. The farm households, however, are poorly connected with the towns in terms of production and financial linkages. Specifically, It was found out that:

i.) The towns are not major sources of input. In both regions, town traders play very little role in the distribution and delivery of inputs such as fertilizers and it is the parastatals, which seem to dominate the supply and delivery of inputs, particularly fertilizers.

ii.) The cropping patterns and the livestock production studied in the farm households are not any different from the cropping patterns in the respective regions as a whole. A prosperous farm belt specializing in perishable, high value produce such as vegetables and fruits as well as raising chickens and producing dairy products are not observed.

iii.) The extent of commercialisation in the surrounding farm households is not very significant. The exception is Limu Kossa Wereda, which is a cash crop region where coffee is fully brought to market. If coffee is taken out, the remaining types and amounts of crops coming to the market are very insignificant.

iv.) The rural farm households have no financial linkages at all with the financial institutions that exist in the towns. The rural households have indicated in both study areas that they rely on informal friends and relatives for their financial resources.

v.) Rural towns have not been instrumental in assisting farm households to utilize such services as telephone, electricity, and pipe water.

vi.) The farm households in both study areas have reported limited rural non-farm activities. This shows that these towns are not capable of serving as market centres for rural non-farm activities or as centres for raw material that encourage such activities.

vii.) The small towns are not centres of employment, recreation and information for the surrounding people.

The above insights in the rural regions of Ethiopia indicate that the small towns do not articulate well with their hinterland. The linkages that exist at present are truncated and underdeveloped.

The observed truncated linkages in the study areas could be attributed to the nature and role small towns have played in the study areas in the past, the underlying production structure of the farm households and the role of parastatals in input delivery.

4.10.1 The Nature of the Small Towns

Concerning the role of both towns in the study areas, they had been mainly administrative and service giving towns. In terms of administrative status, both were awraja capitals and have served for many years as major centres of administration. Thus, their functional development has evolved in administrative rather than productive settings. Such administrative settings have limited the linkages with the rural households. A typical case in this regard is the scope of the bank that is poorly linked with the farm households. Both towns have banks that are expected to have significant linkages with the rural households. The banks, however, are not geared to the needs and conditions of the farm households and hence, they remain enclaves not supporting or being supported by the rural economy. For instance, the underdevelopment of rural non-farm activities in the surrounding areas is related to lack of capital and finance for supporting the activities. This could be inferred from the heavy reliance of the farm households on personal savings and lack of contact with the formal financial institutions.

4.10.2 The Production Base of the Farm Households

Farm households in the hinterlands are geared to subsistence production with no or little surplus. Farmers are not capable of commercialising and changing their cropping pattern despite the presence of the small towns in their surrounding. This is due to the constraints of the production base. Farming in the region, as in other places in the country, has structural and supply constraints. These constraints are related to shortage of land, lack of capital, problems of pests and weeds etc. Hence, the small towns found in the nearby areas of the farm households, despite their role as collecting centres for the local production, cannot enhance the production capacity of the farm households. The nature of production in such regions has remained to be more of subsistence in nature and exhibits limited linkage.

4.10.3 The Influence of Parastatals and Service Cooperatives

Agricultural bureaus and service cooperatives are institutional organizations run by the government or peasant associations. Though they are sometimes found in small towns, they are mostly found in rural areas. These organizations are involved in the delivery of inputs and agricultural services to the farmers. As a result, town traders cannot enter in such activities to support the economic base of the hinterlands. The urban system, therefore, remains ineffective in stimulating and activating farm households.

4.10.4 Lack of Adequate Economic Infrastructure

Economic infrastructures such as electricity, water, and telephone are critical in assisting the establishments of processing activities in small towns. The small towns studied have expressed that their major problems are the absence of adequate electricity service and piped water in the towns. Officials in Robe have expressed that investors come to the town but live immediately after learning the weak capacity of the electricity and the absence of piped water in the town. Similarly, officials in Limu Kossa town have also expressed water shortage as a very serious problem of the town. The electricity in the town is only available for a limited time and does not provide adequate services. The absence of such critical inputs as electricity and water severely limits the establishment of rural industries such as coffee and flour processing in these small towns. Hence, these towns are not in a position to show forward production linkages.

5. SUMMARY AND POLICY IMPLICATIONS

5.1 Summary

It is an accepted fact that sustainable development requires a symbiotic relationship of both rural and urban development. Such development necessitates the fostering of linkages between the two spatial units. The extent of the linkages in different settings, however, needs to be identified for proper understanding of the nature of these linkages. This study attempts to identify the nature, extent and magnitude of linkages in two settings of Limu Kossa and Robe weredas. The former is a predominantly coffee rowing region while the latter is mainly a cereal-growing region. The selection of the two sites is governed by a proposition that different rural economies will generate different patterns of linkages. The study is grounded on the assumptions of the virtuous circle model of the rural-urban linkages. Hence different hypotheses, which elaborate the mutual development of the rural and urban areas, were formed.

The two hinterlands have exhibited that they are major agricultural areas as almost all farmers are engaged in farming alone. Hence rural non-farm activities are limited in both cases. Farming, however, is subsistence with limited amount of inputs used that are not mainly derived from the small towns of the area. The quantity of crops coming to the market is also limited. In Robe wereda the main crops that come to the market are Line Seed, Niger Seed and Teff. These crops are not brought by all farmers but by nearly a third or less of the farmers. The amount of marketed production compared with the average production is about 50% or less. The only exception is Niger seed where about 72% of the production is brought to market. In Limu Kossa wereda, coffee is the main marketable item, which is fully brought to the market.

The livestock ownership is very similar but the amount and kinds of livestock brought to the market are different. Robe wereda has relatively higher number of

oxen, cows and sheep brought to the market. Limu Kossa Wereda however has shown less livestock sells and earnings. Rural households in both towns have exhibited that they have expenditures on both durable and non-durable goods, which are mostly met, by the small towns.

Limu Genet, which is found in the middle of coffee growing region, is the major coffee collector and supplier for the national market. On the other hand Robe, which is in the middle of a high grain-producing region, is a significant grain collector. Grain collecting and supplying is the main function that is derived from this function. Limu is a grain importer from other places to meet the demand of local market for grains.

Both towns are linked to the national economy in different ways. Limu as coffee supplier is linked to the national coffee market and Robe as grain supplier is linked to the main centres of the nation such as Addis Ababa and Nazrteh.

As service centres and market places, both towns are shopping centres for consumer goods made elsewhere, market places for the major rural products and centres for higher order social services for the surrounding farmers. As centres supporting rural production, both towns have limited roles. Both are not input or financial suppliers for the hinterland. Limu on the other hand plays a limited role in supplying extension service to the hinterland mainly because of the town location of the parastatals supplying extension service. Both towns could not also supply essential services such as electricity, telephone and piped water to the rural people. Thus though the towns show slightly different functions because of the rural economy of the hinterland the roles they are playing is similar and they remain mainly collecting centres and non-production service giving centres

The patterns of linkages that emanated from the above characteristics of the hinterland and the towns in the two study areas are that:

i) There is limited or no input linkages. Though farmers in Robe have higher rates of utilization of fertilizers, this input is sourced from the rural area;

ii) Some linkages in terms of marketing products from rural areas are observed. This linkage, however, is limited to some types of crops, which are by nature cash crops. In Limu Kossa wereda this linkage is limited mainly to one crop while farmers in Robe have shown such linkages for some four different types of crops;

iii) No significant linkages in the marketing of livestock and livestock sales in both study areas;

iv) Consumption linkages between the rural households and the towns in the form of expenditure on urban goods is observed in both study areas;

v) Service linkages between the rural households and the towns for the services of health are observed in both study areas. Farmers in Robe

also get services for senior school from Robe. The service linkage for other service types however does not exist in both study areas;

vi) Financial linkages between the rural households and financial institutions does not exist in both the study weredas

vii) The linkages of urban households for the purchase of food crops have been observed in Robe but not in Limu Kossa wereda, which imports grains from other places.

viii) Both towns in the study areas have attracted significant migrants from the surrounding areas whose main reason for migrating is the expectation of getting better life.

The foregoing patterns of linkages indicate that some of the hypothesis of the virtuous circle model gets support while most do not. Hence the virtuous circle mode of rural urban linkage is a poor fit to the study area. A different type of rural urban linkage characterized as truncated linkage fits well the study area. The truncated linkage pattern recognizes the partial types of linkages observed in the study areas. The subsistence nature of the rural economy, the functional compositions of the towns which are limited to basic services and administrations, the role of some state organizations and the lack of economic infrastructure to attract further investment to the towns and foster forward production linkages are some of the reasons for the truncated patterns of linkages observed in the study areas.

5.2 Implications for Policy

Rural-Urban linkages must show elements of interdependent development of both urban and rural areas. Hence efforts must be made to realize the virtuous circle of the linkages.

The following are some policy areas that emanate from the study in order to strengthen linkages and bring a reciprocal relationship in the study areas.

5.2.1 Provision of Infrastructure

The study has revealed that the towns lack major economic infrastructure such as electricity and water supply to support any form of processing activities. Thus forward production linkages were non-existent in the area.

Other studies have shown that the prerequisite for launching local innovative small-scale enterprise in processing, construction or trade and services are access to transport, communication, water and electricity on a reliable basis and with an adequate capacity (Helmsing 1998; Gaile 1992).

The provision of economic infrastructure will also enable the surrounding farmers to be beneficiary of such services, which have contributions to changing peasant life into a modernized life.

5.2.2 Financial Sector Reform

The presence of some services and infrastructure in small towns alone is not enough to foster rural-urban linkages. In our study it was observed that though a bank exists in both towns, rural households are not beneficiary of such services. It is important that the banks in these areas should be able to cater to the needs and capabilities of the rural households. The rural households should be able to have access to the services of the bank by reorienting the whole functioning system of the bank by making its services rural based and geared to the demands of the rural households. This becomes particularly important in the study areas as lack of capital is considered as the main constraint of agricultural development in both the study weredas.

5.2.3 Involving Private Traders in the Input and Service Delivery

The functioning of the urban system requires that any institutional barriers be removed. In Limu Kossa wereda it is found that state centred delivery is the dominant mode of input delivery. Hence town based agricultural bureaus are the main agents for fertilizer and other input distributions. In Robe wereda though service cooperatives as farmers organizations take the lead in input delivery, they cannot be a perfect substitute for the functioning of the urban system by allowing traders and individuals take part in the provision of such services. The involvement of private traders will bring in flexibility in the delivery system as the private sector is not tied to procedures and rules that have to be observed by state agents. More important, however, the involvement of private traders will avoid the situation of monopoly supplier that is seen when parastatals take the lead in delivery of services. Private traders will instil competition in supplying, which is assumed to benefit farmers.

5.2.4 Increasing Labor Absorptive Capacity of Towns

The study has revealed that different types of trades found in the town are mostly family based businesses run by two or three members. They rarely use hired labor. Farmers have also indicated that in both towns the main reason for going to towns is to buy and sell times and not for employment. These indicate that both towns have limited labor absorptive capacity and hence show limited linkages with the rural areas. It is important to strengthen town businesses (the different types of trading activities) by providing them access to credits and increasing their capacity. In both towns for example, many traders such as grain traders, chat traders, and hides and skin traders have low capital which are mainly self financed or financed from relatives. The alleviation of capital constraint may help to enlarge these businesses and increase their labor absorptive capacity.

5.2.5 Strengthening Towns as Sources of Information

Different types of information, which are of rural interest, are vital to influence the farmer's decisions in their activities. For instance information on market prices, crop prospects, employment availability will be vital to the rural life.

Towns are expected to deliver such information to farmers. The study has revealed that farmers do not use the town as source of information and that they also indicated that the role of town in providing agriculture related information is minimal. Towns as sources of information however will strengthen the rural-urban linkages and the symbiotic development of the two.

5.2.6 Improving the Production Capacity of the Rural Areas

In both the study weredas the rural economy is not vigorous in producing surpluses and commercialising its activities. The marketed crops are limited and there is also a limited use of agricultural technologies that enhance production. A prerequisite for a stronger linkage is a dynamic leading sector in the rural areas. A dynamic rural sector poses demands for non-agricultural activities, agricultural inputs and supplies raw materials for use in agro processing industries in small towns. The rural economy of the study areas is not capable of showing these characteristics and shares the common characteristics agriculture shows in other parts of the country. The structural problems the sector faces such as the use of backward technology, shortages and fragmentation of land lack of capital, less use of inputs etc. The agricultural sector has therefore to overcome these problems to bring the virtuous cycle of rural-urban linkages.

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