ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

# THE IMPACT OF INADEQUATE CADASTRE SYSTEM IN URBAN DEVELOPMENT AND LAND EVALUATION IN THE TOWN OF NAZRETH

DANIEL TADESSE

JUNE, 2000

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

# THE IMPACT OF INADEQUATE CADASTRE SYSTEM IN URBAN DEVELOPMENT AND LAND EVALUATION IN THE TOWN OF NAZRETH

A THESIS PRESENTED TO THE SCHOOL OF GRADUATE STUDIES,
ADDIS ABABA UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER'S OF ARTS IN REGIONAL AND LOCAL DEVELOPMENT STUDIES (RLDS)

BY

DANIEL TADESSE

JUNE, 2000

**Addis Ababa University**

**School of Graduate Studies**

The Impact of Inadequate Cadastre System In Urban Development and Land Evaluation In the Town of Nazreth

**By Daniel Tadesse**

**Regional and Local Development Studies ( RLDS)**

| Approved by Board of Examiners | Signature |
| --- | --- |
| Kailash Nath Singh. | Kailash Nath Singh. |
| Advisor | |
| Gebhard von Oppeln | |
| External Examiner | |
| Solomon Mulugeta | |
| Internal Examiner | |

# ACKNOWLEDGMENT

First of all my thanks goes to the Addis Ababa City Government, especially the Bureau of Planning and Economic Development that gave me leave of absence so that I could participate or join the School of Graduate Studies of the Addis Ababa University.

I would also like to extend my heartfelt gratitude to all the lecturers of the University and other gust lecturers, for sharing their vast knowledge and experience. Similar appreciation extended to the whole staff of the university, especially the staffs of FBE and RLDS for their committed work and assistance given during my stay at the university. I am especially indebted to:

- Dr. Kailash Nath Singh my advisor from the Department of Geography, whose consultation, follow up and support during the preparation of this paper was very valuable.
- UDSS / GTZ that covered the financial cost of this study without whose support the financing of the study would have been very difficult.
- W/ro Genet Abera Head of the Addis Ababa Finance Bureau who facilitated the process of sponsorship.
- Ato Alemayhu Erena, Head of the Planning and Economic Development Department of East Shewa who gave me access to use his computer facility and offered every assistance during the field survey.
- Institutions in East Shewa Zone and Nazareth, particularly the Zone's Administration, Planning and Economic Development Department, the Municipality of Nazareth, Department of Works and Urban Development, all the kebeles in Nazareth, who in one way or another helped me in the process of collecting both primary and secondary data.

Finally and not least due recognition is given to Tadalech Amde whose valuable and unreserved moral support was very essential. I also owe thanks to all my colleagues and friends who one way or another offered their assistance during my stay at the University and during the preparation of this paper.

# TABLE OF CONTENTS

## LIST OF TABLES AND FIGURES TABLES



## LIST OF FIGURES

## ACRONYMS

AMTD = Adama Municipality Technical Department

CSA = Central Statistical Authority

DBF = Data Base File

EC = Ethiopian Calendar

ECE = Economic Commission for Europe

EDP = Electro Distance Processing

EMA = Ethiopian Mapping Authority

GF = Graphic File

GIS = Geographic Information System

GPS = Geographic Positioning System

LIS = Land Information System

NGO = Non Governmental Organization

NUPI = National Urban Planning Institute

PLC = Private Limited Company

TTC = Teacher Training College

TTI = Teacher Training Institute

UDSS = Urban Development Support Service

UMSS = Urban Management Support Service

UNDP = United Nations Development Program

# CHAPTER I

# INTRODUCTION

## 1.1 GENERAL

Development can be regarded as efficient utilization of resources for the welfare of present and future generations of human beings. It is the well-guided and well-planned use of physical resource base, which can form the stable base for progressive and sustainable socio-economic edifice. The maxim applies equally to rural as well as urban areas. No doubt the formulation and implementation of the plans need adequately strong financial bases, which is more true of urban areas. In urban areas most easily and immediately approached source of revenue is the tax on land/house (property tax), which can be better assessed and maximized by knowing the particulars of the occupants of land parcels. This can be achieved only when the owners/users/occupants registrations are properly maintained. Not only this, the registration system becomes a permanent record for registering any change in its status, ownership, zonality, valuation, amenities, etc., and hence the ever changing taxation, the immediate and primary source of revenue.

Cadastre is refereed as parcel based land information system. The principal function of cadastre is the provision of information concerning location, ownership, value, and use. In other words cadastre provides the information component of land registration. Hence, it is the process where by various rights in defined units of land are officially recorded (Larsson 1990 (c)). A more detailed definition of cadastre can be obtained in the following statement of Mabogunje:

*"A cadastre is an official public record usually maintained to register the ownership rights of land in a given jurisdiction, state or country. For each parcel of land, the cadastre records location, physical description, value, any improvement on the parcel, all persons with some rights to the parcel (occupancy, ownership, rights of way, etc...) as well as the exact nature of these rights. A cadastre often goes hand in hand with a cadastre map, which shows the legal property framework of an area, including property boundaries, administrative boundaries, legal road corridors, parcel identifiers, some times the area of each parcel, etc. Because of these details, cadastre maps are usually produced on a large scale."*(Mabogunje, 1992,26)

Eventhough, at the beginning cadastral system was created and used for some sort of taxation of land, currently land registration has developed well beyond the singular purpose. Now days, cadastre and cadastral maps are the most important instruments for effective and efficient management of urban lands. Moreover, technological development in this area, especially as Geographic Information System (GIS) and Land Information System (LIS) which use high-tech have made possible the production of sufficiently accurate maps and data bases that can, in turn, be used for land registration, property taxation and urban planning process (Arnoff, 1989, Li M., 1993 and Parker, 1988).

In Africa very few countries have a cadastral mapping system for most of their cities due, primarily to the financial, institutional and technological constraints. Most of the time, governments in developing countries do not readily understand problems related to the non-existence of cadastral system, which in urban areas of many African countries is reflected in

the ineffective land policy, poor land managements, etc, resulting in, among others, the problems of revenue collection, co-ordination of different agencies, etc.

Most of the city administrations (municipalities) in the developing world are finding it difficult to cope with registering process of land transactions and rapidly changing patterns of land uses associated with accelerated urban growths. As a result, a number of other problems, such as inability of cities to increase their revenue base, distortions in the urban land market and delays in the implementation of urban development projects emerge. So, creating an up-to-date and efficient cadastre can do much to alleviate these and other related problems.

Cadastral mapping and land registration systems, either in traditional or modern forms, are said to be almost non-existent in most of the developing countries and same is true of Ethiopia. Here, although map-making technology has a long history, cadastre as a system is almost non-existent even now. Eventhough, there was a sporadic effort to establish a cadastral system some time ago in Addis Ababa, as it is not updated since long, it is almost non-existent as a system at present. It was Emperor Minilik who issued a decree that brought legislation to initiate the country's first cadastral survey in Addis Ababa in 1909 (Pankhrust, 1966). Thus, landowners were to be given a certificate referred as *"yrrist woraqat"* or *"rist"* paper to be written in Amharic and French, with a map showing the boundaries of the land (see Figure No. 1). Though, the municipality was having a cadastral section for many years, its task was limited to assessing and valuation of land and building for property taxes in a sporadic way rather than maintaining the cadastre.

At present the urban land use system in our urban centers is becoming more and more dynamic. Moreover, most of the urban centers with their current organizational structure and man power conditions, are unable to cope with the frequency of land transactions and the rapidly changing patterns of land uses associated with their accelerated growth.

## 1.2 THE STUDY AREA AND THE PROBLEM

The town of Nazreth in its present form was established in 1909 after the advent of Ethio-Djibuti railway and remained the "Awraja" capital until 1987. From 1987 to 1993 it served as the capital of the then East Shewa Administrative Region. It is now the capital of East Shewa Zone in the Oromia National Regional State.

Nazreth is among the fast growing urban centers in the country. The town has attractive potentials that contributed for its accelerated growth (to be discussed in detail on the forthcoming sections). According to the information obtained from the Department of Planning and Economic Development of the Zone and the Municipality, the number of investors in different sectors such as, construction, hotels, small scale industries, etc, is growing from time to time. For instance, land allocated through lease arrangement shows the development of these activities in the town. Accordingly about 81 investors obtained land through lease to carry out the above mentioned activities.

Due to the general factor of the city ward movement of population in the country as a whole and Nazreth in particular during the recent and coming decades, land use problems and

provisions of amenities are likely to aggravate with time. Hence, in the case of Nazreth the expansion of the town is becoming irregular, uncontrolled and often resulting in creation of slums. This might be attributed to the absence of a good cadastre system with all the required information.

The major problems in Nazreth attributable to the non-existent or non-functional cadastre or land registration are many, but some are mentioned here as:

- The amount of revenue collected from property tax is very low as compared to other sources of revenue, for example there are only 10,500 legally recognized property owners who are paying taxes. Even from these recognized owners there are considerable numbers who do not pay tax. While, the percentage distribution of local tax share of this resource along with property transfer tax in total revenue of most of the cities in developing countries are very significant (Bahl, Roy & J. Linn, 1992).
- The sales of the houses and fee for application for registration are not treated properly, thus encouraging illegal procedures of transactions.
- Significant proportions (estimated at >30%) of the inhabitants do not have title or certificate of ownership to their property.
- Land disputes do not get quick and legal solution.
- In the town squatter settlements or illegal constructions are increasing very alarmingly. It is estimated that out of the total housing stock of the town about 24% are squatters.

- Planning and implementing development projects is highly affected by lack of sufficient information and resource especially financial.

Thus, the most important step to be taken by the Municipality, in order to have an efficient and workable land management system, is to introduce cadastral system, so as to have an accurate property record and related information concerning land. This has currently infused interest among different institutions like Municipality of Nazreth, Bureau of Works and Urban Development of Oromia Region and Urban Development Support Service (UDSS). The establishment of this system in Nazareth can serve as a guide or useful input for further development of cadastral activities in other urban centers of the country.

## 1.3 OBJECTIVE

Land is the base for every human activity. For an economical, efficient and proper utilization of this resource, cadastral system, which offers up-to-date information regarding land and building, is vital. The anticipated problems resulting from the absence of or inefficient land related information in urban centers particularly in Nazreth called the attention of the author of this study. To achieve this end the first step will be to examine the status of such system in historical perspective. It will be followed by the assessment of the evolution, use and role of cadastral system and review of the present technological achievements that have direct impact on the speed, accuracy and efficiency of the system which is important in itself and essential as a basis for better understanding of the level of the system at present and its prospects in the future. It will also consist the indication of the necessary measures and steps to be undertaken by the city administration or the Municipality to accomplish the plan. Thus, in line with the

general background to the problem and the main objective, the following are the specific objectives of the research:

- Describe the historical evolution and level of cadastre and related matters at the global, national and city (Nazreth) level and describe how the current system operates in the town.
- To identify and discuss essential elements that the current system is lacking and illustrate problems faced as a result of non-existence or non-functioning of cadastral system.
- Review the amount of revenue the Municipality generates from property tax (land and building), evaluate its performance in exploiting the potentials and identify major factors related to land management prohibiting the maximization of revenue from this source.
- To evaluate the current assessment and valuation procedures and methods of land and buildings.
- To identify major components and suggest strategies appropriate for land registration/cadastral system essential for the successful implementation in short, medium and long-term periods in the future.
- To describe the essential elements of the system that needs further economic analysis.

## 1.4 METHODOLOGY AND LIMITATIONS OF THE PAPER

Both primary and secondary sources are used to generate data for this research. The primary data is collected with the help of structured questionnaires administered to selected residents of the town. In order to obtain a representative sample of all registered legal land and house owners in Nazreth a list of these owners was obtained from the Municipality. Due to time constraint and other related problems only 108 owners (1%) were randomly selected from this list and finally it was possible to interview 105 owners. A questionnaire schedule containing three sections of closed and open-ended questions was administered. The schedule sought to find out, among other things; information on the ownership of land, land related activities, condition of buildings, property taxation, people's opinion on matters related to land management, etc., (see Annex A for the contents of the questionnaire).

The secondary data collection constituted extensive survey of literature from different sources including books, seminar papers and academic journals. Moreover, interviews with the concerned experts and authorities were conducted with the help of checklist questions prepared earlier (see Annex A for the contents of the check list questions). In addition to this various formal and informal discussions were held with experts in the field of urban planning and land management.

Lack or absence of data related to land was the major obstacle to this study. Specially, the Municipality either does not posses the data or even if it exists, it is not organized or arranged in such a way that one can easily extract the data needed. Similarly, other zonal offices such

as Planning and Economic Development Department collect and make available data only at Zonal and Woreda level where it was difficult to separate data pertinent to urban level. This might be the result of the overall development policy of the country that gives little attention to urban development.

## 1.5 ORGANIZATION OF THE PAPER

The structure of the paper is as follows: Section or chapter I deals with the introduction. Chapter II provides a literature review about the evolution and development of cadastre and the current advancement of the system along with the development of land registration and mapping in Ethiopia. In chapter III a back ground about the study area will be treated. Chapter IV will be concerned with describing the current land management system and identifying what is lacking in the system. After treating the major aspects in the proposal for an improved cadastral system in chapter V, the paper is concluded by giving concluding remarks and recommendations for the realization of cadastral activities in the town of Nazreth.

# CHAPTER II

# LITERATURE REVIEW

## 2.1 HISTORICAL DEVELOPMENT OF CADASTRE

### 2.1.1 EARLY DEVELOPMENT

Larson (1990 (a)) identified two basic reasons for the initiation of the cadastre (land registration) system: the interest of the owners/users of a unit of land to get publicity or to have a document to establish his credentials in regard to his specific property and the interest from the government side to know the units of land liable for taxation or other services, dues and fees. Hence, these were the two basic foundations for the development of the present day cadastre which must have started at a different point of times in different parts of the world, depending on the stage of civilization, but surely at the early stages of their human development. However, at the beginning this as mainly to prohibit the possibility of selling or transferring land to two different clients. Thus, since then some procedures were required to be fulfilled to make public the sale and purchase of land. For instance, the following quotation from the Holly Bible shows some of the procedures and indicate how early land transfer procedures started to be practiced.

> *"I proceeded to buy from Han'a. mel the son of my paternal uncle the field that was in An'athoth and paid him the price. Then I wrote in a deed and affixed the seal. After that I took the deed of purchase, the one sealed according to the commandment and the regulations, and the one left open; and then I gave the deed of purchase to Bar'uch the son of Ne.riah the son of Mah.seiah' before the eyes of Han'a. mel and before eyes of the witnesses..." (Jer 32:9, 10, 11 & 12).*

Different countries were having different traditions or system of making public the facts related to land as are found in Assyrian- Babylonian and Egyptian sources. In all these countries, however, the transfer had to take place in the presence of witnesses in order to have validity (Larsson, 1990 (a)). Similarly, Osterberg (1990) indicated that in ancient Nordic laws too there were articles requiring transactions of land to be announced at the popular court witnessed or confirmed by twenty individuals. Mabogunje (1992) also indicates the existence of the same situation in the primitive tribes, especially in Africa, where historical evidences show that land transfers were taking place in the presence of the tribes chiefs and elders.

Likewise, there is also an early evidence supported by the picture of surveyors at work on some of the tombs in ancient Egypt, showing that there was land recording procedure for the purpose of taxation (Larsson, 1990 (a)). The Romans also were surveying the territories under their control, to keep track of land holdings and claims of land. In the words of F. Dale and D. McLaughlin (1988), modern land taxation records could be traced back to the tax mapping of the Italian provinces between 1720 and 1723. The Austrians, who carried out a cadastral survey between 1785 and 1789, also followed this experience. As per literature it appears that the activity of cadastre as a modern and systematic way emerged in Europe, especially France, where Napoleon I ordered the survey of more than 100 million parcels, their classification by soil fertility level and evaluation of their productivity, to establish the famous French cadastre by 1807. The dominating position of France during this period influenced some countries to follow the French cadastre model of fiscal cadastre. Though, the French cadastre was considered as the mother in Anglo-

Saxon world the main objective of their land registration was rather establishing a system for securing ownership and facilitating efficient transfer of land (Larsson, 1990 (a)).

## 2.1.2 RECENT DEVELOPMENT

Henssen (1990 (a)) also emphasized that the French cadastre could be considered as a base for the West European countries to develop or adopt it. Big townships, like those of Paris, Lillie, and Marseilles have already established a multipurpose cadastre. In Federal republic of Germany cadastre developed from the tax cadastre in to legal reference, thus encouraging the emergence of an independent multipurpose cadastre. In other countries such as in Australia, Switzerland and the Netherlands the same development is taking place. Similarly, in Scandinavia highly developed cadastre system is found. For example, in Sweden the adjustment of cadastre to a land information system include even personal data, including information on population, economy, land use, ownership, tax, purchase price, as well as statistical data derived from census. Similar to the Swedish system, the Norwegian and the Finish cadastre are integrated in a legally based information system. Generally, as per ECE (1996), all industrialized countries maintain some sort of land register system that records all land related data, which is an indispensable tool for a market economy. In most of these countries land related information is a computerized activity.

In most of the former East European socialist countries such as Bulgaria, Czechoslovakia, Hungary, etc., their classification unit was based on natural and technical productive influences such as land use, climate, water supply, etc. Henssen (1990 (a)). Thus, land

was valued in terms of its agricultural potential and hence, farmers were instructed to grow appropriate crops.

Modern cadastre in its current application is said to be new to many of the present day so called developing countries. However, as indicated by Henssen (1990 (b)) there are three main points that make cadastre a necessity to countries without any system of modern land registration. These are:

- The major source of litigation in the courts of countries without cadastral system is land disputes, thus land registration is vital to reduce these disputes;
- Tax revenue collected from property is often a major source of income, therefore to make an equitable and fair allocation and collection of property tax cadastral registration is important; and
- Activities such as urban and regional planning, and compilation of statistics, require land registration system.

## 2.2 LAND REGISTRATION, CADASTRE, TAXATION, CADASTRAL SURVEYING AND MAPPING

### 2.2.1 LAND REGISTRATION AND CADASTRE

Every land administration system should include some sort of land registration, which most of the time is a process for recording rights on land. Hence, land registration provides safe and certain foundation of the acquisition, enjoyment and disposal of rights in land (ECE, 1996). It is a public register, which is used to record the existence of deeds or title documents. F.Dale and D. McLaughlin (1988) further elaborated this, when discussing legal rights of land, identified three methods of recording or registration. These

are: *private conveyancing*, in which the records and transfers of land are handled by private arrangements; *Registration of deeds*, in which copies of such records are maintained by officials or by state; and *Registration of title to land*, where a state organization maintains the records of land ownership.

Cadastre is based either on the land parcel that is areas delineated by ownership (legal cadastre); or on the taxable area of land (fiscal cadastre), which records information necessary for levying taxes; or areas defined by land use rather by land ownership, which was the case in many former socialist countries. Therefore, cadastre may support either records of property rights, or the taxation of land, or the recording of land use. At present there is a relatively new development in this field, that is a cadastre is multipurpose, incorporating in one source, the legal and fiscal cadastre data plus information on land uses, infrastructure, buildings, soil and other relevant factors such as the level, quality and quantity of municipal services (ECE, 1996). On the other hand, the same source emphasizes on the idea that land registration can not operate effectively without cadastre, and that a cadastre needs to be complete to function as a system, while land registration is not necessarily complete. Cadastre is similar to land registration in that it also contains a set of records about land. Similarly, most literatures agree on the idea that both land registration and cadastre must operate with in a strict legal framework.

### 2.2.2 PROPERTY TAXATION, ASSESSMENT AND VALUATION

Cadastral information is necessary because land appraisal must be based on current, complete and accurate cadastral maps that show boundaries, areas, building type, construction material, etc. As it was discussed earlier one of the objectives of cadastre,

especially of that of fiscal, is for taxation purpose which was practiced since the early times.

According to F.Dale and D. McLaughlin (1988), the history of taxation on land could be traced back to the early agricultural settlements along the Tigris, Euphrates and Nile Rivers. The tax during this period was to be collected from all that cultivated lands because, it was assumed that all lands belonged to the king. The Greeks and the Romans also were using land records for taxation purposes in the early times. Further emphasizing on the idea that land had been entirely owned or belonged to the crown in the early times, Paul N. Balchin and et.al. (1988) reveled that individuals and private institutions were paying taxes on land for the fact that they owned rights to use land.

Rural land valuation depends, among other things, on topography, nature of soil, proximity to source of water, etc, while valuation of urban lands depend on area, site location, land use, proximity to services, etc. The values can be expressed in several ways such as market value, income value and potential value. As to F.Dale and D. McLaughlin (1988), valuation is usually derived from the market price, expressed as either a capital sum or a potential income.

However, assessed value, that is the value used to determine the property tax, is usually not the same as market value. Moreover, because of administrative deficiencies in estimating assessed values different countries give different meaning to this term, some of them mentioned by Shenkel (1992), are just value, fair value, true and fair value, normal value, sound value, or economic value, as used by different authors.

Land tax encourages owners to declare their land and to begin to think about defining the boundaries of their land parcels. It prepares the public for the concept that along with ownership comes a responsibility in the form of paying taxes. On the other hand it also encourages municipal governments to develop and improve their cadastre (Shenkel, 1992). Similarly, Kenneth Davy (1996) confirms that property tax is the most common local tax and that it necessitates efficient administration, which basically mean a well-established land and land related information system or cadastre. In the less developed countries it is true that most of the time the emphasis is to tax agricultural land, while developed countries give more emphasis on taxation of urban land. Thus, property taxation, especially in urban areas, is used as a major source of revenue. It is considered suitable to urban centers because taxpayers are accustomed to it, its opportunity of evasion is less, and its base is broader (F.Dale and D. McLaughlin 1988). However, attention should be given to the cost of collection that it need not outweighs the revenue to be obtained.

Now a days as a result of decentralization process and economic reforms taking place in many countries, each tiers (level) of government is assigned certain function, which in turn requires the level and means of mobilizing financial resources to accomplish the functions assigned. Thus, local or municipal governments in order to meet their obligations of providing municipal services need to have the required financial resources. Property tax, users charges, license fee, etc can be some of the major sources (UNDP, 1989). In the works of Eshetu Chole (1994), appears a proposal of specific tax categories associated to each level of government. Accordingly, local governments/municipalities are responsible to determine the rates, collection and administration of the property tax. However, the experiences of different countries show variation regarding their responsibilities of

property tax administration. In cities such as Bogota, Bombay, and Nairobi property tax assessment is freely administered at the local level, while in cities such as Lusaka, Manila, and Seoul it is regulated by higher level of government. Regarding the determination of tax rates, in all the above-mentioned cities, it is regulated by higher level of government (Bahl and Linn, 1992).

### 2.2.3 TYPES OF CADASTRE

The quantity, breadth and details of the data to be included in cadastre vary depending on its uses. For example, as (Catherine F. and Patrick Mc A., 1992), stated *"within Europe, the modern cadastre serves mostly taxation purpose, while in much of the English-speaking world the cadastral activities have been directed at protecting property rights"*. This indicates that the major use of a cadastre system is for taxation and proof of ownership. Depending on their use, type and quantity and quality of data, cadastres can be divided into three types: fiscal, legal and multipurpose cadastre (Fagerstrom, 1990).

**a) Fiscal Cadastre**

A record of information necessary for levying property taxes, including location and value of parcel. Often, the information is not as precise as that required for a legal cadastre. Frequently, the occupant of the parcel is identified for tax purpose, and no effort is made to determine the legal owner. Governments need income, which generally is generated through some sort of taxes. One major resource in a country that can be taxed is land and land related properties. Land taxation calls for some sort of valuation of the land, because land and land based properties have value, since it provides amenities and satisfaction of living, as in the case of residence, services, in the production of goods, such as

manufacturing plants and income in the form of rents or loans (Fagerstrom, 1990). Thus, a fiscal cadastre must include enough information to calculate a value using certain valuation methods.

For the operation of fiscal cadastre, F.Dale and D. McLaughlin (1988) proposed three major steps to be undertaken such as discovering and identifying all parcels that are to be valued, classifying and determining the value of each parcel, and identifying the person or persons who pay the taxes because those who pay may not necessarily own the property. A fiscal cadastre is therefore, very important for an urban settlement to manage i.s own affairs on self-reliant basis. This is to clarify that apart from providing urban managers with information on the city's assets, it provides the amount of revenue to be generated which is critical to raise necessary bonds and get loans in the financial market to develop and enhance the quality of infrastructure services.

**b) Legal Cadastre**

Legal cadastre is a register identifying the legal owner and precise boundaries of each land parcel. Establishing a legal cadastre requires both fixing parcel boundaries through surveying and mapping, and fixing legal rights, which may involve negotiations among involved parties and a judicial determination of ownership (Adjudication). In other words the legal cadstre deals with rights to use land. These rights can be ownership to land, which usually means the right to use land for some purpose in accordance with the legislation. They can also be based on customary rights and divided in different assets. The right can be some sort of leasehold. The possessor of the right can be an individual, a group of individuals, a commune, etc.

The right to land is registered in the land registry, which also registers changes or transactions of rights concerning land. In order to prove who owns the right to any particular area of land, it is necessary to investigate the title, which is an evidence of a person's right to property (F.Dale and D. McLaughlin, 1988). This recording system has to be up to date, in other words mechanisms should be devised as how to capture every change in the rights to use the parcel or changes of the boundaries of the parcel.

**c) Multipurpose Cadastre**

A relatively new development that incorporates, at one source, the data concerning the legal and fiscal cadastre along with information on land use, infrastructure, buildings, soil and other factors. Each parcel must be assigned a unique identifier, so that all the information can be related to the same plot. According to Li (1993), it was after the Second World War that the term 'multipurpose cadastre' appeared as a manual form of LIS, with a wider range of land related information containing records of not only land ownership, title and the natural features, but also man made under ground and overhead construction (e.g. pipelines and cables).

The development of society calls for information on land use for development planning and environmental protection. The basic information needed for such activities can be found from the legal or fiscal cadastres where they are already kept up to date by concerned organizations. Instead of creating special information system for planning purpose it has in many cases proved favorable to develop the cadastre into a multipurpose cadastre. The development of the computer technology has made such a development possible. An efficient and comprehensive cadastre and land registration system of this type, according to Larsson (1990 (c)) can:

- Facilitate an efficient, easier, cheaper and safer transactions concerning land.
- Provide security and protection to the owner, which encourages land markets, investments in land and facilitate bank loans and mortgages.
- Reduce disputes and litigation concerning land, resulting in better social and human relationships and less work for the courts.
- Provide tools for assessing and levying land and capital taxes.
- Facilitate implementation of land reform measures.
- Control the possibility of land transaction, for example lands to foreigners.
- Facilitate the identification of owner and occupants of land for possibility of public planning of all kinds.

### 2.2.4 CADASTRAL SURVEYING AND MAPPING

Cadastral surveying is a survey carried out for the purpose of providing information for the drawing of cadastral map. Closely related to the word cadastre is the term cadastral survey, which is simply defined as a survey of boundaries of land units. A cadastral survey may be carried out both for the initial information of the parcel as well as for any subsequent changes and establishing the boundaries missing on the ground.

Cadastral map refers to any map on scale large enough to show every field or plot of land and buildings. Especially a large-scale map sufficiently accurate for exact boundaries and (if necessary) the ownership of real property is refereed as cadastral map. According to F.Dale and D. McLaughlin (1988), three sets of complimentary techniques of cadastral surveying are common: field/ground surveying, photogrametry, and remote sensing; all of

which are concerned with the discovery, recording, and presentation of spatially referenced data.

Ground survey methods were in existence, where cadastral surveys started on a large scale in western countries. Ground survey techniques use both graphical and a numerical method that is numerical data can always be plotted on a map in graphical form. Ground survey is always necessary because setting out is a process, which can be done only by the use of this technique. These ground surveys were composed of chain or steel tape measurements (when blocks were regular) and graphical method, plane tables and tachometers (when blocks were irregular). Later on the use of aerial photos have widely increased the possibility of speeding up the operation. Alternating with ground survey, this method was normally used in many European countries (Larsson, 1990 (c)).

Generally it is accepted that, the establishment and maintenance of the fundamental geodetic networks is the responsibility of national surveying and mapping organizations (Brook, 1990). He further noted that triangulation, or a combination of triangulation, tilateration and traversing methods should be used. Traditionally, a first order network with points 50-80 kms apart in some cases up to 100 kms, is established. These networks are latter to be intensified by establishing networks of second, third and fourth order points.

The fundamental data obtained from cadastre can further form a nucleus for establishing an integrated information system of a great value for public activities of different kinds. Fortunately, the modern technologies of computer assisted land information system (LIS)

allow us to collect mass of physical data rather easily, reliably and at less cost than by conventional methods (World Bank, 1994). In most of the developing countries, large scales up to date maps of their towns do not exist. This has inhibited planning settlement and incentives for different development activities along with low cost data gathering and low cost and easily manageable land information system. Using geographical information system (GIS) all data concerning land parcel and building structure for a given area of a town can be collected, processed, presented and distributed quickly and at a short interval (World Bank, 1994).

## 2.3 HISTORY OF LAND REGISTRATION, SURVEYING AND MAPPING IN ETHIOPIA AS A BASE FOR CADASTER

### 2.3.1 LAND TENURE

According to Pankhrust (1966), the land situation through out much of the Middle Ages was influenced by the absence of a permanent capital city, a factor which prevented to a great extent the emergence of urban property in land until the establishment of Gonder around 1636. Several short-lived capitals such as Lalibela, Debreberhan, etc, existed only for a few reigns. A real break through came only after the establishment of Addis Ababa as the capital city of the country in 1986.

Recognizing the emergence of new urban land tenure structure after the establishment of Addis Ababa as a capital city, Pankhrust (1966), indicated that it was Menilk Ii who issued the country's first urban land related proclamation at the end of 1907, which brought legislation stating the change in ownership of the land in the city of Addis Ababa. Further emphasizing on the significance of this proclamation on the urban land tenure, Solomon

Gebre states *"The legal recognition of private ownership of urban land for the first time through the systematic land registration and issuance of title deeds was a radical departure from the past and giant step towards the privatization of urban land"* (Solomon Gebre, 1994:280).

Afterwards, during of Haile Sellassie I, both the 1931 constitution and the 1955 revised constitution further guaranteed all Ethiopians the right to keep the land they own. Moreover, the 1932 Decree aimed at improving the land tax system in the city of Addis Ababa and legally recognizing ownership of urban land had also contributed to the rights urban residents (Solomon Gebre, 1994).

During the Derg period, especially after Proclamation No. 47 of 1975 that nationalized urban land and extra houses, prohibited the right to lease, sell, rent or transfer land. Hence, a person was entitled only to user right or right of occupancy. On a formal request the municipality or city council used to grant lands for construction of a dwellings free of charge as per the standards of the Ministry of Public Works and Housing. The Proclamation allowed only ownership of a single dwelling house in one of the country's urban centers.

According to the new economic policy of the current government, urban land remains under the control of the government. As per the Proclamation of No. 80 of 1993 all urban lands, except those previously used for construction of residential houses, are governed by the lease policy. Nevertheless, when lands previously held for residential purposes are transferred to people other than through inheritance, they will be under the lease policy.

## 2.3.2 LAND REGISTRATION, TAXATION AND CADASTRE

Even if there had been a tax on land in Ethiopia for many years, this does not indicate the existence of a systematic land registration. However, in the absence of land registration, the land tax used to constitute as the only link between people and government, since, the payment of this tax had been used as a proof for ownership. Emphasizing on this relationship between tax and ownership in the Ethiopian context, Hoben writes *"...the payment of the land tax has traditionally been regarded as obligation of 'rist' holder and evidence of ownership..."* (Hoben, 1973:211).

Historically, urbanization in Ethiopia is traced back to the Aksumite Kingdom. However, the emergence of Modern City administration (municipalities) was a recent phenomenon, which started around 1942 (Sisay Ashenafi, 1996). Hence, registration of urban land without responsible was unthinkable. There was little effort by the centrally based Ministry of Interior, to register land and assess taxes for some urban centers in the country. Later on this responsibility was given to the Ministry of Urban Development and Housing. This, sporadic attempt was carried out mainly for the purpose of assessing and collecting land and building taxes. Thus, until recently the registration of land was carried out by some municipalities, which have the capacity to do so. While, the Ministry of Works and Urban Development carried out assessment of building tax, except few urban centers.

The municipalities or city councils grant land for construction purposes after registration upon the completion formalities and verification of applications, the city council issues title register and enter into the main register. During the registration topographical map sheets and large-scale maps showing public utilities are used. Reference number uses the

site plan and layout plans for the registry and a copy of that is attached to it. The main purpose of registration is to keep records. However as registration is on voluntary basis for old occupants and obligatory for new acquisitions, there is no complete registration of land in any urban center of the country. Moreover, as there is no systematic updating mechanism, the registrations in many urban centers are old and do not show the exact situations on the ground.

There are historical evidences witnessing that Emperors in ancient Ethiopia were empowered to collect revenue from land. For example, the chronicle of Emperor Zara Yaqob (1434-1468) states, that revenue from land were reserved for the use of the King (Pankhrust, 1966). Taxes on land were traditionally paid in kind i.e. in grain, honey, butter, cotton and livestock, as well as in Labuor.

In accordance with Menilk's Decree regarding cadastre and land tax in the city of Addis Ababa, every land holder was to pay an annual tax of 5 per 1000 of the assessed value of the land (Pankhrust, 1966). Later on in 1932 Emperor Haile Selassie I took steps, to improve the system of land taxation in Addis Ababa. For instance, this Decree of 1932 lay down that land within the boundary of Addis Ababa should be taxed irrespective of whether it had title deed (Sisy Ashenafi, 1996).

### 2.3.3 SURVEYING AND MAPPING

Land is the platform for all the economic, political and social activities of mankind. Therefore, knowing the land in its totality is very important. In order to study the natural resource and the conditions of these resources, proper surveying and preparation of maps

is needed. Moreover, cadastral system and land registration without cadastral survey and cadastral map will be incomplete.

The Ethiopian Mapping Agency (EMA) was created as a small drafting section under the Ministry of Education in 1954, for the purpose of mainly preparing geographical books, maps and atlases for schools. Since then the institution has passed through several stages of organizational and technological developments and finally named as Ethiopian Mapping Authority (EMA, 1998)

There are different types of maps such as political, physical, geological, meteorological, ethnological, etc, produced by EMA. It is obvious that a topographic map is the base for all these types of maps. The first extensive mapping activity was started in 1956. For the Blue Nile River Basin investigation project, aerial photography on 1:50,000 scale was undertaken, which covered an area of about 300,000 $km^2$ between 1957-1961. In 1963, the work on 1:250,000 scale map was started, which was completed in 1972 (EMA, 1998).

Large-scale aerial photographs ranging from 1:8,000 to 1:20,000 covering major towns are also available, which are used for large-scale mapping and other development studies. The request for large-scale mapping on scale such as 1:2,000, 1:5,000, etc, is increasing from year to year by development organizations for town planning, irrigation projects, agricultural developments, mineral identification and exploitation projects (EMA, 1998). The Ministry of Works and Urban Development requests for large-scale maps for preparation of master plans for the towns. Accordingly maps on scale 1:2,000, 1:2,5000,

1:5,000 and 1:10,1000 are produced for the Ministry. The following table shows the number of urban centers covered by topographic maps on different scales.

Table No.1 The Topographic Map Scales, the Number of Urban Centers and the Number of Sheets Used to Preparethe maps

| No | Topographic map scale | Number of urban centers | No. of sheets used to produce the maps |
|---|---|---|---|
| 1 | 1:1,000 | 1 | 2 |
| 2 | 1:2,000 | 130 | 1661 |
| 3 | 1:2,500 | 69 | 284 |
| 4 | 1:5,000 | 24 | 53 |
| 5 | 1:10,000 | 13 | 19 |
| | Total | 237 | 1519 |

Source: EMA, 1998.

The total number of urban centers for which large-scale maps were already prepared are 196 in the country. But as some urban centers have large-scale maps on two or three even in four different scales at the same time, the total number of urban centers on the table is 237. The same source indicate that large-scale maps were started to be produced in the 1960s. Accordingly in the 1960s 17 towns were covered while in the 1970s the coverage was 85 and for 1980s and 1990s it was 31 and 43 respectively. Here, it is worth to mention that there are about 15 large-scale maps for some urban centers whose production dates are unknown. The data shows us that about 45% of the maps were produced in the 1970s.

## 2.4 DEVELOPMENT AND LEVEL OF URBAN CADASTRE IN ETHIOPIA

### 2.4.1 THE EXPERIENCE OF ADDIS ABABA IN CADASTRE

According to Pankhrust (1966), traditional land measurement had been initiated at Gonder in the late seventeenth century. The same author confirms that, measurements were not initiated elsewhere until the time of Menilek Ii, who ordered the recording of land for the purpose of identifying the ownership and different land tenure types in Shewa. This measurement system, inspite of its shortcomings was introduced in other parts of the country during Menilk's Era.

During the reign of Haile Selassie I the Ministry of Land Reform and Administration was engaged in registering and measurement of rural land in collaboration with the Ethiopian Mapping Agency, until 1974. The purpose of the registration was to: practice cadastral survey, create the system of free hold tenure, register individual title to land, and institute land sale (Hoben, 1973).

Eventhough, there was a sporadic effort to register urban land, the experience of instituting a systematic cadastre in almost all cities of the country was very insignificant, except the famous Addis Ababa cadastre. As indicated by Pankhrust (1966), it was Menilek II, who signed the country's first Proclamation related to urban lands at the end of 1907, which brought legislation stating a change in ownership of the city's land. This decree with 32 articles provided, among others, procedures for the sale and registration of land with all the necessary legal and technical aspects to be fulfilled for the sale and registration of land holdings; procedures of taxation by the government; issuance of a certificate for purchase,

fixing transfer tax; system of land purchase by foreigners; etc. (For the detail of the contents of the decree refer Annex B)

It was decreed at the same time that on providing the proof/evidence that the land was 'rist' or private property, a contract of acquisition from the former ('rist owner) or a decree of gift from the Emperor or the church, the land owner was to be provided a certificate referred to as "yerist waraqet" or "rist" paper to be written in Amharic and French, with a map showing the boundaries of the land. An example of the sample certificate of the time is shown in Figure 1. At the beginning, eventhough the decree ordered every body to register his land and receive certificate, the majority did not respond positively. Therefore, by late October 1921, the government issued a notice calling on those who had not registered their lands to do so, otherwise without a certificate they can not sell, change, and mortgage their lands (Baheru, 1986). As a result by 1935 the registration have been more or less completed and a total of 45,000 certificates were issued (Baheru, 1986). Among the incentives to owners of land to register, Pankhurst (1961), cited the policy of the Bank of Abyssinia, which had given priority of mortgages only for a unit of land that is registered or with title.

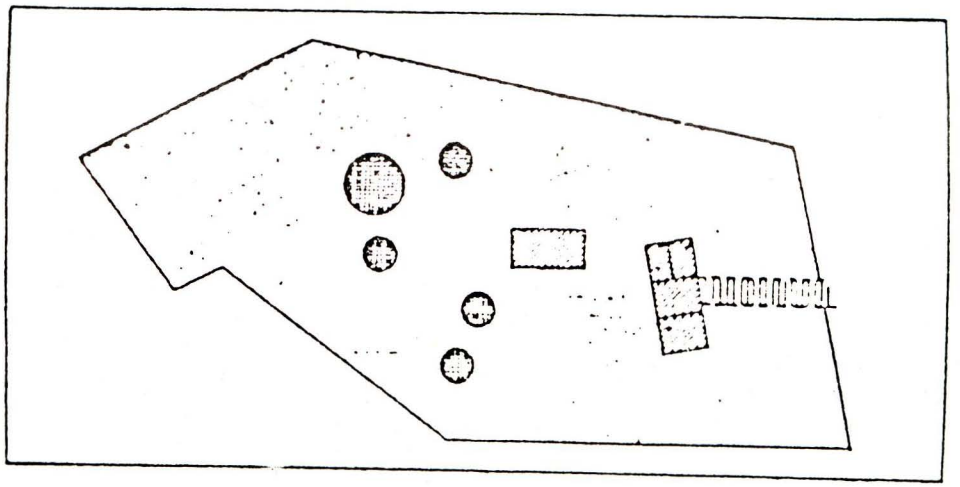


**Figure No. 1 An example of Cadastral Certificate Issued in 1908 E.C.**

Source: Pankhrust. (1966)

Thus, the cadastre in Addis Ababa was started by a French company around that year, but remained without maintenance. A cadastre and cadastral map unless otherwise constantly up dated looses validity. That is what happened in the case of Addis Ababa. Actually cadastre of Addis Ababa is non-existent. Therefore, under the city administration of Addis Ababa, currently there is an on going project starting from 1994 with its main purpose of preparing a multipurpose cadastre. The main purpose of the project could be categorizes into three main parts, which are:

i) Statistical Information

In this section all the necessary statistical data are gathered such as, number and demographic characteristics for each household member, land tenure type, type and condition of a house, wishes of the inhabitants, infrastructural situation, house tenure, etc.

ii) Graphic Data

It refers to the conversion of some of the statistical data and others in the form of graphic representation especially maps. Mostly it includes the preparation of cadastral maps with different techniques (land use map, infrastractural maps, etc).

iii) Combination of statistical and graphic data using GIS technology

It has been said that in GIS it is possible to integrate graphical data with statistical data. In other words this aspect is most expected outcome of the project, which is essential for cadastre map and cadastral roster.

# CHAPTER III

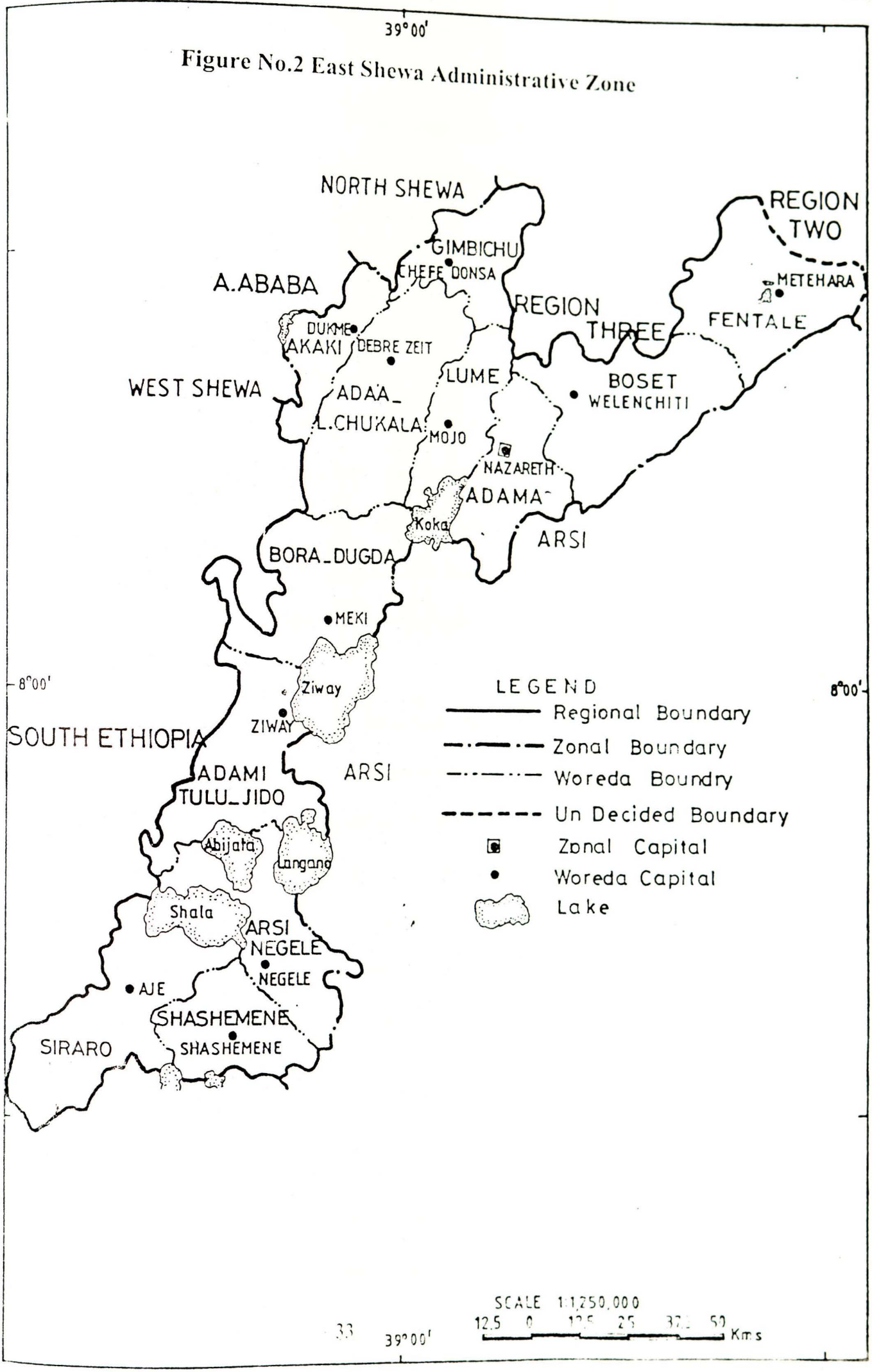
# BACKGROUND OF THE TOWN OF NAZARETH

## 3.1 HISTORICAL EVOLUTION

The town of Nazreth is located in the central part of East Shewa Zone (Figure 2). As it is the case with most of the southern parts of the country, the King of Shewa, Menilik II locates it with in the areas newly incorporated in late 19th century. This process of expansion was believed to necessitate the establishment of military bases, on the outskirts for which Nazareth was considered as one of the appropriate locations. It was the presence of this base, which gave impetus to the growth of the town in later years.

The town of Nazreth, in its present form came into being in 1909, after the appearance of the Ethio-Djibouti railway (NUPI, 1995). The same source indicates that the first railway station was established at the outskirts of the town's current boundary, at a place named "Aroge Adama", to the west of present site, which served for about nineteen years that is until 1927/28. Later on, the present suitable area was chosen probably because of a major train accident associated with the location of the previous station. There are some people who believe that the railway line was forced to follow this route, which had been serving as one of the trade route, connecting the central part with the eastern part of the country. Elders from the town confirm that the first name of the town, "Adama" is believed to have originated from an Oromo word "Adami" meaning cactus, showing the abundance of this tree in the area. Emperor Haile Sellassie renamed the town as Nazreth in 1944/45 during his

**Figure No.2 East Shewa Administrative Zone**



official visit to the town. At present, Eventhough it has not yet become common to the population, officials at the regional, zonal and local levels use the name Adama instead of Nazreth.

The town started to develop around the new station especially down towards the south direction from year to year. However, significant expansion was registered during the Italian occupation (1937-40) and it reached up to the Addis Ababa-Harar road, enabling it to take the advantage of using both the railway and the road connections. The foundation and development of the present town of Nazareth, therefore, in one way or another, are very much related to the coming up of the Franco-Ethiopian railway and the construction of road to Harar, Arsi, and later to Assab (NUPI, 1995)

The Italians are believed to have taken advantage of the location of the town in many ways such as a center to collect various types of food grains from the surrounding areas, a center for administrative purposes, a strategic military base, etc. For these locational advantages of the town, they concentrated on infrasructural development like building roads, introducing the use of telephone, telegraph, and radio messages that connect the town with other centers and provincial capitals. Thus, the Italians have contributed a lot to the development of economic infrastructures, which are believed to be the backbones of urban growth.

The town continued to play an important role in the administrative as well as economic aspects even after the Italian period. Earlier, it had been serving as the headquarters of 'Awraja,' 'Woreda' and 'Mikitel Woreda' of 'Yererna Keryu,' 'Adama' and 'Chore'

respectively. Later, in 1985 when the country was divided in to eight planning regions, Nazreth was chosen to be the capital of the Central Region covering all the previous provinces of Shewa and Arsi, which lasted until 1989. Between 1989 and 1993, it served as the capital of East Shewa Administrative Region in line with the new administrative structure of the country, which had resulted in formation of total of thirty-two administrative regions. Presently, starting from 1993, it is the capital of East Shewa Zone of the Oromia National Regional State.

As it is situated on the strategic National Highway network and is surrounded by fertile and major crop producing areas of the country, it has been serving as a major focal point for trade and small-scale industries as well as some agro-industries. Likewise, apart from being an important center of distribution of goods that are produced locally, is also serving as the loading and unloading center for some Ethiopian export goods and foreign imports.

The first municipal administration was set by the Italians, who appointed 'Girma Niway' to be the first mayor of the town. Following the withdrawal of the Italians, 'Fitawrari Belachew Yimaru' was appointed Mayor of the town in his place.

## 3.2 PHYSICAL SETTING

### 3.2.1 LOCATION AND TOPOGRAPHY

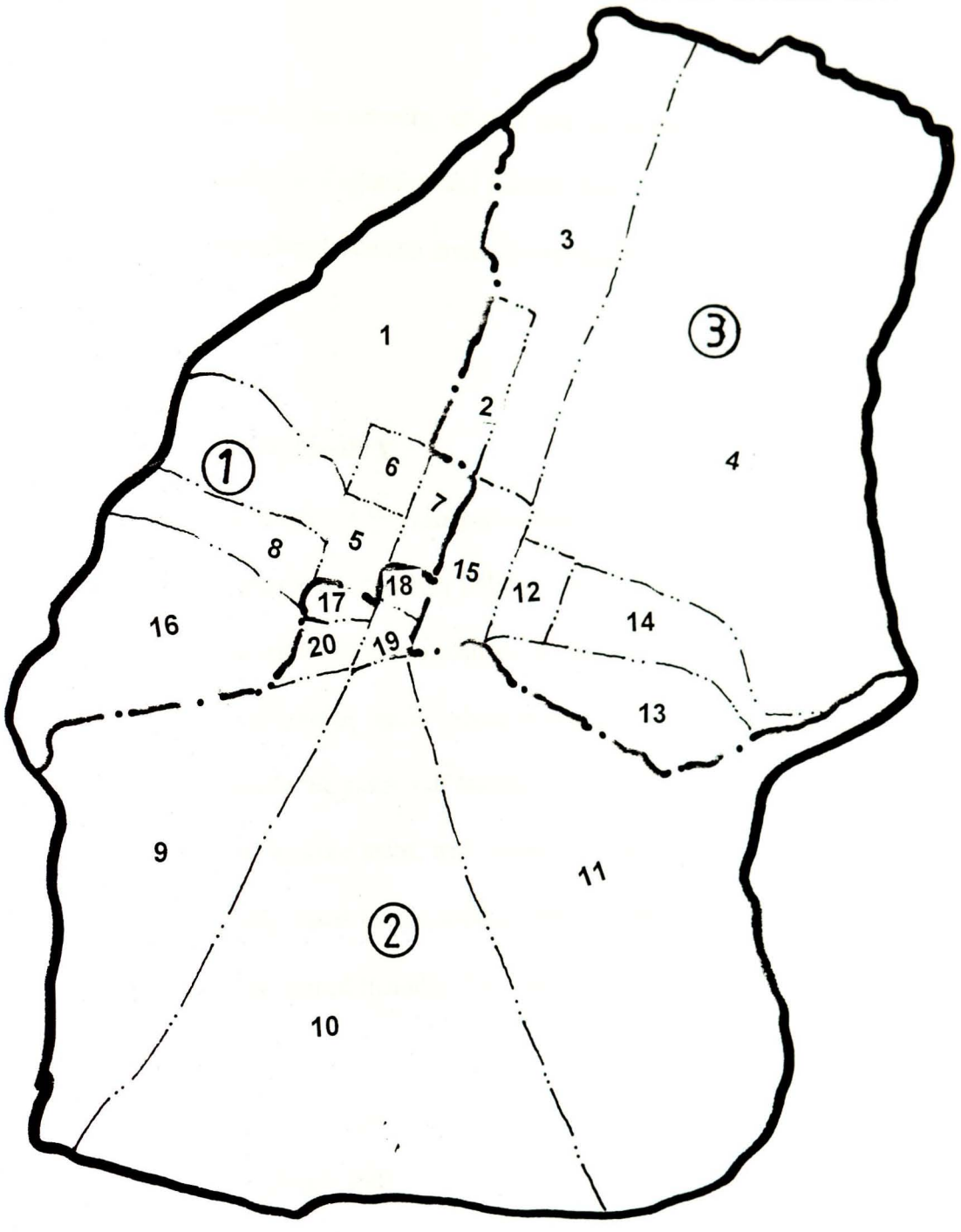
East Shewa Zone, in which Nazreth town is located, form a part of the mid central plateau physiographic unit. The town lies within the Wonji fault belt, a major component of the main Ethiopian Rift Valley system. Being within this main Ethiopian Rift Valley, the area

is regarded as seismically active area, where many volcanic occurrences have been recorded even in the recent past (AMTD, 1997).

The town is located about 100 Km South East of Addis Ababa along the main road to Harar, enclosed between 8 $^0$35 ' 00"- 8 $^0$36 ' 00" North latitude and 39 $^0$11 ' 57"- 39 $^0$21 ' 15" East longitude at an average altitude of 1620 m above sea level. A chain of hills or ridges surrounds it almost from all sides, except the south, which are supposed to be the faulted boundaries of the Rift system. Thus, the town lies in refilled basin or depression. Subsequently, the future main possibility of expansion is towards the southern direction. Spatially, the town is divided into four quadrants by the main roads, which pass through the town from West to East, Addis Ababa-Harar road and North to South Railway Station-Asela road crossing each other in front of the post office. Administratively, the town is divided in to three 'Kefetegnas' and twenty 'Kebeles' (Figure 3). The town, however, does not have a clearly defined municipal boundary.

The town has a relatively flat topography, with a gentle and general slope to south. Varying elevations from less than 1600 above sea level in the lowest part ('Migra' area) to more than 1970 m on the ridge named 'Kechema'are observed (Figure3). A considerable amount of surface run-off that comes from the surrounding hills and the built up area is accumulated mostly in kebeles 10, 11 and 13. As a result, considerable portion of the urban land is left un-built or underdeveloped. The area of the town is drained by various seasonal streams and gullies, which usually start from the scrap slopes of the surrounding Northern ridges. Awash is the nearest perennial river found about 9 km to the south. Hence, Nazareth is found in the Awash River Basin in Southeast Shewa.

Figure No3 Administrative Diviston of Nazareth




LEGEND

Sity Boundary

Keftgna Boundary

Kebele Boundary

③ Keftgna

12 Kebele

Scale 1: 50,000

1 0 1 2 3

Kms

### 3.2.2 CLIMATE

As it is true for most parts of the country, altitude has an indispensable influence on climatic conditions especially on temperature and rainfall. Since most parts of East Shewa lie in the 'Kola' and 'Woinadega' climatic zones, it experiences higher temperature and lower rainfall.

#### 3.2.2.1 RAIN FALL AND HUMIDITY

Calculated as based on the records of 39 years period that is from 1952 to 1991, the mean annual precipitation at Nazareth is 822.5 mm (NUPI, 1995). The same source indicates that more than 70% of the mean annual rainfall occurs in the four rainy months (June-September), with maximum monthly mean values reaching more than 200 mm. Some additional rain (20%) occurs in the months of March, April and May. Very small amount occurs in the remaining dry season months, with values of mean monthly rainfall reaching as low as 10 mm. Similarly, based on the average annual relative humidity of near by selected stations, the average annual humidity for Nazreth is estimated to be 55% (NUPI, 1995).

#### 3.2.2.2 TEMPERATURE AND WIND

Nazreth lies in sub-humid tropical zone with an average mean annual temperature of 21° c. On the other hand the period of long rainfall mostly coincides with that of higher monthly mean temperature, which favors high evapotranspiration in the area. The prevailing wind direction is from East West. Data (1977-1994) from the anemometer placed 22 km away from Nazreth (Melkasa Agricultural Research Center), at the height of 1m recorded a wind speed of 8m/s, while at the height of 2m recorded a wind speed of 10m/s (AMTD, 1997).

### 3.2.3 AREA

The areal expansion of the town can be visualized in the manner that the first Mayor of the town appointed by the Italians was administering a town with an area not more than 120 hectares (3 'Gashas'). Later on, in 1949/50 the size of the town grew to 1000 hectares or 25 'Gashas', which by the year 1968/69 increased to 3140 hectares or 78.5'Gashas'. Recently (1995), the town is estimated to be 3240 hectares or 81 "Gashas' showing a small rate of increase after 1968/69 (NUPI, 1995). Table No.2, which takes the Post Office as the starting point, will help to visualize the growth in relation with the increase in distance along the main roads in different years.

Table No.2 Distance of Town Boundaries (Kms) Along Different Routes From the Post Office

| Road to | Town Boundary | | | Urbanized Area | |
|---|---|---|---|---|---|
| | 1967 | 1981 | 1995 | 1981 | 1995 |
| Assela | 2.3 | 4.3 | 5.7 | 5.7 | 6.3 |
| Harar | 2.9 | 3.7 | 4.0 | 4.0 | 4.75 |
| Mojo | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| Lugo Peasant Association | 3.75 | 5.0 | 4.8 | 4.8 | 5.8 |
| Wekera Peasant Association | 3.4 | 7.5 | 3.2 | 3.2 | 4.7 |

Source: NUPI, 1995.

However, as the town does not have a clearly defined municipal boundary, the present estimated area is very arbitrary and unrealistic. The absence of the well-defined boundary also results in frequent urban-rural land-use conflict between the municipality and the

peasants. The practice of illegal sales of roadside lands by peasants has further fueled the boundary conflict. The current master plan has proposed to limit the development of the town along the major roads and utilize the open space within the existing town's boundary. One of the objectives of the proposal is also to control the linear expansion of the town, which consequently may resolve the urban-rural conflict and insure a balanced growth by way of a planned urbanization promotion. However, the master plan also indicates some preconditions, which help to convert this plan in to reality. These include among others: the construction and management of proper flood drainage schemes, solving the current shortage of potable water and constructing new roads and improving the existing ones so that all urbanized areas of the town would be connected and served.

### 3.2.4 LAND USE

#### 3.2.4.1 PRESENT LAND USE

The development of Nazreth on a relatively flat surface is believed to have encouraged the present rectangular gridiron framework road system, which dominates the entire urban morphology. These gridiron street patterns made the town to be known as "a town of Azurit" indicating its confusing nature to new comers. Eventhough, some residents relate this rectangular grid iron as a preference of planning schemes by the colonizers Italians, NUPI (1995), traces the plan of Nazreth as having its roots in the master plan prepared by the Ministry of Interior in 1971. Indeed, as a result of this framework most of the areas in the town enjoy accessibility, have defined blocks and easy urban mobility.

The major land uses of the town include residential, service, manufacturing and storage, administrative, commercial areas, etc. According to the land use classification and

estimates of NUPI (1995), residential, service and manufacturing and storage are the major land uses in the city.

The residential areas could be categorized into pure and mixed residence areas. The houses along main roads are used for residences along with commerce, etc. The area under residence covers 556 hectares lying mostly in 'Kebeles' 10,11 and 12. The population distribution indicates higher densities in Kebele 19, 06 and 07, i.e. 730, 710 and 669 persons/hectare respectively. Services stand next to the residential uses in terms of areal coverage (257.4 hectares). The main components of services as per classification of NUPI include areas covered by education, health social and cultural activities, etc. Manufacturing establishments and storages are scattered through out the town, hence there is hardly any block which can be identified under this category. However, the statistical records show that there are ten public sector large and medium scale industries, 182 privately owned manufacturing industries and more than 61 stores in Nazreth town. Generally the area occupied by these activities is estimated to be 152 hectares. The areal distribution of various land use types of present and proposed activities can be observed from Table No.3.

### 3.2.4.2 FUTURE LAND USE

The 1995 Master Plan of the town has tried to propose a new land use scheme for different purposes. This proposed land use pattern was based on the forecasted and projected activities of the town. Moreover, it aims at solving the ever-increasing land-use incompatibility problem of the town. For this purpose, the population of the town to exist at the end of the planning period (2010) was projected and estimated to be 296,225.

Table No. 3 The Land Use Pattern of Nazareth Town in 1995 and Proposed Land Use for 2010.

| No | Description of land-use Type | Area (ha) (1995) | % From the Total Area | Rank | Area (ha) (2010) | Rank |
|---|---|---|---|---|---|---|
| 1 | Residential | 556 | 43.14 | 1 | 1119.06 | 1 |
| 2 | Administration | 9 | 0.70 | 9 | 77.57 | 8 |
| 3 | Commerce and Trade | 71.2 | 5.52 | 5 | 132.44 | 6 |
| 4 | Service | 257.4 | 19.97 | 2 | 519.88 | 3 |
| 5 | Manufacturing and Storage | 152 | 11.79 | 3 | 446.47 | 4 |
| 6 | Transportation | 30.4* | 2.36 | 7 | 439.58 | 5 |
| 7 | Recreation | 19 | 1.47 | 8 | 62.02 | 9 |
| 8 | Agriculture | 18 | 1.40 | 10 | 82.47 | 7 |
| 9 | Forest/Tree | 32 | 2.48 | 6 | 619.37 | 2 |
| 10 | Special Function | 143.8 | 11.16 | 4 | 32.97 | 10 |
| | Total | 1288.8 | 100 | | **3531.83** | |

Source: NUPI (1995).

Note: * does not include area covered by road.

Accordingly the size of land to accommodate this amount of people especially for residential purpose, which will continue to be the major land consuming activity, is estimated to be 1119.06 hectares (see Table No. 3).

Moreover, this new proposal gave priorities or emphasis on activities such as forest/tree, services and manufacturing and storage, which need to be provided with more land at the end of the planning period than other land uses. Similarly, major reduction of area is proposed on the land area currently categorized as special function (used by the military) from its size of 143.8 to 33 hectares.

## 3.3 POPULATION

### 3.3.1 PRESENT POPULATION AND SOME DEMOGRAPHIC CHARACTERISTICS

The Population and Housing Census carried out in 1984 had indicated that the population of the town was 77,237. At the same time based on this census, in 1989 the population of the town was estimated to be 94,184. On the other hand, the result of the second Population and Housing Census of the country (1994), showed the population to be 127,842. According to the projection of NUPI (1995), with a medium variant, the population of Nazreth in the Year 2000 is 179,669 people. Estimates of the total population of Nazreth town in different years by CSA are presented below.

Table No. 4 Population of Nazreth Town

| Year (E.C) | Population | % of Increment |
|---|---|---|
| 1950 | 37583 | |
| 1960 | 45589 | 21.3 |
| 1970 | 66341 | 45.5 |
| 1975 | 75000 | 13 |
| 1982 | 108232 | 44.3 |
| 1986 | 127842 | 18 |
| 1991 | 163533 | 28 |

Source: NUPI, 1995 and CSA, 1999.

The figures on the above table, on the average, correspond to a net increase of about 1438 persons per year over the 1950-1970 E.C. and 4628 persons per year over the 1970-1991 E.C. period. The CSA 1984 census result report reveled that the net migration rate for the town was found to be 2.22 percent per year. Thus, Nazreth has been the major center of attraction for rural urban and urban-urban migrants. Accordingly, the CSA (1996), report based on the results of the 1994 census had estimated that about 53 percent of the total population in the town were immigrants.

The age composition of Nazreth's population shows a higher concentration (63.5%) in the age group 15-64, which is the range of economically active population. This implies a relatively lower dependency ratio 0.6 than the general feature in developing countries; i.e. every 100 of the labour force has to support 60 additional persons (CSA, 1996). The following table shows the age composition of the town in a broader age group.

Table No. 5 Age Composition of the Population of Nazreth

| Age Group | Percentage | | |
|---|---|---|---|
| | Male | Female | Total |
| 0-14 | 16.2 | 17.4 | 33.6 |
| 15-64 | 28.6 | 32.6 | 63.5 |
| 65+ | 1.3 | 1.6 | 2.9 |
| **Total** | **48.5** | **51.5** | **100** |

Source: Adopted from CSA, 1996.

The population of the town is composed of different ethnic groups, dominated by 'Amharas' (44.4%), which is followed by 'Oromos (26%). The major religions in Nazareth town are Orthodox (78.5%), Muslim (18%) and Protestant (4%).

### 3.3.2 POPULATION PROJECTION

NUPI (1995), estimates the average growth rate of the town up to the year 2010 to be 5 percent. Thus, by applying this growth rate, the projected population of Nazreth from 1993-2010 is depicted in the following table.

Table No. 6 Projection of Population for the Town of Nazreth (1993-2010)

| Variant | Years | | | | |
|---|---|---|---|---|---|
| | 1993 | 1995 | 2000 | 2005 | 2010 |
| High | 126,611 | 145,637 | 206,669 | 293,276 | 416,179 |
| Medium | 126,611 | 139927 | 179,669 | 230,700 | 296,225 |
| Low | 126,611 | 137,156 | 167,522 | 204,612 | 249,924 |

Source: NUPI, 1995.

Note: High variant 7%, Medium Variant 5 %, and Low Variant 4 %.

## 3.4 ECONOMY

People in Adama wereda are mainly engaged in agriculture, industry, service and trade activities. Likewise, people with in the boundary of the town make their livelihood on different activities, such as industrial (both formal and informal), agricultural, trade, service, etc. According to a study of investment potential of the town conducted by AMTD (1997), commerce and transport, account 34.4%; manufacturing and construction, 13.1%; agriculture, 3.3% and, finance, administration and services respectively account for 34.4 %, 13.1 %, 3.3 %, and 49.3% of the employment in the town. Moreover, a large number of economic activities are carried out by sizable number of people in Nazreth, which go unrecorded in the official account (informal sector). For instance, the CSA (1997) data indicates that there were about 12,109 people employed in informal sector. This accounts for only 30 % of the total employment.

### 3.4.1 AGRICULTURE

Considerable numbers of people undertake various types of agricultural practices with in the town's boundary to support their livelihood. Privately owned small-scale dairy production activities and beef cattle fattening are the major undertakings in this regard. The town is suitable place especially for fattening activities. Among major factors that contributed for its suitability are the following:

- Its location, which serves as a market outlet;
- Availability of concentrated animal feed (by- products of agroindustries);
- Possibility of securing roughage feed from the surrounding rural areas;
- Its nearness and accessibility to places from where live animals to be fattened are bought; and

- It's favorable climatic conditions.

Having these in mind and appreciating the economic contribution of this activity, the new master plan has proposed new alternative and additional sites out side the existing built-up areas.

### 3.4.2 MANUFACTURING

Because of its historical and strategic location, Nazreth town has developed as one of the areas of highest industrial concentration in the country. This is mostly attributed to the locational advantage of the town. Among, other major favorable conditions for industrialization in the town the following could be mentioned:

- Availability of some raw materials;
- Availability of hydro electric power;
- Good road connection and railway line facilitating transportation of goods; and
- Availability of different services.

Due to the above mentioned factors and relatively conducive environment for the private investment, the number of privately owned manufacturing enterprises are increasing. For example, data from Planning and Economic Development Department of East Shewa shows that, before 1980 E.C. the number of such establishments (including small scale) in the zone were 187 and in 1989 E.C. this figure has grown to 484. Since the concentration of industries in Nazreth town is obvious both pre and post 1980s, the growth rates of industrial establishments are assumed to be greater than the zonal average.

Most of the industrial establishments could be classified under the category of food and beverage industries (flour, grain, and oil mills) followed by metal work, blocks and concrete pipe and woodwork industries. In terms of employment, all industries in the town generate an employment opportunity for about 2874 people. The private industrial sector employs more than 42% of the total industrial employment in the town (AMTD, 1997).

In line with the survey of Oromia Regional State, roughly 17% of the industries are performing production activities, 5.8% production and service and the rest 76.6 % service only (RSO, 1999). By the same token, industries in the town are more of service oriented than production. Moreover, along with the manufacturing industries, Nazreth is known for the abundance of storage activities scattered through out the town. The strategic location of Nazreth in the national transport network and its closeness to some of the major crop producing areas is believed to have encouraged the abundance of these numerous stores. All of the warehouses are distributed through out the town the same way as the manufacturing firms do.

### 3.4.3 SERVICES

Urban services are rendered by both formal and informal sectors operating in the town. The main components of the service sector include:

- Distributive and service trade (wholesales and retails trade, commercial service, financial service, etc.);
- Administrative and municipal services;

- Social and cultural services (education, health, social and cultural centers, recreation, etc.);
- Utilities (water supply, electricity, telephone, postal services, transportation, etc.); and
- Other services such as garages, metal and wood work, different repair shops, etc.

The service sector plays a significant role in absorbing the fast growing urban labour force besides its contribution to the overall economy of the town. Likewise, the service sector in Nazreth town has a significant share in the total employment. The following table shows the share of the service sector employment in the town.

Table No. 7 Summary of Establishments and Their Employment contribution

| Category of services | No. of Establishments | No. of Persons Engaged | %share | |
|---|---|---|---|---|
| | | | Establishment | Employment |
| Formal sector | 3012 | 9542 | 24.6 | 44.1 |
| Informal sector | 9245 | 12110 | 75.4 | 55.9 |
| **Total** | **12257** | **21652** | **100** | **100** |

Source: Compiled and calculated from CSA's 1996 sample survey on informal sector, distributive and service sector.

In the formal service sector, according to CSA's sample survey of 1996, the total employment in that year was 9542, of which wholesale, retail and service constituted 10.4%, 35.3% and 54.3% respectively.

## 3.5 INFRASTRUCTURE

### 3.5.1 PHYSICAL AND ECONOMIC INFRASTRUCTURE

**a) Transportation and Communication**

Passenger and freight transport services are available from Nazreth to places such as Addis Ababa, Debre zeit, Assela, Welenchiti, Wonji and Dire Dawa. The bus terminal is located adjacent to 'Ginb Gebeya' and the freight terminal along the Assela road. The town also enjoys the service of both passenger and freight train transportation, since the Addis Ababa-Dijbuti railway line passes through the Northern part with its station in kebele 04. Regarding the quality of internal road system of the town, generally the roads are classified in to three types, i.e. asphalt roads having the length of 30.3 km, gravel with 16.6 km and moterable unsurfaced with 26.0 km. Similarly, data from the municipality reveals that there are about five fuel stations, more than 16 garages and related workshops scattered along the main roads.

Nazreth has a digital telephone service with 4086 lines in 1997. There is a digital automatic telephone project with the objective of enhancing the telephone capacity to 10,000 lines (AMTD, 1997). The town also has a regular postal service with a post office having 2300 boxes, out of which only 2178 are rented. The postal service includes letter service, parcel delivery, express mail service (EMS), money order service, sell of post cards, sell of revenue stamps and distribution of newspapers.

**b) Commercial and Trade Services**

Hotels, bars and restaurants are the dominant commercial activities in Nazreth. There are three open markets; Gimb Gebya' being the main open market. There were a total of 4496 licensed traders in 1997 (AMTD, 1997).

**c) Electric Power and Water**

Nazreth gets a hydroelectric power from three sub-stations located in the town. In 1996, the Electric Corporation had about 13834 customers with 515 new entry questions.

Boreholes of various depths and yields serve as major sources of water in Nazareth and the surrounding rural community. The Nazreth Water Supply and Sewerage Authority, was rendering service with about 7,915 meter connection in 1996/97. The amount of water supplied for the town is 15 litters per capita per day (l/c/d). However, there is a project undergoing, which plans to increase the supply to 73.6 l/c/d.

**d) Financial Service**

Presently, in Nazreth town all in all there is about thirteen financial institutions. Of these seven are banks (three private and four government owned) and six are insurance institutions among which only one is government owned.

## 3.5.2 SOCIAL INFRASTRUCTURE

**a) Education service**

There are a total of 28 educational institutions in the town of Nazreth, out of which nine are kindergarten, six Elementary Schools, Seven Junior Secondary Schools, four High Schools, one Teacher Training Institution (TTI), which at present is on the process of being upgraded to Teacher Training College (TTC) and one Technical College. In terms of ownership one is owned by a non-governmental organization (NGO), eleven are governmental, seven are public and the remaining nine are private.

**b) Health**

There are one hospital, one health center, one malaria control center, thirteen clinics, six pharmacies and fourteen rural drug vendors. Except the hospital, health center and the malaria control center, which are government owned all health institutions are privately owned. However, the zone's Department of Health revels that there are a number of pharmacies and clinics operating in the town without any license.

**c) Social and Cultural Centers**

Seven Coptic Churches, three Mosques, three other Denomination Churches and one Catholic Monastery are found scattered through out the town. In addition to one Moslem cemetery, there are five large cemeteries in the town. Among other social and cultural centers the following are the major ones:

- One cinema hall;
- One town wide assembly hall and many kebele assembly halls;
- One rehabilitation organization;
- One public square;
- One stadium;
- Various unions, associations and cooperatives centers; and
- One public park.

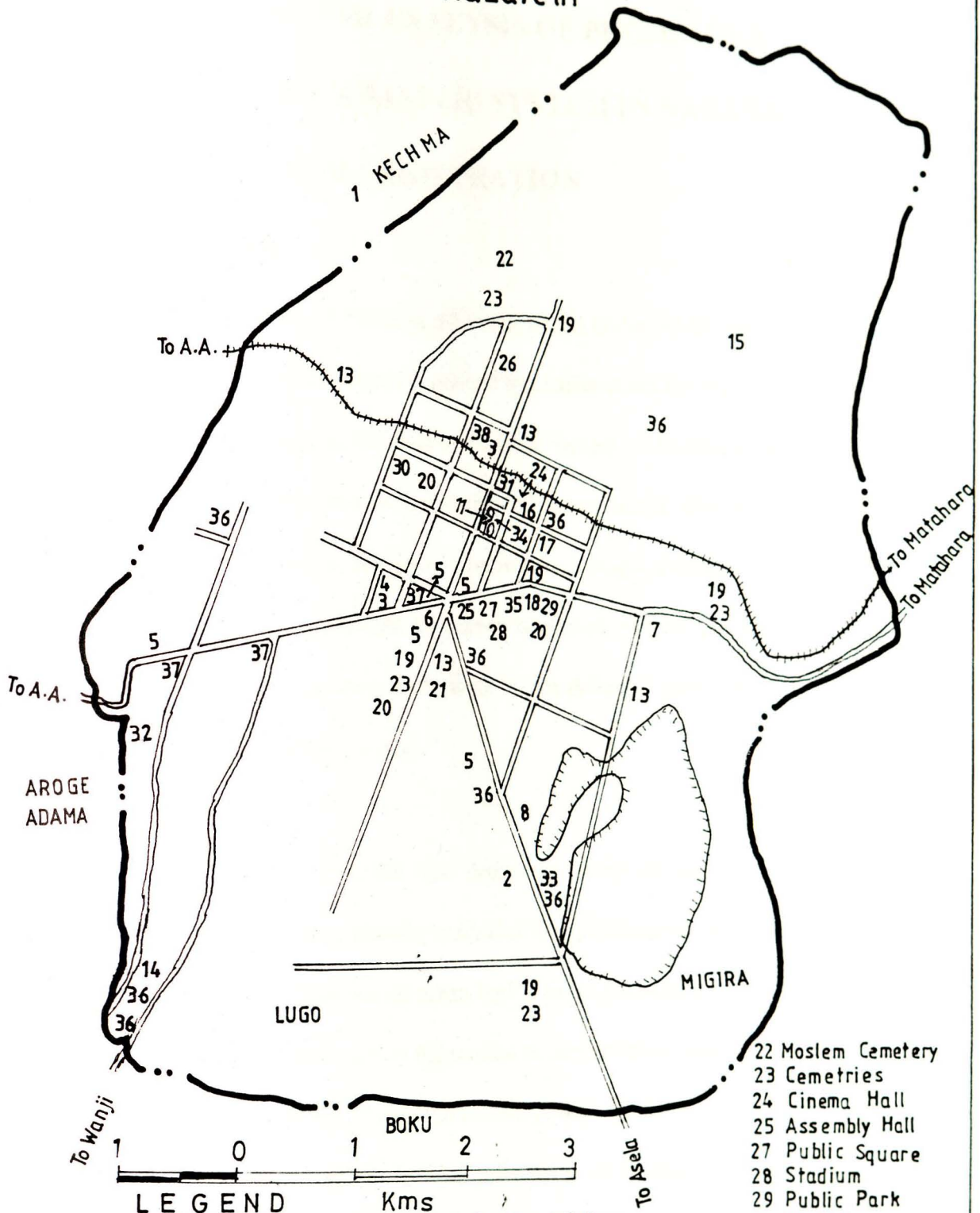
The locations of some of the major services or activities in the town are shown on Figure 4.

**d) Municipal service**

Among those services classified under the municipality, the following are the main ones in Nazareth town:

- The management and operation of an abattoir;
- The collection and disposal of both liquid and solid wastes, as well as the management of the disposal sites;
- The operation of fire brigade;
- The management of market places;
- Street lighting, and
- Plantation and protection of road side trees and flowers.

# Figure 4 Map Indicating The Location of Major Land Uses In Nazareth




LEGEND

1 Migira Area
2 Fright Terminal
3 Bus Terminal
4 Ginb Market
5 Fuel Stations
6 Post Office
7 Amede Market
8 Animal Market
9 Tele Office
10 ELPA Office
11 WSSA Office
13 High School
14 TTI
15 Techincal College
16 Hospital
17 Health Center
18 Malaria Center
19 Churches
20 Moseques
21 Catholic Monastery
22 Moslem Cemetery
23 Cemetries
24 Cinema Hall
25 Assembly Hall
27 Public Square
28 Stadium
29 Public Park
30 Abattoir
31 Fire Brigade
32 Military Camp
33 RRC Store
34 Municipality
35 Zonal Administration
36 Major Factories
37 Major Hotels
38 Railway St.

SCALE 1:50 000

# CHAPTER IV

# DESCRIPTION AND ANALYSIS OF PRESENT LAND MANAGEMENT (CADASTER) SYSTEM IN NAZARETH

## 4.1 LAND TENURE AND REGISTRATION

### 4.1.1 LAND TENURE

As it is the case with the towns in Ethiopia, all urban land is under public ownership in the town of Nazreth also. This system was introduced by proclamation No. 47 of 1975, which nationalized all urban land and extra houses in all urban centers of the country without any compensation. Eventhough, private ownership of urban house was not completely abolished, an individual could no longer own more than a single dwelling. The right to lease, sell or rent land is also prohibited. A person is entitled only to user's right or right of occupancy of land. The situation in Nazreth is not different from this general rule governing all urban centers of the country.

Currently too, in accordance with the new economic policy of the country and the constitution, urban land remains under the control of the government. Proclamation No. 80 of 1993 issued a decree stating that all urban land is to be governed by the lease policy. The main objective of this policy rests in the interest to correct the previous government's urban land policy, which does not fit with the present policy of market economy policy at present. Hence, with the lease policy the possibility of changing the concept of considering land as valueless and non-marketable item seemed feasible. According to the above mentioned Proclamation, except lands previously utilized for building dwelling houses, all urban lands shall be governed by lease system. Even when these previous

dwelling houses are transferred to another person in any manner other than inheritance, will enter into a lease holding system. Similarly, under article 15 of the proclamation transitory provisions are given as to how previous holdings used other than for dwelling purposes obtain lease holding title and pay the lease price. However, in almost all urban centers including Addis Ababa the provisions of this Proclamation specially for old occupations seems difficult to apply. Therefore, previous holdings whether they are used for residential or business purpose are continuing to be administered under the regulations of urban land holding existent before the enactement of this new Proclamation. In addition to this, even for new grants of land, what is being practiced currently in many of the urban centers in the country seems a "selective" lease hold policy. In other words, urban land for business purpose almost in all urban centers where lease is being practiced including Nazreth, is granted through lease hold arrangements, while land for residential purpose (a determined maximum plot, in the case of Nazreth 200 $m^2$ ) is granted free from lease.

According to the information obtained from the Municipality, there are a total of 10,500 Property owners administered under previous urban land regulations that is free from lease hold, who pay land and building tax accordingly (see Table No. 8 for the detail of this registration). However, only some of these property owners have a certificate as an evidence to the ownership of their holdings. The majority have both a certificate and taxation receipts as evidences of ownership. The result of the survey conducted showed that 68.57 % of the interviewed owners have a certificate as well as taxation receipts where as 23.81 % has only taxation receipts. Similarly 7.62 % of the interviewed owners could not present any of the two, hence, are considered without evidence. It should also be clear that there are considerable numbers of inhabitants that are not recognized by the

Municipality, especially those earlier residents who were granted or obtained land before 1975.

Moreover, the situation of squatter settlement in the town of Nazreth is aggravating from year to year. The Municipality believes that the situation is out of control by now because most of the squatters in the town are organized and are returnees from the former Ethiopian town of Assab. Whilst the total built up area of much settlements is still to be precisely computed, conservative estimates put it 20 % to 30 % of the urbanized area. At present the Municipality has estimated that there are more than 6000 dwellings built by squatter settlers accounting about 24 % of the total housing stocks in the town. Strengthening it further, reference can be made to a study conducted by the Municipality only in ten of the kebeles of the town, which revealed that there are 1,750,540 $m^2$ of land occupied by squatter settlers. Furthermore, most of the informally acquired land is bought from the so-called illegal land market, illegal in a sense that selling and buying of raw land is sanctioned in the country. The abundance of squatters in the town is an indication of problems in the formal allocation of land to the inhabitants. On the other hand it also can be a reflection of the poor capacity of the Municipality to protect plots before they fall in the hands of squatters and to take an appropriate and legal actions on these illegal occupants.

Table No. 8 Registered Real Property Owners and the Situation of Property Taxation in Nazareth

| Location | | Total No. of Registered Owners by Type of Land use in 1999 | | | | | | | Total Tax in Arrears (1974-1999) | | Basic Tax for 2000 | | Total Expected Tax | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Residential | | | Establishment | | | Total | | | | | | |
| Kefetgna | Kebele | Paying Tax | With Tax Arrayed | Total | Paying Tax | With Tax Arrayed | Total | Registered Owners | Birr | Cents | Birr | Cents | Birr | Cents |
| 01 | 01 | 49 | 145 | 194 | 5 | 5 | 10 | 204 | 21943 | 50 | 16819 | 06 | 38762 | 56 |
| | 05 | 31 | 58 | 89 | 0 | 3 | 3 | 92 | 9815 | 31 | 4896 | 19 | 14711 | 50 |
| | 06 | 35 | 123 | 158 | 4 | 4 | 8 | 166 | 12496 | 92 | 35177 | 56 | 47674 | 48 |
| | 07 | 30 | 66 | 96 | 7 | 19 | 26 | 122 | 300301 | 95 | 68550 | 02 | 368851 | 97 |
| | 08 | 22 | 68 | 90 | 3 | 6 | 9 | 99 | 6356 | 95 | 4312 | 49 | 10669 | 44 |
| | 16 | 180 | 505 | 685 | 13 | 9 | 22 | 707 | 91496 | 41 | 123030 | 91 | 214527 | 40 |
| | 17 | 49 | 116 | 165 | 2 | 9 | 11 | 176 | 11643 | 98 | 10632 | 43 | 22276 | 41 |
| 02 | 09 | 370 | 835 | 1205 | 24 | 68 | 92 | 1297 | 421935 | 71 | 218861 | 05 | 640796 | 76 |
| | 10 | 483 | 905 | 1388 | 46 | 100 | 146 | 1534 | 198315 | 93 | 464025 | 33 | 762341 | 26 |
| | 11 | 666 | 1279 | 1945 | 52 | 154 | 206 | 2151 | 520761 | 51 | 518863 | 93 | 103925 | 44 |
| | 18 | 36 | 67 | 103 | 7 | 13 | 20 | 123 | 12233 | 95 | 10450 | 91 | 22684 | 86 |
| | 19 | 29 | 69 | 98 | 9 | 18 | 27 | 125 | 58381 | 83 | 67045 | 33 | 125427 | 16 |
| | 20 | 112 | 190 | 302 | 27 | 34 | 61 | 363 | 51432 | 57 | 45611 | 99 | 97044 | 56 |
| 03 | 02 | 82 | 180 | 262 | 2 | 0 | 2 | 264 | 23012 | 38 | 22534 | 23 | 45546 | 61 |
| | 03 | 263 | 690 | 953 | 5 | 24 | 29 | 982 | 88109 | 55 | 37372 | 63 | 125482 | 18 |
| | 04 | 178 | 389 | 567 | 7 | 16 | 23 | 590 | 69837 | 40 | 56502 | 25 | 126339 | 65 |
| | 12 | 102 | 194 | 296 | 3 | 8 | 11 | 307 | 79471 | 47 | 56610 | 25 | 136081 | 72 |
| | 13 | 162 | 359 | 521 | 5 | 38 | 43 | 564 | 253393 | 41 | 104176 | 34 | 357569 | 75 |
| | 14 | 161 | 387 | 548 | 10 | 7 | 17 | 565 | 76664 | 65 | 93655 | 78 | 170300 | 43 |
| | 15 | 90 | 135 | 225 | 5 | 24 | 29 | 254 | 92909 | 82 | 34269 | 92 | 126179 | 74 |
| **Total** | | 3130 | 6760 | 9890 | 236 | 559 | 795 | 10685 | 2499495 | 20 | 1993389 | 68 | 4492893 | 88 |

Source: Municipality of Adama, 2000.

## 4.1.2 LAND REGISTRATION

Land registration is part and parcel of any land administration system. It mostly deals with the process of recording information about ownership of land. Hence, the main purpose of registration is to keep records of ownership as legal evidence. It can also help the preparation of urban master plans, valuation and taxation purposes. In general, the registers are the main legal documents on land matters.

In the town of Nazreth registration is voluntary for old occupants, while it is obligatory for new acquisitions. The management of registration is somehow satisfactory to serve its purpose, although it lacks completeness in terms of spatial coverage, up datedness, accessibility, etc. Registrations of lands in the town are also different such as registration of new holdings, registration of old occupants, registration of mortgages, etc. Each of these registrations have their own characteristics and procedures. Hence, in the following section description of these registrations will be treated.

**Registration of New Allocations**

On formal request the Municipality grants a land not exceeding 200m$^2$ free from lease for construction of a dwelling unit. Similarly, land for residential purpose that is more than 200m$^2$ and for businesses is also granted by the Municipality, but with the consent or permission of the Oromia Lease Office. After registration upon the completion of formalities and verification of the applicant by these institutions, it is the responsibility of the Municipality to issues a title to the register and enters it into the main register.

The registration of newly allotted lands through lease or free of lease is obligatory. During the registration topographical map sheets, large-scale maps showing major roads (at scale)

are used. The site and lay-out plans are used for the registration of newly allotted plots, which will have its own specific reference number. However, as there is no cadastral map, no parcel and block identification system, no accuracy in surveying, etc., both verbal records as well as site plans are contained in the register. The site plans are produced based on chain measurement results and sometimes adjusted with the master plan. It is in rare cases that a theodolite measurement is being applied.

Most of the boundaries of the registered plots on the ground are monumented or erected with stone at the corners of the plot. Nevertheless, as there is no legal provision for the protection of these marks on the ground, they could easily be misplaced or thrown away. Consequently, the result of the sample survey showed that only 23.81 % of the plots have their boundaries monumented with stone at present.

**Registration of Old Occupations**

The Municipality is involved in registration of ownership, in other words legalizing tenure, if an applicant is in a position to fulfill all the necessary requirements. In order to legalize tenure or get title to a holding, an applicant needs to submit an application to the Municipality. Most of the time the application is presented in the form of request to pay land and building tax. Because for all applications related to land and building, up to date tax payment is a prerequisite. Then, a surveyor will be sent to the site to measure the actual holding, prepare a site plan and collect information that enables to know as to how and when the holding is obtained. If the holding is obtained before 1975, the case will be presented to a committee that decides whether the ownership of the applicant should be legalized and pay tax or not. If the applicant is permitted to pay tax, after completing the

payment he would be given title and get registered. However, in the case of a holding where a confiscated house is present and it is not technically possible to divide the plot proportionally, registration is impossible.

In most cases legalizing old holdings is very difficult, because evidences are not easily found. Thus, the time needed to legalize tenure depends on how soon one could present these proofs. Generally, officials and experts at the Municipality agree that the average time needed for legalizing tenure or old holding ranges between three to four months.

**Registration of Subdivision**

In the recent past it was possible to subdivide a plot and transfer it to another person through various ways of transfer, such as sale, gift, inheritance, etc. But, presently one can not divide and transfer a plot under one title or certificate. However, when a court approves a divorce and orders a division of property between husband and wife and if the holding is dwelling unit subdivision could take place. Moreover, the subdivision of a residential building by a court order is possible if the parcel is more than $200m^2$.

**Registration of Transfers**

Real property or property related to land, especially buildings can be transferred from one owner to another. The Municipality registers the transfer of building from one owner to another. According to the Information obtained from the municipality, there are three major reasons or ways of transferring a building (obviously with the land). These are sale, inheritance and gift. Table No. 9 shows the numbers of registered transfers by type and year.

Table No. 9 Number of Registered Transfers

| Type of Building | Reason for The Transfer | Years in Ethiopian Calendar | | | | |
|---|---|---|---|---|---|---|
| | | 1995/96 | 1996/97 | 1997/98 | 1998/99 | 1999/2000** |
| Residential | Inheritance | 59 | 59* | 83 | 75* | 44 |
| | Gift | 5 | 22 | 20* | 9 | 10 |
| | Sale | 38 | 142 | 137 | 148 | 109 |
| Establishment | Inheritance | 6 | 2 | 4 | 2 | 2 |
| | Gift | 1 | 1 | 0 | 0 | 0 |
| | Sale | 2 | 14 | 5 | 3 | 2 |
| **Total Transfers** | | **111** | **240** | **249** | **237** | **167** |

Source: Municipality of Nazareth, 2000.

Note: * One building is not identified whether it is residential or establishment.

** Six months data

It was also intended to evaluate the efficiency of the municipality in regressing transfers, but as there is no data on the number of applications it is not possible to do so. Furthermore, the survey results show that from amongst the owners with legal evidence of ownership i.e. certificate, taxation receipts and both, 64.65 % said that they obtained the land from government, 32.32 % through purchase, 3.03 % through inheritance. Similarly, from amongst those respondents who do not have any legal evidence (7.62% of the respondents), 50 % claimed that they obtained the land through purchase and 25 % from government. This information gives an idea that transfers are not efficiently registered in the town.

The volume of transfer seems small for a town like Nazreth where there is high land use change activities are taking place. According to Table No. 9 the average transfer registration per year is 223.1. If it is assumed that the total registered owners are constant during the last four years (1995/96-1999/2000), then the percentage of transactions registered is only 3 %. However, according to World Bank (1989) in developing countries 10% property in urban areas change ownership each year.

Eventhough, there is transfer tax levied by the Federal Government, this is not applied in the town of Nazreth. The procedure to register transfers is very lengthy and time consuming. For instance in the case of a sale of a building the steps or requirements are as follows:

- The applicant (most of the time the purchaser) is required to advertise in a newspaper in order to determine whether the house is free of any dispute or/and mortgage. The municipality writes a letter to the agency responsible for Ad in a newspaper;
- After scrutinizing relevant municipal land registration records, a letter will be issued to the court so that sales agreement be made public as per contract law;
- Then a technician/surveyor will be sent to the site to assess the value of the building property. In the absence of any standardize guidelines for valuations in the town the assessment depends entirely on the personal judgment of the assessor. The only uniformly applied practice in almost all valuations of buildings is that of depreciating the value by 5% per year;

- The estimated value will be written in a format, which will be sent to the Woreda Finance section, where the purchaser is required to pay 4% of the estimated value (refereed as Asura tax or stamp duty).
- The buyer is required to present the receipts to conform that the asura tax is already paid so that the municipality registers the transfer after collecting 2% of the estimated value as municipal tax;
- After completing all these steps the registration of the transfer will be confirmed and new certificate of ownership with new number of title will be issued in the name of the buyer.

The procedure for other types/ reasons of transfers such as gift and inheritance is similar, except that for inheritance there is no assura tax and the municipal tax is only 1%. The information obtained from the municipality indicates that the whole process of transfer of real property generally takes more than two months or 8 weeks, with a rough break up of time as for legal procedures three weeks, municipal procedures three weeks and surveying operations about three weeks.

The Federal Government's lease policy states that, when land used for business purpose is being transferred to another person should enter in to lease. But in Nazreth this does not apply, i.e. it is possible to transfer land without being entering in to lease. That is why people prefer to buy from individuals rather than from the municipality.

**Registration of Mortgages**

The Municipality gives a service related to registration of properties that are used as collateral to borrow money from financial institutions. The Land Administration Section which deals with land registration, makes sure that the property in question is free from any disputes and verifies all the evidences, such as title (certificate), taxation receipts, etc. If the registration is accepted, it enters on a file assigned to this purpose and letter of acceptance will be sent to the financial institution. Table No. 10 shows the number of registered properties by year and kebele. This service is given to real property owners who have certificate of ownership and are paying property taxes. As it has been already indicated there are 10,500 registered and recognized owners in the town. According to the sample survey result only 68.57 % of the owners having certificate of ownership could apply to mortgage registration. The rest that is of registered owners who only have taxation receipts, as a proof of ownership should apply to have certificate before an application for mortgage registration. As it is indicated on the table, Kebele 11, 10 and 09 lead in the number of the registrations of mortgage of properties accounting for > 62% of total registration in the years. In kebeles such as 05, 06, 07, 08 and 18 have few or no properties registered for mortgage mainly because as has already been indicated, most of the households in these kebeles have no legal certificates of ownership and the houses are in a very poor condition.

Table No 10 Registration of Mortgaged Properties in Nazreth Town

| Kebele | 1989 | 1990 | 1991 | 1992 | Total |
|---|---|---|---|---|---|
| 01 | 3 | 2 | 1 | 20 | 26 |
| 02 | 2 | 3 | 2 | 3 | 10 |
| 03 | 7 | 4 | 1 | 4 | 16 |
| 04 | 11 | 10 | 15 | 6 | 42 |
| 05 | 0 | 0 | 0 | 0 | 0 |
| 06 | 0 | 0 | 0 | 0 | o |
| 07 | 1 | 3 | 0 | 1 | 5 |
| 08 | 1 | 0 | 2 | 0 | 3 |
| 09 | 44 | 27 | 34 | 23 | 128 |
| 10 | 62 | 67 | 58 | 36 | 223 |
| 11 | 88 | 75 | 69 | 57 | 289 |
| 12 | 7 | 5 | 7 | 6 | 25 |
| 13 | 21 | 19 | 17 | 12 | 69 |
| 14 | 2 | 4 | 3 | 8 | 17 |
| 15 | 6 | 10 | 8 | 8 | 32 |
| 16 | 17 | 18 | 17 | 11 | 63 |
| 17 | 5 | 1 | 2 | 1 | 9 |
| 18 | 1 | 1 | 2 | 0 | 4 |
| 19 | 4 | 6 | 2 | 2 | 14 |
| 20 | 14 | 13 | 13 | 5 | 45 |
| Total | 296 | 268 | 253 | 203 | 1,020 |

Source: The Municipality of Nazareth, 2000.

Note: The Data for 1992 shows the Registration up to March 30 of 1992 E.C.

## 4.2LAND AND BUILDING RELATED TECHNICAL SERVICES

### 4.2.1 BUILDING PERMISSION

In order to erect a new building or to undertake major maintenance or repairs on existing ones, construction permission is needed. For construction of a new building, the application for permission has to be made based on a site map showing the parcel, the building plan and the bill of estimates of the construction. Moreover, the applicant is required to present evidence that the holding is legal and that he is paying tax. Generally, the following procedures are necessary for building permission:

- Application letter is presented;
- Verification by the Municipality whether or not the property is legally occupied (certificate of ownership, taxation receipts, etc);
- Verification of land-use classification from the master plan;
- A site plan in relation to the master plan will be provided to the applicant, so that he could prepare his plan/project and the bill of quantity of the construction;
- If the holding is an old occupation or obtained free of lease, the applicant is required to pay 3% of the estimated cost of the construction to the Municipality. However, if the holding is obtained through lease no payment is required;
- After completing all these formalities, permission to build will be provided on a format prepared for this purpose.

The above procedure is only for construction or repairs of residential buildings. For buildings meant for establishments, after completing all the above procedures, the Municipality will send the application letter, the plan, bill of quantity and the building

permission format with supporting letter to the Zone's Department of Works and Urban Development office. Similarly, if this office accepts the proposal, the whole document with supporting letter will be sent to the Bureau of Works and Urban Development of Oromia Region for final approval.

From the above explanation one can understand that added with the bureaucratic procedures in these institutions, how lengthy and time taking procedures are required to get permission to build, especially for establishments. It may be for this reason that many buildings in the town have no plan and building permission. Many of the buildings in the town especially the old ones have been constructed without any building permission. The sample survey result shows that 34.29 % of the houses have no building permission. Similarly, 24.76 % of the buildings remain without any plan. Of the houses without building permission 32.95 % are residential units and 30.76 % are establishments. Similarly, it also revealed that the majority of the buildings without building permission are located in the oldest section of the town. For instance, about 70 % the buildings without permission are located in kefetgna 1 where the earliest settlements are present.

The other point, which needs attention is that the Municipality after the provision of a building permission does not have a mechanism and the capacity to check on the ground whether the construction is being carried according to its plan or not. In fact, eventhough, there are about ten employees of the Municipality who are assigned to report on constructions being undertaken without permission, as they are not qualified are not in a position to verify whether the construction on the ground is similar to that on the plan.

## 4.2.2 PROPERTY VALUATION

As it has already been discussed, land tax is paid in accordance with the area and grade of land, while building tax is levied by assessing the rental value of the building. Experts from the Oromia Region Works and Urban Development Bureau carry out the assessment of the rental value of a building. Therefore, there is no need to carry out property valuation by the Municipality for taxation purpose. However, there are occasions where the Municipality needs to assess a property, especially buildings. The need for assessment of buildings arises in occasions such as the following:

- During the process of transfer of property through sale, gift and inheritance. The assessor is supposed to estimate the market value of the building, so that the buyer pays 2 % of this value to the Municipality and get transfer registration. During a sale the assessment is believed to be necessary, because most of the time there is underreporting on the side of the taxpayer.
- During an assessment order by a court for different reasons such as compensation, divorce, etc.
- During compensation procedures that is for the implementation of the master plan the Municipality may evict a resident if the holding is to be used for public purposes.

A sale of a property is the most frequent presented case for the carrying out of valuation. But it had been better to have both the assessment result and the reported price by the taxpayer and use the one that brings more revenue to the Municipality. Moreover, as the assessment by the Municipality does not consider or include the value of land, it will be certainly less than the declared price, which prevent it from getting more income. In other

words a building located at the center of the town and another similar building located on the periphery may be assessed as having similar values. Similarly, as there is no any assessment criteria on records for the selling price of buildings, the determination of the market price depends on the personal judgment of an assessor. Therefore, the whole procedure of assessment being practiced in the town is open for fraudant activities. As a result of this, many residents opt to deal with the assessor so that he may under estimate the value so as to reduce the transfer tax. Among the problems identified in the process of assessment by the Municipality, the following are the major ones:

- Absence of sufficient information for valuation of land,
- That there is no appealing procedure;
- There is no accountability or checking mechanisms on the works of the assessor;
- There is no specifically assigned and trained personnel for this activity; and
- In general the whole procedure of assessment is free for back door dealings.

### 4.2.3 ALLOCATION OF LAND

It is the responsibility of the Municipality to prepare land to be allotted by lease or freely. The technical capacity of the Municipality to prepare serviced land both for residential and business purpose ranges from 400-600 plots per year. For example, this year it is planned to prepare about 400 plots. In the mean time, efforts were made to assess the capacity to meet the demand of land, but as it was difficult to find the number of registered land seekers, this was not possible. At present land in Nazreth is granted both by lease or free from lease. Accordingly, land for residential purpose with areas less than 200 $m^2$ are granted freely on the condition that

- The grantee uses the land in accordance with municipal regulations;

- Pays land rent or any other fees charged in accordance with the law;
- To deposit in block account 20% % of the construction cost before obtaining the land; and
- The grantee is able to start the construction within not more than six months.

Similarly, lands for residential purpose exceeding 200 $m^2$ area and for different kinds of business activities are granted on the basis of lease arrangements. The application to hold a plot of land through a lease system should be presented to the Municipality with a proposal of the project to be carried out on the land. The Municipality after assessing the proposal and consulting the master plan may accept or reject the applications. If it accepts the proposal, it will send the project proposal together with a site plan to the Oromia Lease Office at Addis Ababa. Then, members of a technical committee at the Lease Office make a site visit and collect all the information that help the preparation of a technical report to be presented to the Lease Board of the Region.

Land allocated through the lease agreement between the years 1989- 1992 E.C. accounted for 303,031 $m^2$. All in all there are 81 individuals, organizations, P.L.C. and etc., that entered in to a lease agreement with the Municipality. Most of these allocated lands were to be used for business activities, mainly for industries, stores, hotels, shops and the like. The table on Annex C shows the number, area, price and other related information on land allocated by lease for different purposes in Nazreth.

## 4.2.4 URBAN PLANNING

To guide the dynamic and continuos development of urbanization and solve many of the problems associated with this growth, different urban planning approaches are being used in many countries. The urban planning approaches at present could be categorized into two major groups: the traditional master planning approach with long term planning (20-30 years) and short term specific problem focused approaches, such as strategic and action plans.

In our country the traditional urban planning approach is still on use. The preparation of master plans for urban centers in our country is the responsibility of the National Urban Planning Institute (NUPI) The Institute is engaged since its establishment, in preparing master and development plans for different urban centers. However, most of the plans prepared by NUPI are not properly implementable for various reasons.

In towns such as Nazreth, before starting implementation of master plans, there is a need to prepare a detail plan. The preparation of such detail plans for its part necessitates an organized and efficient institutional capacity, the quality that the Municipality of Nazareth lacks. This coupled with other problems inhibited the implementation of master plans in the town. Among the major problems for plan implementation: financial constraint, absence of trained manpower, lack of legal enforcement of plans, etc, are common. Moreover, as there is absence and/or unreliability of data, especially on matters related to land and buildings, usually plans are prepared on bold assumptions. Hence, the current master plan prepared by NUPI for the town of Nazareth is highly criticized by experts and

officials of the Municipality for being unrealistic. Among the critics mentioned by professionals:

- That the physical plan on the map does not overlap with what exists on the ground and even the plans in different sheets does not coincide,
- As the master plan is prepared on scales 1: 2000 and 1: 5000 it is difficult to locate reference points,
- Since, professionals from the Municipality are not allowed to participate in the preparation of the plan, they are facing the problem of interpretation,
- Some of the proposals of the plan are unrealistic. For instance, it proposes buffer zone along small perennial ditches even within the CBD, and
- Etc.

Therefore, the Municipality is currently looking forward for an answer for a letter in which it requested the Bureau of Works and Urban Development of Oromia Region, to make the necessary arrangements for the revision of the master plan.

## 4.3 SURVEYING AND MAPPING

Cadastral maps are produced from the actual ground survey results. Mostly, maps on scale 1: 2000 are used for cadastral purposes in urban areas. In most cases these maps are used as important legal document in cases marks on the ground are misplaced. Hence, the aim of cadastral survey is to fix boundaries of land units or parcels.

The town of Nazreth does not have any form of cadastral map that is used to fix boundaries of land units or parcels. Eventhough, some parcels are plotted on the town's master plan (the only map existent for the town), most properties contained in the register are identified by verbal records rather than with cadastral maps that enable to identify every holding as a unique parcel. The master plan exists on scales of 1: 2000 and 1: 5000. Furthermore, the absence of recent aerial photographs to be used as a base for the preparation, this master plan prohibited the appearance of previous property demarcations on the master plan. In addition, the oldness of these aerial photographs is also believed to be source of the other problems associated with the physical planning of the master plan.

The site plan which appears on the certificate that is prepared and given to different real property owners, is not tied or plotted on one general cadastral map. However, some of the properties that are considered important investments of the town are plotted on the master plan. Consequently, with the absence of a cadastral map the Municipality is not able even to know the occupied and vacant plots from the map. The certificates to prove ownership are being prepared on scale 1:500 and each of these certificates are given unique reference number to be identified on the register. In the case of a transfer or sub division another new certificate is being prepared in the name of the new owner, which

will be given new and consecutive identification number. The number of the old certificate will be canceled and stated so on the main registers as a remark. However, as the registration folio is one big record and not systematically organized such as by year, location (kebele & kefetgna), land use, etc, it is not possible to know the exact number of issued certificates.

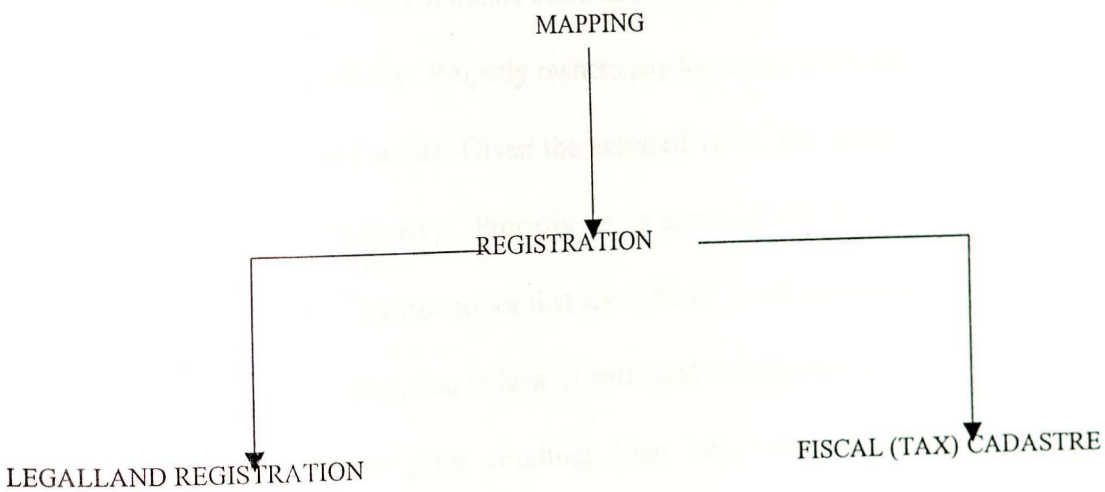
The Municipality is also engaged in the demarcation and monumentation of boundaries. Especially when new plots are being allotted, pillar stones are erected on the corners of the plots to indicate the exact boundaries. Most of the holdings in Nazreth are fenced with stone, which helped for minimizing boundary disputes with neighbors. In this respect, the result of the sample survey showed that only 9 % of the interviewed real property owners said that they have boundary disputes with their neighbors.

On the other hand, the results of the surveying data that is carried out by the technicians of the Municipality for different purposes, such as preparation of certificates, allocation of granted lands, valuation, etc. are not properly stored and easily retrieved. Hence, they remain in the hands of a surveyor who carried out the activity for the time being, and drooped anywhere. Therefore, there is a need to improve the system of storing these data, with adequate indexing and cataloging mechanisms.

The total overhead cost to carry out any surveying activity is not being calculated and known. However, if a task of surveying is necessary for a land and building related application, there is only one fixed payment of 15.00 Birr by the applicant irrespective of the volume of work to be carried out. Surprisingly enough, concerned officials and

experts in the land and building administration section do not know how this fixed rate was determined. It is necessary to base this fee on cost recovery bases by considering major costs such as salary of engineers, cost of equipment, stationary, etc.

Currently, there is a surveying activity being carried out by surveyors from the Municipality to fix control networks at reasonably high accuracy using modern equipments. This activity, which is intended to enable the town the preparation of a base map for cadastral purpose, is technically supported by UDSS-UMSS. The preparation of this base map at the same time allows to mark on the map physical data such as roads, properties, etc., which later serve as the basis for cadastral plans of different properties. A method known as GPS is used to identify the exact positioned height of reference points. Subsequently, the registration structure might follow a pattern:



It provides easy computation system by using computers, which will help to produce also cadastral maps required for registration purposes. However legislation concerned with presentation of such maps be amended. Moreover, officials and experts in the municipality are unaware about the hole purpose and goals of this activity.

## 4.4 REVENUE FROM LAND RENT, BUILDING TAX, AND OTHER LAND AND BUILDING RELATED MUNICIPAL TECHNICAL SERVICES

### 4.4.1 PROPERTY TAXATION

Property taxation is said to be one of the inherent rights of governments over private property. Generally speaking, taxes are payments residents make to government in return for services they get or expect to get. Hence, the major reason for levying different urban taxes is to finance the provision of public services in these areas. That is why property tax is categorized under benefit tax. Property owners pay local property taxes according to the assessed value of their real estate. Given the assessed value, the annual tax is calculated from the imposed tax rate or levy. Property tax is universal and it applies on every one. However, it is among the tax categories that are difficult to administer as assessed values are often disputed. Moreover, due to lack of sufficient information as well as mechanism for taxing the land value gains resulting from investment in infrastructure, land registration, and titling it is not possible to use effectively this source of revenue.

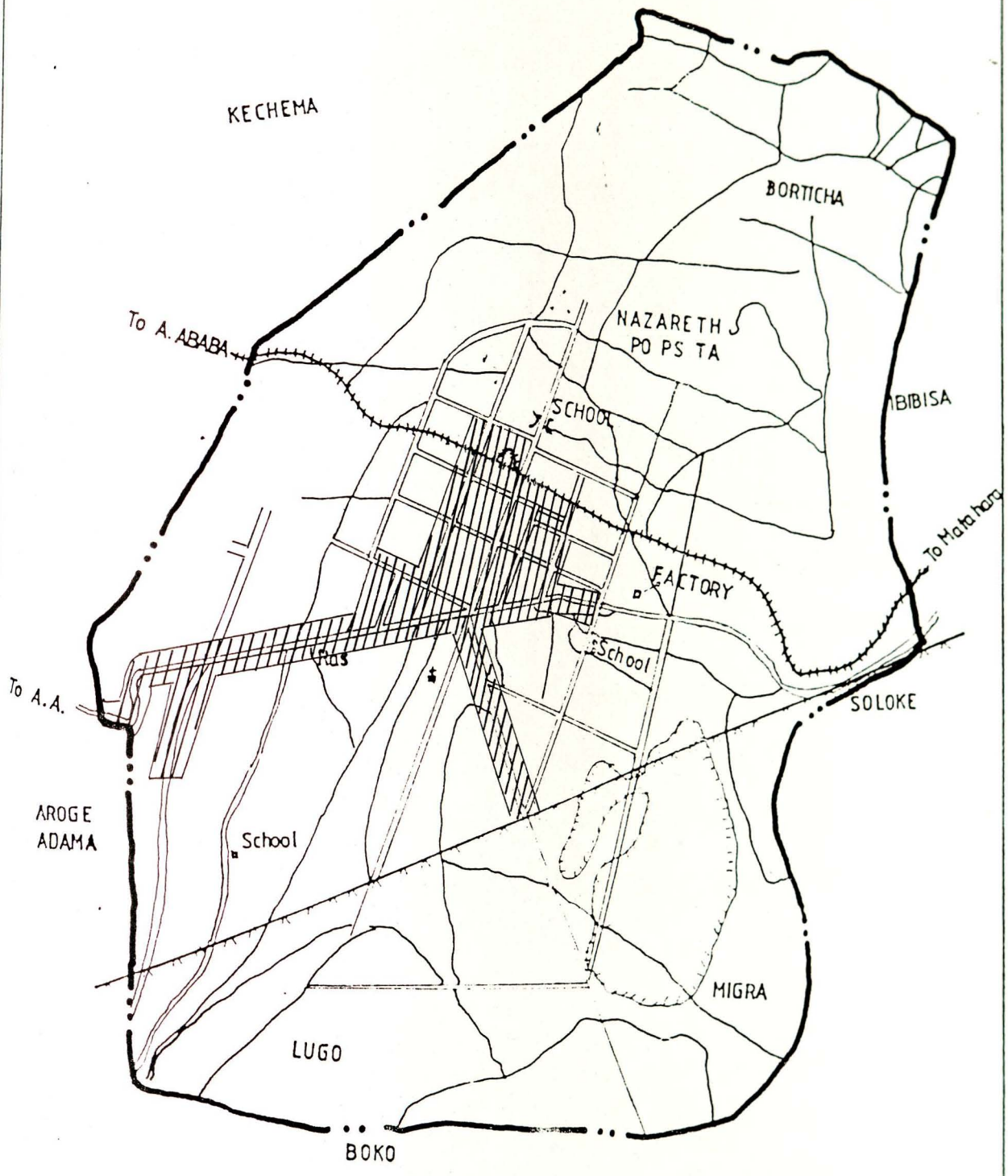
The Municipality of Nazreth, as any other town, has been made responsible for the provision of certain municipal services. Finance is one of the key resources required to

meet its obligations to this end. This resource can come from nowhere other than the town itself. As any other town, property tax, user charges, license fee, income from municipal assets, etc., can be some of the major sources of finance for the municipality.

Land is regarded as one of the basic elements from which municipalities can derive wealth. All lands and constructions (building) may be considered as having values. It is clear that land value benefits in urban areas are associated with public actions such as investment in infrastructure, land registration and titling, etc. The estimation of this value is more an art than a science and depends on many external factors as well as physical nature of the land or property. Subsequently, property tax includes both land and building, related to a certain value established for each property. A property tax is considered as one way of raising the necessary funds from land and its improvements as well as promoting or controlling the use and development of land, since they can be used as a stimulus or incentive for land owners to use their land optimally.

In Nazreth, the property tax is the largest source of tax revenue. Land in the town of Nazreth is categorized into two grades for the purpose of land rent. According to the information obtained from the municipality, only few areas in the town are regarded as grade one, while most of the town's area is categorized as grade two (see Figure No 5). Subsequently, areas included in grade one are composed of plots in "Kebele" 07, 15, 18 and 19. Moreover, plots within 50 meters on either sides of the following major roads of the town are also categorized as grade one;

**Figure No.5 Map showing the classification of Land Grade in Nazareth**



- Addis Ababa- Harar road, starting from the entrance to the town up to the 'Amede' market area;
- Assela road, starting from the post office to the Total fuel station;
- Wonji road, starting from the junction with the Addis Ababa- Harar road up to the 'kebele' 09 office; and
- The road that passes in front of Saint Marry Church, starting from its junction with the Addis Ababa- Harar road (in front of the Zonal Administration Office) up to the corner of the block adjacent to the Zonal Department of Education Office.

All other holdings in the rest of the town are categorized as grade tow. However, eventhough it is not yet being used, presently there is a proposal to categorize land in the town into three grades, by simply considering all the potential plots on the peripheral areas of the town as grade three. But, beyond the above mentioned arbitrary classification, both officials and experts in the Municipality do not have any explanation as to how plots were classified in to the respective grade categories. In other words there is no defined and clear criteria as to how these grades were to be classified. However, at least it was possible to set certain criteria that help to categorize lands in the town on the basis of their infrastructural development.

Taxation on building, which sometimes is refereed as "roof tax" is also part of property taxation in the town. Building tax in Nazreth is levied on the result of an estimated rental value of the building. It is the assessor who is responsible to estimate the possible monthly rental value of the building to be converted to annual possible income from the building. Subsequently, to this annual rental value, a given tax rate is applied to calculate

the building tax. For all the towns in Oromia Region, there is only one group (of tow persons) that travels to all the places and assesses or estimates rental value to taxable buildings.

In the case of the owners of new property and for those who had never paid property tax, usually it is the taxpayer that applies to pay an annual tax for his real property (land and building). Most of the time an application to pay property tax is presented for two main reasons. Firstly, when the property owner thinks that the tax burden or the back tax accumulated for many years will be difficult to pay afterwards and secondly when there arises a need to transfer real property and get registered. When application is presented requiring the assessment of real property in order to pay tax, the municipality registers the application and opens a file. At the same time, for the registration of the application itself, the applicant needs to present evidence showing his ownership of the property. The evidence in this case could be one or the combination of proofs such as, certificate, past tax receipts, letter of support from kebele, etc.

## 4.4.2 DESCRIPTION OF LAND RENT, BUILDING TAX AND AMOUNT OF REVENUE COLLECTED

### 4.4.2.1 GENERAL

Property tax that is land rent and building tax in our urban centers is levied based on Proclamation No. 80 of 1976. As per this Proclamation, land rent will be determined based on the grade of the land, while building tax shall be based on the estimated rental value of the house. On the other hand, this Proclamation under Article 14 lists holdings to be exempted from rent and tax. These are:

a) Public roads, squares, recreation and sport centers and cemeteries,

b) Places of worship and their compounds, non-profit making private schools, hospitals, charitable institutions, recreation and sport centers,

c) Government institutions drawing their budgets from the Central Treasury, and

d) Dwelling houses whose annual rental value is less than $300.00 are exempt from tax.

Inspite of the fact that it lacks completeness, the record on land and building tax is up to date in Nazreth. Since, the record is revised each month, one can easily identify the status of payment of each property owners. There are three employees assigned to undertake this activity, one for each 'kefetgna'. Accordingly, data from this record reveals that there are a total of 10,500 known and registered land rent and building taxpayers in Nazreth. Of these registered property owners, only 4,461 or 42.5 % have completed the tax required of them including for the year 2000. The rest 6,039 or 57.5 % are known as owners with back tax or tax burden. However, from those who completed their tax up to 2000, there may be owners who are not paying building tax for the fact that their building is not yet assessed. On the other hand from those that are refereed as non payers, there are holdings that their back tax ranges from few years as well as many years such as twenty years, the table on Annex D will help to clearly grasp the performance of property tax administration in the town. Consequently, the sample survey result also shows that from amongst the total interviewed property owners 60 %, 25.71%, and 14.20% respectively have back logs of one, five and more than five years of both land and building taxes. On the other hand, as it is stated above, because of their property not being assessed (building) some of these registered property owners (23.81%) do not pay building tax. Most of these owners

expressed that they were willing to pay building tax, but they are told to wait for the assessors to come and estimate the rental value of the houses.

All the owners who uses the land either for residential or establishment purpose are expected to pay property taxation. As it is shown on the Table No.8 out of the registered property owners 94.19 % are residential and 5.81 % establishments. The percentage of registered establishment owners seems very small for a town of this size where one can easily observe the abundance of commercial land uses or activities. From the same table it is possible to observe that tax in arrears on these registered property owners between 1974-1999 amounts to 2.5 million Birr. Hence, the municipality expects a total property tax amounting 4.5 million Birr including the basic tax for the year 2000, which amounts to 2.0 million Birr.

### 4.4.2.2 LAND RENT

Most scholars agree on that, especially in urban areas property taxes are essentially concerned with improvements to the land. Therefore, in urban areas land taxes are generally based upon its valuations. However, eventhough land is the basic development resource for towns such as Nazareth, due to the insufficiency and absence of basic information, its valuation is difficult. The formulation of land valuation method seemed unthinkable even at country level. Hence, land rent is simply paid based on its area and location or grade of land. Until recently, land rent in urban centers of Ethiopia was based on Proclamation No. 80 of 1976. Thus, property owners in urban areas are expected to pay property taxation on a yearly base for the respective city council, municipality or city administration. Accordingly, the listed tariff for the land tax for residential purpose in line

with the grade of the zone where the parcel is located and land rent for business purpose is given below on Table No. 11 and Table No. 12 respectively.

Table No. 11 The Rate of Land Tax for Residential Purpose

| Area in square meter | Tax rate (in Birr) by Grade of the Zone | | |
|---|---|---|---|
| | 1st | 2nd | 3rd |
| Up to 500 | 0.06 | 0.04 | 0.02 |
| 501-1000 | 0.08 | 0.06 | 0.04 |
| 1001-1500 | 0.11 | 0.08 | 0.05 |
| 1501-2000 | 0.13 | 0.10 | 0.07 |
| Above 2000 | 0.16 | 0.14 | 0.12 |

Source: Negarit Gazette, 35th Year, No.-25, Addis Ababa, 1976.

Table No. 12 Rate of Rent Payable on Urban Land Used For Business.

| Area of Land | Rate of Rent on Land in Different Grades | | |
|---|---|---|---|
| | 1st | 2nd | 3rd |
| | up to 0.06 | up to 0.04 | up to 0.02 |

Source: Negarit Gazette, 35th Year, No.-25, Addis Ababa, 1976.

These were the rates used to serve as legal bases for levying land rent in urban centers of Ethiopia. It is surprising that according to these rates the land rent payable for residential use is more than that of land rent for business use. The recent improvements of the rates by the Oromia National Regional State, which is supposed to be based on the decentralization processes going on in the country and the power of regional governments, do not change this situation. The decree only increased all the previous rates for land rent

and building taxes three times (300 % increase). Accordingly land rent in Nazreth is paid as follows:

I) If an individual have an 800 sq. m. land which serves a residential purpose in the first grade zone, the annual land tax will be:

(500 * 0.06) + (300 * 0.08) =30.00 + 24.00 = 54.00 Birr

ii) If this 800 sq.m. of land is used for business purpose and the land being in the first grade zone, then the annual land tax will be: 800 * 0.06 = 48.00 Birr. This particular example indicates that land rent for residential use is higher than that of business purpose.

iii) If the holding is serving both as residential and business, the land tax will be levied on the basis of the use on the certificate. That means even if the parcel is used for different purpose other than stated on the certificate, the client is asked to pay on the basis of the use on the certificate.

iv) Land allocated for the purpose of religious activities, hospitals, schools, and governmental agencies are not paying taxes.

v) A land tax for the purpose of temporary uses such as garage, producing building materials (blockets), loading and unloading activities, etc., are paying taxes on the basis of the following rates.

up to 2000m2 = 1.00 Birr per square meter

from 2001-2600m2 = 1.20 Birr per square meter

from 2601-3300 m2 = 1.40 Birr per square meter

3300 + = 1.60 Birr per square meter

It has been already discussed that there is no clearly set method or criteria at a national level for the classification of land in different grades. However, until recently there were only two grades of land in Nazreth used by the Municipality (see Figure 5).

### 4.4.2.3 BUILDING TAX

The building tax is levied on the result of the assessment made on the site, based on the existing conditions of the building. The information obtained from the Bureau of Works and Urban Development of Oromia, an institution that is responsible to the valuation of buildings in all urban centers of the Region for building tax, reveals that for the process of valuation focus is made on the conditions and construction materials for the base, wall, floor, roof, and ceiling of the buildings. In other words the age and type of the building materials will be considered for determining the rental value and impose the building tax. Even this estimation is highly dependent on the experience and the judgment facility of the assessor. Proclamation No. 80 of 1976 provides the basis for the taxing of urban houses based on their annual rental value. Progressive taxation system is applied in the building tax. These values and rates are listed on Table No. 13.

Table No. 13 Schedule Showing the Rate of Tax Payable on Urban House

| Annual Rental Value of the House in Birr | Tax Rate in % |
|---|---|
| Up to 600.00 | up to 1% |
| Above 600 up to 1200.00 | up to 1.5% |
| Above 1200 up to 1800.00 | up to 2% |
| Above 1800 up to 2400.00 | up to 2.5% |
| Above 2400 up to 3600.00 | up to 3% |
| Above 3600 up to 4800.00 | up to 3.5% |
| Above 4800 up to 6000.00 | up to 4% |
| Above 6000.00 | up to 4.5% |

Source: Negarit Gazette, 35th Year, No.-25, Addis Ababa, 1976.

Thus, after the building is assessed according to its different parts to reach to its rental value, this will be multiplied by the rate to obtain the amount of building tax to be paid. It has been tried to indicate that the assessment of buildings is the responsibility of the Oromia Works and Urban Development Bureau. However, there is only one group of two persons assigned for this activity for all urban centers in the Region.

Attempt was made to find the percentage of building taxpayers in the town, however, as it is the case with land, there is no registration of total house owners in the town. The only registration of land and building owners is that which is found in the section of property tax. This section has already registered only 10,500 property owners (see Table No. 8) and due to complications in registration it was not easy to classify these owners into land or/and building tax paying and non paying groups. However the result of the sample survey shows that 76.19 % of owners are paying building tax.

### 4.4.2.4 TECHNICAL SERVICES

There are different land and building related services that are provided by the Municipality of Nazreth, which, at the same time, are considered as a source of revenue also. However, as the rates for many of these services were established long time ago (1971), in some cases the revenue to be collected from these services even does not cover the cost of provision. The technical services rendered by the municipality in of Nazreth include the following.

- Transfer registration
- Provision of certificate of ownership to land
- Allocation of land

- Plan agreement for construction of buildings
- Registration of mortgages
- Assessment and valuation of buildings.

The procedures as to how these services are provided has already been discussed on the preceding pages. Here, focus is given to the amount and ways of collecting revenue from the provision of these services. By rendering the above services, the Municipality fetches some revenue. Among the types of revenue collected from these services the following are the common ones.

- For the application of transfer registration due to sale or gift of a house, the buyer is expected to pay 2% of the assessed value of the house to the Municipality;
- For the application of transfer registration due to inheritance, the inheritor pays 1% of the assessed value of the house to the Municipality;
- During the construction and maintenance of a building or fence, plan agreement from the municipality is obligatory. For the approval of plan and building permit of a building or fence, payment of 3% of the estimated construction cost is necessary. However, this does not apply to constructions on land obtained by a lease agreement from the municipality.
- An applicant for a land for residential purpose that is less than 200 $m^2$ will pay 100 Birr for application registration.
- For any application that requires the involvement of a technician from the Municipality to perform duties such as field visit, assessment and valuation, surveying and measurement at the field and office, etc., 15 Birr is paid under the title 'engineering service payment with the application.

- For the registration of mortgage an applicant pays 100 Birr. This payment until recently was based on the amount of loan, that is 0.50 Birr for each 100 Birr of loan.
- An applicant to receive new certificate of ownership for the lost one is made to pay 41 Birr.
- For boundary monumentation with stone 2 Birr is payed per stone.

Efforts were made to find the amount of revenue collected as a result of rendering these services in different years in order to analyze the trend, but as there were no an up to date and classified registration of these revenues, it was not possible to do so.

# CHAPTER V

# PROPOSAL FOR AN IMPROVED CADASTRAL SYSTEM

## 5.1 GENERAL

Prevailing high rate of urbanization, which is mostly manifested in higher growth of urban population and its expected continuation, are to aggravate the problem of urban land use from time to time. In many of the urban areas of third world growth of cities are irregular, uncontrolled and often resulting in growth of slums. As a result urban plannings in these countries are not very successful most of the time. Successful planning without having sufficient knowledge and information about the base, the land itself, is unthinkable. Moreover, it is usually not enough to posses a general knowledge, but what is required is more detailed specifics regarding land use: as to who owns it, who occupies and works on it, what is the pattern of land use, in general an efficient land information system is very much needed.

Because of the above fairly obvious reasons, the need for land information system has become an urgent necessity. A land information system is a tool for legal, administrative and economic decision making and could also be used as an aid for planning and development activities. It consists on the one hand of a data base containing spatially referenced land related data for a defined area and on the other hand of procedures and techniques for the systematic collection, updating, processing and distribution of the data. Therefore, many cities are currently considering GIS as a vital tool in their strategy to improve the quality and control of urban planning and management. Land registers, tax registers, building registers, population data, physical planning and development control

need current information about geographic location. A parcel based system, which is the basic unit of a cadastre, seems to offer many advantages for the undertaking of these different tasks. A cadastral parcel is a tract of land, have a particular tenure, is closed line of boundaries, will have a unique identification and ofcourse will have a legal status. Information concerning ownership and other land rights, land use, land values, land development, etc can naturally be attached to parcel of land.

It is obvious that in urban areas most of the human activities are very meaningfully linked to land. Land is the starting point for all settlement development and it provides the physical location for shelter, commerce, industry, transportation and other public services in an urban area. In recent decades with the new technological opportunities, collecting, storing, analyzing and integrating volume of land based information using computer programs has become a possibility. Digital mapping and storage of data in a database will probably be introduced more and more as techniques in development of cadastre. Such a system will help to have both alphanumeric and graphical data. Thus, spatial data will be available in the form of both vector and raster data.

Having this in mind, in the following section a proposal is suggested by focusing on technical aspects of a cadastral system. Thus effort is made to indicate some of the important points to be considered before establishing the system. However, this proposal could not go in detail about every aspects of the system, but tries to indicate major factors of the system that need attention and general rules for steps to be taken during applying new system development.

## 5.2 FACTORS TO BE CONSIDERED

### 5.2.1 MAJOR PROBLEMS TO BE SOLVED

It has been tried to mention some of the problems, which results from the absence, or inefficient land related information in urban areas of many developing countries, in the previous chapters. Thus, the non-existence or the non-functioning cadastral system is believed to be the general problem, which lead to the initiation of this research. But, even if, lack of proper land information system is common to most developing countries, the problems associated with it and the reasons to establish an information system may differ from country to country as well as from city to city. Accordingly, the main problems and reasons which iniciated the need for establishing a cadastral or land information system apart from the general problems were:

a) Applicants to the Municipality whose cases are related to land and buildings are not usually welcomed and treated positively. The following are some of the major problems encountered by residents.

- When an individual wants to sell his house and applies for registration of transactions he will not be treated properly, which encourages illegal dealings in this respect.
- An applicant faces problems in procedures related to building permit and maintenance. Even if he gets the permission to build and maintain his existing building, it is mostly with problem.
- When owners of land and house apply for title to prove their ownership or when they apply for the updating the status of their property they do not get quick and

fair solutions. It is clear that an urban land without ownership title could not be developed, can not get loan from the banks and etc.

- Land disputes could not get quick and legal solutions or sometimes even they are beyond the administrative and technical capacity of the Municipality.
- As all properties are not listed and appraised objectively, there are many property owners not paying taxes. This is especially seen in the case of building tax where owners are willing to pay tax, but as the assessment procedure is time taking are discouraged from doing so.

b) In the town, squatter settlements or illegal construction are growing alarmingly. Most of the time the solution practiced by authorities is only "bulldozing", but in case of Nazreth, due to the organized resistance of the squatters, even this was not possible. It is believed that one way of combating illegal settlement is by ensuring the efficient and equitable legal procedure of allocation of urban land.

c) Due to lack of sufficient information, it was impossible to plan and implement development projects. Moreover, separate departments and organizations are operating entirely without co-ordination in collecting information. This will result, among other things, in misinformation. For instance, the researcher of this paper faced a problem as a result of receiving two different informations about the land allocated by lease in the town of Nazareth, one from the Municipality and the other from the Planning Department.

d) Another area, which gives impetus to the initiation of the cadastral system, is the inadequate collection of property tax. The magnitude of the problem in this respect was shown on the previous sections of this paper.

In general, the problems encountered by the population regarding land and building were manifested through deliance and poor economic development, retardation of growth and standard of living, discouraging development investment and in creating inconvenience to individual applicants in matters related to land and buildings. Therefore, the non-existence of effective cadstral system in the town was manifested among other things through these problems, faced by the inhabitants and the Municipality.

### 5.2.2 GOALS TO BE ACHIVED

For a workable and efficient cadstral system it is important, right from the start, to determine the purpose the land or cadstral registration will serve. A common proverb supporting this idea reads " if you do not know where you want to go, you will probably end up somewhere else". Therefore, it is important to define the purpose of establishing the system clearly at the beginning.

As it was already described in the previous section, the problems, which arise as a result of lack of land related information or nonfunctioning cadstral system, are many. Generally speaking, it is possible to note that the purpose or aim for establishing this system could emerge from these problems. Hence, shortly the purpose of establishing a cadastral system in Nazreth will be giving solutions to the problems faced by the population as well as the Municipality.

Generally the purpose and aim of improvements of the cadastral and registration system would result in the following immediate and long-term benefits:

- To create a more fair and effective land taxation system.
- To bring about more secured feeling of ownership of land.
- To encourage capital investment through bank loans and other credit institutions.
- To minimize to the lowest possible means the time and cost factors in the operation of the system.
- To create a better land record system in order to facilitate adequate data for carrying out land reforms and better control of land administration
- To guide properly urban development programs and land use policies concerning land division, land ownership, land management, land transfer, and land information system.
- To establish a multipurpose land information system.
- To increase the revenue of the municipality by levying taxes on non-payers.

The purpose and aim of the cadastral system should also serve as a deciding factor on the level of sophistication needed. The legal registration of land and issuing titles is believed to be the more comprehensive system and benefit both the municipality and residents of the town.

## 5.2.3 ECNOMIC ANALYSIS

### 5.2.3.1 IDENTIFICATION OF PROBLEMS AND ALTERNATIVES

The introduction of cadastral system requires justifiable preassessment of the existing conditions and timing as reviewed above. Due to current financial constraints the existing system have to be improved gradually. In the identification of the problem the followings have to be considered.

- The need to improve land policy, especially those related to cadastre.
- Lengthy legislative procedures and its consequences.
- Old ineffective legislation acts and its impacts.
- Conflicting land legislations and its impacts.
- Coordination between departments and organizations in land utilization and land policy implementation.
- Assessment of lack of revenue due to faulty or non existence of cadastral system, hence to have the cost-benefit analysis.
- Assessment of the required resources (finance, personnel, technology, etc.) and available resources so as to know the additional requirements.
- Lack of necessary resources, skill and technology.
- Public awareness (education) to avoid resistance to change.

The gradual approach in implementation has wide acceptance. At the initial stage the low-cost project planning is preferable within the limit of financial potentialities. The gradual approach is preferred because of the following specific reasons:

- Limited resources and no likelihood of getting so vast resources for immediate change.
- Time required for training and installation of hardware and software.
- Promote public awareness.

### 5.2.3.2 ACCOUNTING FUTURE BENEFITS

In considering the future benefits of the system possible economic and social outcomes have to be analyzed by making use of the cost-benefit analysis and the discounting factors. Below, future benefits and cost-benefit factors are outlined:

Benefits

- Better security to landowners, as legislation will back the system
- More steering control for government for taxation, fair valuation, planning, etc.
- Better land reform possibilities and hence improvement in production.
- Better guidance for urban development and land use programs in relation to ownership, management, subdivision, etc.
- Better investment and development due to extended bank credits, loans, etc.
- Easily understood and accepted since formalities in registration, subdivision would decrease and as a result will become cost and time saving.
- Higher degree of accuracy and actuality in mapping and information so as to reduce chance of disputes.

### 5.2.3.3 DISCOUNTING FACTORS

Overall costs and outcomes of the program have to be calculated over a longer period of time in comparable variable items and then discounted to present values as proportions of the real cost of capital. The cost and benefit items have to be identified first thus:

**Cost**

- Hardware/software
- Training and technology
- Public mobilization and awareness
- Reorganization of the existing structures (administrative costs, etc)

**Benefits**

- Better taxation and revenue
- Land reclamation
- Improve time constraints, which will mean decrease in cost
- Better investment, more profitable uses and better returns

On the basis of these items qualifiable criteria can be developed and the cost-benefit analysis be calculated.

### 5.2.3.4 ANALYSIS OF CONSEQUENCES

The development of the cadastral system helps:

- The establishment of more efficient and equitable system for levying land and property taxes but needs amendment on land law.
- Consolidate or readjust land holdings for better land use and launch development programs since an inventory of the existing land use can be made available.
- Create a useful tool for the execution of financial investment for development purposes through increased bank loans and credits.
- The production of large-scale maps that serve as a basic land information system.
- Well-defined and identified boundaries will reduce boundary disputes.

The ordinary people will have an advantage since the system will help people to get more secured land rights thereby making it easier to get loans by which they can become more productive. Financial institutions like banks and insurance initiations are also at an advantage because they lend out more money against secured titles. As a result they can make more profits. Different authorities and organizations including the Non Governmental Organizations can share the benefits of the system. Organizations like revenue departments, survey department, etc, are in a position to benefit from accumulated data for their actual and related tasks. Above all the Municipality is the main beneficial. Among the benefits of the system for the Municipality are:

- More steering control
- Minimize disputes related to land
- Better tax and revenue collection
- Improved physical planning, management leading to better land reforms which will in turn reduce time and cost for administrative procedures.

The introduction of modern surveying instruments (EDP) will eventually entail computerized data processing system. At this stage the manual records presently organized in the form of books, cards, maps and folios would be organized in such a way that:

- Scrutinize data and disregard not required
- Copy down the data to be reproduced in the system
- Develop a program for data processing
- Process the data for check-in purpose
- Over and above all the procedure can be accomplished at one place.

However, continuous approach as to how to choose an appropriate technology should be developed before hand. The most important qualities to be regarded in hardware/software vendor will include: choice of the system to be used, capacity, documentation, training, guarantee, maintenance, and background history of the vendor.

## 5.2.4 LAND REGISTRATION, CADASTRAL SURVEYING AND MAPPING

Land that is registered is easier to transfer and therefore more salable. It can also be important source of revenue to the Municipality. Once facts are recorded and individuals are given titles or documents, land will be bought and sold with fewer obstacles and helping the phase of development. This is possible with the system set up to issue documents quickly and efficiently. On the other hand, more people get access to credit as they could produce the documents they need for collateral. Land developers also will benefit from an efficient land registration, because it reduces their transaction cost.

The most expected output or outcome of the system is the cadastral map and cadastral roaster. In the previous chapters it has been discussed that loosely applied, cadastral map refers to any map on scale specially a large-scale map, to show every field or plot of land. This map should be sufficiently accurate for exact boundaries and the ownership of real property (cadastre) to be shown. The urban land use system in our towns including Nazareth is very dynamic in space and time. Therefore, a system that records and presents the urban mutation, need to be established in the town. The documents containing cadastral data could be compiled at parcel, block, Kebele, woreda and the town level. Thus, every information can be refereed to wereda, kebele, block, parcel number and housing number at all levels. The morphology of the town of Nazareth is believed to be suitable for the application of this mode of capturing and retrieving data.

The experience of other countries in urban land registration shows, that the land registration process involves two major steps. These are:

1. Identifying the location and boundaries of parcels.

2. To document the legal rights associated with

Administrative boundaries (wereda and kebele) including blocks parcellation of blocks and plots could be identified and prepared during data entry phase. For this purpose an updated topo map is needed. Currently the preparation of this base map is underway with the help of computer aided surveying technology.

The graphic file name and the data base file names should be kept the same. In other words DBF (Data Base File) and GF (Graphic File) name will have a one to one correlation. The following approach could be used as DBF name and GF name:

**W Wereda Number**

**K Kebele Number**

**B Block Number**

**P Parcel Number**

**H Housing Number**

For example, **W** 20 **K** 30 **B** 10 **P** 13 **H** 234 is a single identifiable housing unit for which the data base file is expected to reveal all gathered socio-economic, lands information and housing condition data. Thus, both alphanumeric and graphical data are stored in a computer for an efficient and reliable system establishment.

The process of improving the existing system in Nazareth should opt for the title registration as a compulsory system, which is now used only on voluntary basis. Besides, the record in the register and the cadastre map should properly compliment each other.

All land registration operations should be carried out in coordination and cooperation of all other concerned organizations and agencies. It is also necessary to establish one comprehensive cadastral system for the entire urban area embracing both the central and peripheral areas. However, the implementation process should be designed on the basis of phase-out program starting with smaller areas so as to cover the whole town eventually.

The unit of registration should a parcel to which a unique identification number will be designed by which it can be easily and clearly identified. Thus, it can be integrated into the legal land registry.

The procedure to establish the cadastral system should start with collection of data of the existing system, which will include basic facts, definition of goals, methods, employed in mapping, demarcation, registration and forms of land register. This could be followed by problem identification and assessment and cost-benefit analysis.

The register should be constantly updated which will consist of the following actualities:

- parcel number
-location
Name address
- area
- land use
- valuation
- encumbrances
-boundary map
- reference number to index cadastral map
- data of registry

The main design of the register book should contain:

- The property section
- The ownership section
- The encumbrances section

The register should be prepared in such a way that it can be easily manipulated and can be kept in a retrievable manner. Reciprocal connections between records and maps should be checked and rechecked to avoid simple errors in entry. Responsibilities should be well defined and observed. Continuous smooth data flow between the concerned organizations should be maintained.

The introduction of automation in the cadastral system implies a great amount of financial input to facilitate the necessary manpower and equipment. The desire to build up automated system all at a time is undesirable and unattainable for towns like Nazareth because it is simply an additional burden to the expenditure. Introduction of automation is, of course necessary, but need be planned on phased basis.

The aim of cadastral surveys is to fix boundaries of land units. For this purpose a wide spectrum of surveying methods are in use. Therefore:

- The coordinate method of survey is preferred against the old method of chaining and plane table survey.
- The coordinate method gives more accuracy.
- The coordinate method provides fixed boundaries and in some cases natural boundaries can be used too.

- It provides easy computation system by using computers, which will help to produce also cadastral maps required for registration purpose. However, legislation concerned with the presentation of such maps be amended.
- Control networks must be fixed at reasonably high accuracy and expanded in densely settled areas.

The cadastral system is a parcel-based information numbering system. The system should consist of records and maps which would enable to show not only property ownership but also all related information about the parcel of land that is used for better management of the land.

Large-scale cadastral maps are important for the new system with the following main features:

- Maps show fixed boundaries representing actual ground boundary lines with monuments or pegs. The coordinates shall be in the same system as in the national trigonometrical points. Photogrammetrical and orthophoto maps can be used for the purpose.
- The cadastral map should show boundary parcel numbers, map reference number and other related to property and public utility such as houses, telephone lines, water and sewer-lines, power lines and roads.
- With regard to actuality, size and shape

- The map shall be produced mainly using photogrametric techniques. The system should design a continuos feedback system for map updating process, supplemented by constant ground survey works to ascertain actuality.

Therefore, parcels should be identified by numbers including other particulars like area, location, etc. If alterations have been made to the original parcel new registration number can be coded related to the parent parcel number. Nonetheless, the parcel numbering system should be least confusing, easily understood and easy to maintain. Manageable size and shape of the map is always preferable, the determinant factor of which is the scale to be used. Calculations and plotting activities from the ground survey data could be done both manually and by employing EDP system. For more efficiency analytical plotters and total station devices can be added to the system as required.

Public utility maps should be accurate enough to meet the intended objective and satisfy land-use planning. For this normal photogrametric methods of production are adequate enough to show utility patterns on the ground surface.

# Chapter VI

# CONCLUSION AND RECOMENDATIONS

## 6.1 CONCLUSION

While preparing national economic and social development policies governments should pay systematic attention to the positive role that urbanization can play in economic and rural development. Similarly, an explicit and well-formulated national policy which relates problems of urbanization and urban settlement to goals of national development is needed. In our country, the Federal Government has not yet issued legislation governing municipal and local governments, which is an indication of inadequate recognition to urban growth. For the preparation of an adequate development policy framework and other explicit urban related policies, an up to date information is a necessity. Thus, for the formulation of different urban development policies that recognizes the positive and negative effects of urban growth in line with the overall national development plans, the need for information is essential.

A cadastre is an official public record usually maintained to register the ownership right of land in a given jurisdiction, state or country. The cadastre as a public register of the quantity, value and ownership of land, has its roots in antiquity.

Cadastral information is not merely maps. Instead, records include, key facts about properties, such as physical characteristics of land and buildings, owner's names, assessed values, amounts and holders of mortgages, and property taxes. Cadastres are of different

sizes and natures, they use different methods and technologies and they are meant to perform different functions.

Surveying individual property and registering title are activities of limited value if they do not represent an integral part of the process of producing a cadastre. Well functioning cadastres/land information system can be useful for management of land information, assistance in setting land policies and land based tax policies, co-ordinating efforts of different agencies, in a broader sense, the improvement of urban management. But it is important not to make cadastre to embrace information more than can be handled at the beginning.

An efficient cadastral system can be used for different purposes, namely:

- Management of land information,
- Assisting in setting land policies and land based tax policies,
- Provision of resources local governments,
- Coordination of efforts of different agencies,
- Planning for urban development,
- In a broader sense, the improvement of urban management.

It is evident that urban land management is one of the tasks to be given proper attention by urban administrators. Land is a basic natural resource, which today especially in urban areas, has reached a stage of scarcity as a result of rapid urbanization. However, an economical and efficient utilization of this resource is to be given priority. This calls for a systematic planning and management of the land. Although the precise causes of planning

failures are a subject of considerable debate, lack of accurate and up-to-date information about the land and properties related to it, are the major obstacles to effective urban planning.

To manage cities efficiently, authorities need data on the population and development trends, as well as housing types and densities for various sections of the city. Therefore, land information should incorporate geographical land information. Now a days the information obtained in cadastres are being used for urban planning and land management. This calls for bringing together the information that exists in cadastre and land register, in land information and management system, in land use maps and zonation maps, etc. to be and utilized in a more coordinated fashion.

Urban planners and administrators must deal with an accelerating growth and rapid alteration of cities and consequently there is an increasing demand for urban data, which must be produced quickly and at short intervals. The growing demand for increasing complex spatial data requires an appropriate management system for their collection, processing, presentation, storing and distribution. These are known as "Geo-information System" (GIS) or "Land Information System" (LIS). They are important tools for legal, administrative and economic decision-making and aids in planning and development. Thus, many cities including Nazareth are currently considering computerizing cadastral data to improve the quality and control of urban management and planning.

The merits of having an improved comprehensive cadastral system are many. It serves individuals, the society and the state. In short the establishment or improvement and maintenance of cadastral or land information system can prepare the ground and facilitate the proper and efficient planning and execution of development programs.

In light of the above considerations, one of the necessary conditions for improved land management, urban planning and in general urban development is to have an adequate information about land. Thus, the establishment of land information system, which incorporates geographical land information and land tenure parcel oriented information, demographic data and information on buildings could be considered vital for the town of Nazreth.

In line with the objectives of this paper, some of the major problems related to land and buildings are identified and measured. Thus, the problems that arise as a result of the non-existent or inefficient land related information or cadastre are vast and need proper attention. Therefore, the establishment of the system in Nazareth is an urgent necessity. Hence, the town is currently considering the computerization of land information system with the help of UDSS-GTZ. However, the establishment or improvement of a cadastral and land registration system is a complicated matter, which needs the consideration of various factors, some of which are indicated in this paper. It will be important to consider the major factor indicated in chapter v of this paper. For efficient implementation of the proposal the following major recommendations should be considered.

## 6.2 RECOMENDATIONS

In the implementation stage there are a number of important measures to be taken into account in advance for the system to work. Firstly, a central body (in form of department or organization) should be established to coordinate the formation and the implementation of cadastral system in cooperation with and integrated efforts of the present concerned departments/sections. Currently within the municipality the technical department is responsible to deal with land and building related activities. There are two sections under this department, which are the land administration section and the technical section. However, their jurisdictions are not clearly defined as a result there is lack of proper data flow between these sections.

Similarly, change in administrative procedures is necessary for the maintenance of the system. Currently many of the procedures are not time and cost effective. Moreover, the valuation of properties should be based on scientific methods to make equitable and transparent, rather than arbitrary and subjective judgments.

In many respects there is lack of awareness and proper success to available data for many of the potential users. They lack proper exposure and the chance to exploit data that could be available. There is, therefore, a need to purposely publicize some of the basic land information, so that the public and the other potential users are aware of the purpose, benefits and obligatory procedures of the cadastral system.

Training is an essential and integral part of the development of the cadastral system. There is a need for trained manpower at different levels and fields to carry out various

tasks in the system. The training should, therefore, meet the low, mid and high level manpower requirements for the system.

For the development of cadastral system acquisition of modern equipment is imperative. There is a need for the procurement of modern technical devises, of surveying, mapping, data processing, etc purposes. However, the purchase of these devices, maintenance and training costs can be cumbersome hence their acquisition should be planned in phases. Moreover, the choice of cadastre and any land information system should be based on an analysis of inistitutional, economic, financial and technical considerations.

Research is needed for all the issues in cadastre work from the legal, social, financial and fiscal point of view. It requires interdisciplinary approach continuously. Simultaneously, feasibility study and cost-benefit analysis should be undertaken on the basis of alternative cost and benefit computation.

All technical matters concerning cadastre and land registration are immaterial without a proper legal basis for the system. Legislation is essential not only for the installation of the land information system but also for its operation, maintenance and updating. Therefore, the government should act legislation to guarantee:

- Land policy system or develop a system of land records primarily for information uses allowing compensating measures for any error or fraud.
- Rules and regulations governing the procedures for the transaction of land and need be simplified

- Review of existing regulations, particularly those concerning registration of deeds and title and those that cause problems when settlements are arranged.
- Cadastral and survey regulations that would enable gradually coping up with the development of automation and use of modern survey equipment so as they have legal backing and more acceptance.
- Coordination and consolidation of the cadastral system.

## GLOSSARY OF TERMS

**Adjudication**: the process whereby the ownership and rights in land are officially determined.

**Appraisal**: estimating the value of property.

**Assessment**: determining the tax level for a property based up on its relative market value.

**Base map**: a general-purpose map up on which specific purpose maps are based. A base map is usually made with reference to the national geodetic survey network, and plotted in terms of the national coordinate system.

**Boundary**: either the physical object marking the limits of a property or an imaginary line or surfaces making the division between two legal estates.

**Cadastral map**: a map showing the legal property framework of all land within an area, including boundaries, administrative boundaries, parcel identifiers, etc.

**Collateral**: the use of property as a guarantee for a loan.

**Geographic information system (GIS)**: a system for capturing, storing, checking, integrating, and analyzing data about Earth that is spatially referenced.

**Global positioning system (GPS)**: a system for fixing positions on the surface of the Earth by measuring the ranges to a specific set of satellites orbiting the Earth.

**Land**: the surface of the earth, the materials beneath, the air above and all things fixed to the soil.

**Land administration**: the process of determining, recording and disseminating information about the ownership, value and use of land when implementing land management policies.

**Land information system (LIS)**: a system for acquiring, processing, storing and distributing information about land.

**Land management**: the activities associated with the management of land as a resource.

**Land parcel**: an area of land under homogenous property rights and unique ownership.

**Land register**: a public register used to record the existence of deeds or title documents.

**Land registration**: the process of recording rights in land either in the form of registration of deeds or else through the registration of title to land.

**Land tenure**: the mode of holding rights in land.

**Land title**: the evidence of a person's right to land.

**Land transfer**: the transfer of rights in land.

**Land use**: the manner in which land is used.

**Land value**: the worth of a property determined in variety of ways which give rise to different estimates of the value.

**Leasehold**: land held under lease, which is a contract by which the right of exclusive possession of land is granted by landlord (the lessor) to a tenant (the lessee) for an agreed amount of money for agreed period of time.

**Mortgage**: the conveyance of a property by a debtor (called the mortgagor) to a creditor (called the mortgagee) as a security for a financial loan with the provision that the property shall be returned when the loan is paid off by a certain date.

**Real estate**: land-related property.

**Real property**: land and any things attached to the land including buildings, apartments and other construction and natural objects such as trees.

**Registration of title**: a system whereby a register of ownership of land is maintained based upon the parcel rather than the owner or the deeds of transfer.

**Rental value**: the value of a property in terms of rent, which may be derived from it.

**Stamp duty**: a levy charged on the transfer of property.

**Subdivision**: the process of dividing land parcel into smaller parcels.

**Trilateration**: a land survey techniques of determining position by measurement of distance only.

**Triangulation**: lands survey techniques of determining position by measurement of the angles in a series of triangles.

**Valuation**: the determination of the value of property.

Source: Directly quoted from different sources (books)

Annex A List of Questionnaire and checklist Questions Used for the Collection of Primary and secondary Data.

## I. LAND SECTION

1. Name and address of the owner
   1.1 Name of the owner .....
   1.2 Kefetagna..... Kebele..... House No.....
2. Grade of land .....
3. Land and/or building tenure .....
(Private, association, Municipality,RHA,Kebele,Federal,Government,Relgious,etc)
4. Area of the holding in $M^2$ on a certificate or other evidence (specify the evidence)
.....
.....
5. How was the land obtained?.....
(From Government, by contract, Gift, purchased, Leased, Inherited, etc)
6. The year in which the land was obtained in E.C. .....
7. What evidence of ownership do you have?
   7.1 Certificate (title).....
   7.2 House Book.....
   7.3 Without any evidence.....
   7.4 Taxation receipts.....
   7.5 Other, specify.....
8. If you have no evidence at all, what is the reason?
   8.1 Procedural or bureaucratic problems .....
   8.2 No interest .....
   8.3 Not permitted .....
   8.4 No Ownership evidence .....
   8.5 Other, specify .....
9. If you have a certificate, what was the issuance year and its identification number.....
10. If your evidence is a house book, what was the issuance year and who gave it?
.....
11. If your evidence is taxation receipt, what is the last date you paid taxes?
.....
12. How much do you pay for land and/or building tax?
   12.1 Land tax .....
   12.2 Building tax .....
   12.3 I did not pay tax .....
13. Do you have any idea how the land and building tax is being levied? .....
.....
.....
14. Do you have any idea about the purposes of these taxation or why do you pay taxes?
.....
.....
.....

15. Do you think the taxes on land and building are fair enough? .....
.....
.....

16. Have you applied to the municipality concerning matters related to your holding? If yes, when? .....
.....
.....
.....

17. For what purpose did you apply?
    17.1 Transfer of name .....
    17.2 Legalizing ownership .....
    17.3 Additional land .....
    17.4 Changing old certificate .....
    17.5 Change of land use .....
    17.6 Other, specify .....

18. If your answer for question no. 17 is 17.1, what was/is the reason?
    18.1 Purchase (sale).....
    18.2 gift .....
    18.3 Inheritance .....
    18.4 Exchange .....
    18.5 Other, specify .....

19. If your answer for question No. 17 is 17.5, what was/is the change applied for?
    18.1 From residence to establishment.....
    18.2 From establishment to residence.....
    18.3 To combine both uses.....

20. Do you have any boundary dispute with your neighbor?.....
.....
.....

21. Is your boundary properly monumented? Do they exist today? And by what they are monumented ?.....
.....
.....

22. Do you have any dispute on the ownership of the land?.....
.....
.....

23. In general do you get proper and timely answers for your application to the municipality on matter related to land and building? If you have any concrete experience of your own give an example ,about the procedure ,the bureaucracy, time required ,etc.....
.....
.....
.....
.....
.....
.....

## II. BUILDING SECTION

| 1. General Information on the House | | |
|---|---|---|
| 1.1 | Total area of the plot | |
| 1.2 | Age of the main house (years) | |
| 1.3 | Built-up area of the main house ($M^2$) | |
| 1.4 | No. of rooms of the main house | |
| 1.5 | Number of storey of the main house | |
| 1.6 | Area of out door building ($M^2$) | |
| 1.7 | No. of rooms of the out door building | |
| 1.8 | Total built-up area in the compound | |

| 2. Type of The main House | | 3. Purpose | | | 4. Tenure | | |
|---|---|---|---|---|---|---|---|
| 2.1 | Detached Building | 3.1 | Residential | | 4.1 | Owner occupant | |
| 2.2 | Attached Building | 3.2 | Comm/Service | | 4.2 | Rented | |
| 2.3 | Detached ordinary House | 3.3 | Office | | 4.2.1 | From R.H.A | |
| 2.4 | Attached ordinary House | 3.4 | Workshop | | 4.2.2 | From Kebele | |
| 2.5 | Other | 3.5 | Other | | 4.2.3 | From Private | |
| | | | | | 4.2.4 | Other | |
| | | | | | 4.3 | Rent /month | |

| 5.BUILDING MATERIALS OF THE MAIN HOUSE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.1 WALL | | | 5.2 CEILING | | | 5.3 FLOOR FINISH | | | | | |
| 5.1.1 | Mud brick | | 5.2.1 | Fabric | | 5.3.1 | Earthen | | | | |
| 5.1.2 | Mud plaster | | 5.2.2 | Cheepwood | | 5.3.2 | Cement screed | | | | |
| 5.1.3 | Brick | | 5.2.3 | Concrete | | 5.3.3 | Cement tile | | | | |
| 5.1.4 | Stone | | 5.2.4 | Wooden parquet | | 5.3.4 | Timber | | | | |
| 5.1.5 | H.C.B | | 5.2.5 | Board | | 5.3.5 | Plastic | | | | |
| 5.1.6 | Wood | | 5.2.6 | Other | | 5.3.6 | Other | | | | |
| 5.1.7 | Korkoro (Tin) | | 5.4 Masonry Foundation | | | | Yes | | No | | |
| 5.1.8 | Other | | 5.4 Housing Condition | | | Good | | Fair | | Bad | |

| 6. SANITATION FACILITIES | | | | | | |
|---|---|---|---|---|---|---|
| 6.1 | Toilet Facility | | | Yes | | No |
| 6.1.1 | Type of Toilet | Pit | | Flush | | Other |
| 6.1.2 | Condition of use | Private | | Shared | | Other |
| 6.2 | Bathing | | | Yes | | No |
| 6.2.1 | Type of bathing | Bath Tube | | Shower | | Other |
| 6.2.2 | Condition of use | Private | | Shared | | Other |

| 7.KITCHEN | | | |
|---|---|---|---|
| 7.1 | Presence | Yes | No |
| 7.2 | Usage | Private | Shared |
| 7.3 | With in the house | Yes | No |
| 7.4 | Out side the house | Yes | No |

| 8.WATER | | | |
|---|---|---|---|
| 8.1 | Tap(s) in the house | Yes | No |
| 8.2 | In the compound | Private | Shared |
| 8.3 | Public Tap | Yes | No |
| 8.4 | Buying individual | Yes | No |
| 8.5 | Other | | |

| 9.ELECTRIC POWER | | | |
|---|---|---|---|
| 9.1 | Electric meter | Private | Shared |
| 9.2 | Other | | |

| 10. ACCESS (FRONTAGE) | | | |
|---|---|---|---|
| Road width | | Surfacing condition | |
| 10.1 | Less than 4m | 10.1 | Asphalt in good condition |
| 10.2 | 4-10m | 10.2 | Asphalt in bad c |
| 10.3 | 10-20m | 10.3 | Gravel |
| 10.4 | Greater than 20m | 10.4 | Motrable track |

11. Does the house have plan?.....

12. Does the house have a building permit?.....

13. If yes, state the date and number of the permit.....

14. If no, why?
14.1 Procedural or bureaucratic obstacles?.....
14.2 No interest?.....
14.3 Not permitted?.....
14.4 Other, specify.....

## III. LAND AND BUILDING TAX ESTIMATION SECTION

1. Land rent and building tax.

| Area of the land | Grade of the land | land rent | | Estimation of building rent | | | | Rate of building Tax | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Monthly | | Annual | | | | | | |
| | | Birr | Ce | Birr | Ce | Birr | Ce | % | Birr | Ce | Birr | Ce |
| | | | | | | | | | | | | |

2. Sketch of the Holding

Name of the Surveyor_____

Date of the Survey _____

Signature_____

**Principal Questions and Check-List Points**

1. What types of land tenure exist in Nazareth?
2. Are records of land ownership:
   a) Complete in terms of spatial coverage?
   b) Complete in terms of owners?
   c) Complete in terms of rights?
   d) Up to date?
   e) Accessible to the public?
3. How is registration of transaction of real property undertaken?
4. How long does it take to transfer a property formally from one owner to another?
5. How are land rights transmitted through sale, gift or through inheritance?
6. Does the municipality guarantee title to land?
7. What is the procedure to legalize tenure and how is the renewal of title operating?
8. Is the municipality involved in mortgage registration?
9. How the municipality allocates urban land for different purpose?
10. How is the lease system operating in Nazareth?
11. What procedures exist to get a permission to build?
12. What is the procedure and the requirement for land use change?
13. What controls exist over land use? How are they enforced?
14. Is there a method of to register public utilities such as roads, water lines, etc.? If so what kinds of maps are used?
15. Is there some sort of cadastral system in Nazareth? Is it a functioning one?
16. Is registration of land voluntary or obligatory? is registration of land based on parcel identities or maps?
17. What kinds of maps exist in connection with the cadastral and land registration?
18. What technical equipment and facilities are available for surveying and mapping activities?
19. How are boundaries monumented? Are boundaries fully monumented?
20. What methods of surveying are currently being used to determine the location of boundaries? How are survey data stored and retrieved?

21. What scale of fees is currently charged for cadastral surveys? On what basis are the fees assessed and do they relate to the true overhead cost?

22. How are land parcels numbered? How are sub-divisions numbered?

23. How is the tax on land and building levied? What is the legal base for property taxes?

24. What information is needed to assess taxes on land and building? What evaluation policies exist and what methods are used for land valuation and appraisal?

25. What are the reasons that require valuation of land and buildings?

26. How is the tax on transfer of real property being levied and collected?

27. Is the existing municipal management capable to implement and monitor a land information or cadastral system?

28. What are the present levels and skills of manpower involved in land information system?

29. What policies related to urban land currently exist? Are they being implemented? What mechanisms exist to monitor the implementation and consequences of land policies?

30. What criteria exist for the classification of urban land in to different grades?

Annex B The Translation of Minilik's Law Granting Security of Tenure

*Article I*

I, Minilik II, Emperor of Ethiopia, have authorized my country men and foreigners, for whom 1 have given a special law, to buy land in the town of Addis Ababa, but they must not transgress this law.

*Article II*

The Government shall assess the amount of money to be paid for a certain area of Government land depending on its value.

*Article III*

Individual holders may sell their holdings in accordance with the provision of this law.

*Article IV*

All measurements of land shall be square meters. A square meter shall mean an area of land one-meter long by meter wide.

*Article V*

Any person purchasing land shall have its size and value assessed by the Government representative (Meslene) and mapped by an engineer.

*Article VI*

A copy of this map is to be given to the Government to be included in the Addis Ababa map, and shall be called the cadastre of Addis Ababa.

*Article VII*

The delimitation of borders, the determination of prices, and the measurement of a piece of land shall be done by two engineers, one of whom, and preferably both, must be employees of the Government. They shall survey the land and have it registered. The remuneration of such engineers shall be met by the Government.

*Article VIII*

If Government land is bought, the purchaser shall cover the expenses of the engineer; in other cases the parties must agree as to who should meet these costs.

*Article IX*

The Government representative is given the power to determine the value of the land in order to facilitate its sale. The Government has also given permission to the buyers to pay their debts in installments, but has the right to fix a closing date for such payments. If by that date payment is not completed, the Government may confiscate the land, paying back the owner without interest the money received from him.

*Article X*

The Government shall issue a certificate of purchase to persons who have bought land so that they may make use of it in accordance with the provision of this law. They can not, however, obtain such a certificate until they have completed their payment and unless they abide by the provision of this law.

*Article XI*

A copy of the certificate issued by the Government is to be kept in the register, with the following particulars: 1) Its number 2) The name of the seller of the land 3) The name of the buyer of the land 4) The size of the land and information of any kind of property on it 5) The boundaries of the land 6) The name or names of neighbors 7) The name of the locality 8) The price of the land 9) the date of sale.

*Article XII*

The certificate shall bear the seal of the Government. The fee for this seal is $ 10.00 and 1% of the land is also to be paid

*Article XIII*

When individuals sell or buy land, it shall be done in the presence of a government representative and two witnesses who must sign on the certificate.

*Article XIV*

When individual sale land to each other, the sale shall be recorded in Government registers and shall bear the official seal. In accordance with Article XII the fee shall be fixed at $10.00 plus 1% of the price.

*Article XV*

If the seller and the buyer agree between themselves to state a false price in order to deprive the Gov't of its share the buyer shall be liable to pay four times the amount initially due to the Gov't. The seller and witness shall be the buyer's guarantors. No one may be penalized, if the crime is not discovered with in two years.

*Article XVI*

Foreigners and foreign companies may buy land in accordance with the law, but such land may not exceed 10 hectares though the Gov't has the right to increase this if it so wishes. Any person who violates this law will be heavily penalized. The Gov't can confiscate the land, merely by refunding the purchase price.

*Article XVII*

If with in 25 years an individual sells at a profit, land purchased from the Gov't he shall give the latter one third of the profit. Any one violating this Article shall be liable to the penalties specified in Article XV of this decree

*Article XVIII*

If land purchase from the Government is sold before completion of payment the buyer and seller shall notify the Government who shall complete the payment. Such agreement shall be recorded in the Government register.

*Article XIX*

Liabilities to the Government in respect of land i.e. purchase money and tax have priority over any other payments.

*Article XX*

If the purchases of the land has paid the full amount of money and has fulfilled the requirements for a certificate, he can do whatever he wills with the land. He may sell it, in whole or in part, transfer it or use it as guarantee to borrow money. If he sells land in a city, the area of the land sold shall not be less than 400 square meter.

*Article XXI*

The size of present holdings of land shall continue as they are, but henceforth land should not be divided except in accordance with the provision of this law.

*Article XXII*

If a person dies before completing his monetary obligations, his successors shall pay the remaining amount or make alternative arrangements with the Gov't. If they fail to do so the Gov't shall take the land in accordance with article IX. If a house has been built on the land, both the house and the land shall be sold and after paying the debt, the remaining amount shall be paid to the heirs.

*Article XXIII*

If the heirs find it necessary to share the land they may do so, but they must obtain the Gov't's permission to reduce their shares to less than 400 sq. meters.

*Article XXIV*

Heirs shall pay to the Gov't 2% of the value of land they inherit

*Article XXV*

The Government may dispossess an individual of his holdings if the land is found to be essential for the orderly development of a city, and in such cases compensation as determine by Government experts shall be paid.

*Article XXVI*

If the size of land require is small, less than 2 meters wide, the Gov't shall pay the original price of the land. If however, the land has been wanted by the individual for more than 10 years, the value of the land shall be as estimated by experts.

*Article XXVII*

If there are buildings on the land, the Gov't shall pay the price of the land, or may agree to give the owner on equivalent holding elsewhere.

*Article XXVIII*

If a foreign owner dies and has neither successors not a consulate to represent him, the Gov't shall take the land and rent it. If and when at any time an heir comes the Gov't shall deduct the following:

1. Any debt of the deceased to the Gov't
2. Any amount spent by the Gov't on improving the land
3. A tax of 2% on the value of the land in accordance with Article XXIV

Annex B Continued....

*Article XXIX*

After 30 years it no heir appears the Gov't shall take over the land and no subsequent claims can be countenanced.

*Article XXX*

If the deceased has no heirs, his land shall became the property of Government

*Article XXXI*

If disputes arise about land, the judge shall rule the dispute in accordance with the accepted laws of the country; if such laws are insufficient the judge shall apply the Napolenic code.

*Article XXXII*

This law shall be written and posted in convenient places in the city. Written on 20th of 'teqemt' 1900, in the city of Addis Ababa. (Pankhrust, PP. 156-162, 1966)

Annex C Land Allotted by Lease for Different Purposes in Nazreth Town

| No. | Name ofthe lesse | Kebele | Type of activity | Area ($m^2$) | Grade | Lese period | Price/ $m^2$ | Total price | Date of issuance | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1 | Jemal Mohamed | 09 | Industry | 2,500 | 1 | 35 | 5.00 | 437,500 | 1990 | |
| 2 | Tadesse Debele | 13 | Commerce | 2,000 | 1 | 60 | 9.00 | 1,080,000 | 1990 | |
| 3 | Gift Trading P.L.C. | 15 | Commerce | 787 | 1 | 60 | 21.25 | 1,003,425 | 1990 | |
| 4 | Hadia Mohamed | 15 | Commerce | 546 | 1 | 50 | 36.50 | 996,450 | 1990 | |
| 5 | Ibrahim Ahemed Nur | 13 | Commerce | 1,028 | 1 | 60 | 8.08 | 498,374 | 1990 | |
| 6 | Arsi Flour Mill | 13 | Store | 1,176 | 1 | 70 | 2.10 | 172,872 | 1990 | |
| 7 | Martread Eth. P.L.C. | 19 | Real Estate | 2,320 | 1 | 45 | 30.03 | 3,135,132 | 1991 | |
| 8 | Faysa Bedane | 16 | Recreation | 4,000 | 2 | 20 | 2.07 | 165,600 | 1991 | |
| 9 | Yeshi Lema P.L.C. | 16 | Industry | 5,000 | 1 | 30 | 5.00 | 750,000 | 1991 | |
| 10 | Geta Ayida P.L.C. | 16 | Industry | 3,475 | 2 | 40 | 5.00 | 695,000 | 1991 | |
| 11 | Hawas Agri-Business | 11 | Industry | 2,000 | 1 | 60 | 9.25 | 1,111,120 | 1991 | |
| 12 | Fesha Damte | 16 | Industry | 5,000 | 1 | 70 | 5.70 | 2,000,000 | 1991 | |
| 13 | Muga Anisa | 20 | Commerce | 560 | 1 | 40 | 37.50 | 840,000 | 1991 | |
| 14 | Alef P.L.C. | 07 | Real Estate | 1,822 | 1 | 40 | 32.50 | 2,369,250 | 1991 | |
| 15 | Kasahun Kedir | 20 | Commerce | 787 | 1 | 30 | 50.00 | 580,500 | 1991 | |
| 16 | Ibrahim Abdo | 15 | Commerce | 410 | 1 | 30 | 3.50 | 430,500 | 1991 | |
| 17 | Jemal Umer | 12 | Commerce | 531 | 2 | 30 | 8.00 | 127,400 | 1991 | |
| 18 | NOHE Enterprise | 16 | Transport | 6,000 | 1 | 65 | 5.00 | 1,950,000 | 1991 | Depot |
| 19 | Mekebeb Gebeyehu | 16 | Industry | 2,000 | 1 | 40 | 5.00 | 400,000 | 1991 | Didn't pay |
| 20 | Bekele Endeshaw | 16 | Industry | 2,062 | 1 | | | 413,400 | 1991 | Didn't pay |
| 21* | Awash Temesgen | 16 | Industry | 10,000 | 2 | 60 | 8.08 | 2,200,000 | 1991 | Didn't pay |
| 22 | Zewde Yimar | 11 | Commerce | 1,440 | 1 | 30 | 15.00 | 648,000 | 1991 | Didn't pay |
| 23 | Almeta Epics | 11 | Industry | 4,670 | 3 | 40 | 3.50 | 653,800 | 1991 | |
| 24 | Umer Ahemed | 07 | Residential | 810 | 2 | 60 | 6.06 | 294,516 | 1991 | |
| **Sub-Total** | | | | **60,924** | | | | **22,952,839** | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 | Danse Gurmu | 15 | Real Estate | 516 | 1 | - | - | 237,300 | 1991 | |
| 27 | Irzeku Arkader | 13 | Store | 2,046 | 1 | 70 | 8.00 | 1,028,720 | 1991 | |
| 28 | Kedir Jemal | 04 | Store | 951 | 2 | 30 | 10.00 | 285,300 | 1991 | |
| 29 | Mulugeta Afewerk | 16 | Store | 6,000 | 1 | 30 | 5.50 | 990,000 | 1991 | |
| 30 | Meko Absenu | 12 | Commerce | 160 | 1 | 30 | 10.00 | 48,000 | 1991 | |
| 31 | Yeshak G/ Mariam | 04 | Store | 2,450 | 1 | 30 | 3.50 | 300,125 | 1991 | |
| 32 | Yeshak Kifle | 16 | Industry | 2,000 | 1 | 40 | 5.00 | 400,000 | 1991 | |
| 33 | Bekele Mola | 11 | Commerce | 540 | 1 | 30 | 35.00 | 567,000 | 1991 | Hotel |
| 34* | Fatuma Kelifa | 13 | Industry | 820 | 1 | - | - | 106,575 | 1991 | Didn't pay |
| 35 | Kifle Jojo | 05 | Commerce | 537 | 1 | 30 | 15.00 | 241,537 | 1991 | |
| 36 | EFRA P.L.C. | 16 | Store | 2,000 | 1 | 30 | 5.50 | 330,000 | 1991 | |
| 37 | Getachew Mersha | 10 | Store | 2,175 | 2 | 30 | 3.50 | 228,375 | 1991 | |
| 38 | Nur Mohamed Seid | - | Industry | 5,000 | 1- | 70 | 5.00 | 1,750,000 | 1991 | |
| 39 | Jemal Treading | - | Industry | 8,125 | - | 70 | 2.10 | 1,194,375 | 1991 | |
| 40 | Hailu W/Amanuel | 10 | Industry | 2,600 | - | 70 | 2.10 | 382,200 | 1991 | And store |
| 41 | Zelalem Mersha | 04 | Industry | 606 | - | 70 | 1.88 | 79,710 | 1991 | And store |
| 42 | Umer Ahemed | 07 | Store | 2,762 | - | 70 | 2.10 | 406,014 | 1991 | Seed cleaning |
| 43 | Danse Gurmu | 16 | Commerce | 223 | 1 | 30 | 25.00 | 167,250 | 1991 | |
| 44 | G/hiwet Kebdom | 16 | Commerce | 690 | - | 30 | 8.08 | 167,256 | 1991 | |
| 45 | Mohamed Seid | - | Commerce | 6,000 | - | 60 | 6.06 | 2,181,600 | 1991 | And store |
| 46 | Kalid Abdela | - | Industry | 703 | - | 40 | 2.44 | 105,309 | 1991 | |
| 47 | Ashenafi Mengiste | - | Industry | 695 | 1 | 40 | 5.00 | 152,900 | 1991 | |
| 48 | W.A | - | Industry | 5,580 | - | 70 | 2.50 | 976,500 | 1991 | |
| 49 | Tilahun Werku | - | Commerce | 907 | - | 60 | 8.08 | 391,233 | 1991 | Hotel |
| 50 | Gihon | - | Construction | 32,900 | - | 30 | 5.50 | 5,428,500 | 1991 | Engineering |
| 51 | TERHA P.L.C. | - | Store | 3,541 | - | 30 | 5.50 | 584,265 | 1991 | Seed cleaning |
| 52* | Shiberu Bulcha | 13 | Commerce | 438 | 2 | - | - | 328,125 | 1992 | |
| 53 | Chilalo Enterprise | 16 | Store | 6,000 | 1 | 30 | 5.50 | 990,000 | 1992 | And office |
| 54 | Bambilu Wendemu | 16 | Store | 6,000 | 1 | 30 | 5.50 | 990,000 | 1992 | And office |
| 55 | Jifar Hashim (Agem) | 11 | Store | 2,380 | 1 | 30 | 5.50 | 392,700 | 1992 | And office |
| | **Sub-total** | | | **105,345** | | | | **21,430,869** | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| 56* | Seid Kasa | 16 | Industry | 6,000 | 1 | 30 | 5.50 | 990,000 | 1992 | |
| 57 | Girma Demse | 16 | Industry | 2,275 | 1 | 30 | 5.50 | 375,375 | 1992 | |
| 58 | Shamolu Hussen | 10 | Store | 2,000 | 1 | 30 | 6.00 | 360,000 | 1992 | |
| 59 | Tadesse Debele | 13 | Commerce | 2,257 | 2 | 30 | 15.00 | 1,015,650 | 1992 | |
| 60 | Abisinya Transport | 16 | Commerce | 10,000 | 2 | 30 | 5.50 | 1,650,000 | 1992 | Transport |
| 61* | Jiji Cotare | 03 | Industry | 5,400 | 2 | - | - | 630,400 | 1992 | |
| 62 | Adama Mekonen | 09 | Commerce | 502 | 1 | 30 | 32.00 | 481,920 | 1992 | Hotel |
| 63 | Yeshi Kebede | 09 | Residential | 350 | 2 | 60 | 4.55 | 94,500 | 1992 | |
| 64 | Bageba P.L.C. | 16 | Store | 3,000 | 1 | 30 | 5.50 | 495,000 | 1992 | |
| 65 | EFRA P.L.C. | 16 | Store | 2,000 | 1 | 30 | 5.50 | 390,000 | 1992 | |
| 66* | NOHE P.L.C. | 16 | Commerce | 250 | 2 | - | - | 81,250 | 1992 | Transport |
| 67 | Africa Engineers | - | Industry | 10,000 | - | 40 | 5.00 | 200,000 | 1992 | |
| 68 | Hailu Abebe | 16 | Store | 7,332 | - | 30 | 5.50 | 120,978 | 1992 | |
| 69 | Aklilu Zeleke | 16 | Store | 5,289 | - | 30 | 3.50 | 872,685 | 1992 | |
| 70 | Salia Hussen | 11 | Industry | 2,840 | - | 30 | 3.50 | 298,200 | 1992 | |
| 71 | Dereje Hordofa | 16 | Store | 44,097 | - | 30 | 5.50 | 676,005 | 1992 | Seed cleaning |
| 72 | Tadesse Hordofa | 16 | Store | 4,791 | - | 30 | 5.50 | 790,515 | 1992 | |
| 73 | Kalid Mohamed | 16 | Store | 3,000 | - | 30 | 5.50 | 495,000 | 1992 | |
| 74 | Nuria Hasnif | - | Commerce | 5,000 | - | 60 | 5.40 | 162,000 | - | |
| 75 | Gete Dechasa | - | Commerce | 358 | - | 60 | 1.44 | 30,931 | - | |
| 76 | Kadir Hussen | - | Commerce | 986 | - | 60 | 8.08 | 478,012 | - | |
| 77 | Bakaka U. | - | Industry | 2,067 | 1 | 40 | 5.00 | 413,400 | - | |
| 78 | Abate Birhanu | - | Commerce | 5,000 | - | 60 | 9.00 | 270,000 | - | |
| 79 | Shalla | - | School | 5,828 | - | - | - | - | - | |
| 80 | E.E.S. | - | Clinic | 2,000 | - | - | - | - | - | |
| 81 | Iskindir Asefa | - | School | 3,708 | - | - | - | - | - | |
| | **Sub-Total** | | | **136,330** | | | | **11,371,821** | | |
| | **Grand Total** | | | **302,599** | | | | **55,755,529** | | |

Source: Planning and Economic Development Department of East Shewa Zone, 2000.
Note: * Data Obtained from the Municipality of Adama, 2000.

Annex D Tables Showing Some of the Results of the Sample Survey

**TABLE NO. 1 NUMBER OF OWNERS BY WAYS OF OBTAINING THE LAND**

| Ways | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| From gov't | 1 | | 1 | | | 4 | 1 | 13 | 11 | 11 | | | 1 | 1 | 5 | 5 | 2 | 4 | 5 | 1 |
| Purchased | 1 | 2 | 1 | 1 | | 2 | 2 | | 3 | 6 | 1 | 2 | 2 | 3 | 4 | | 1 | 1 | | 2 |
| Inherited | | | | 1 | 1 | 1 | | | | | 1 | | | | | | | | | |
| Gift | | | | | | | | | | | | | | | | | | | | |
| Lease | | | | | 1 | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 2 NUMBER OF OWNERS BY AREA OF THE HOLDING**

| Area in $M^2$ | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| up to 100 | | | 1 | 1 | 2 | | | | | | | | | | | | | | | |
| 101-200 | | | 1 | | | | | 1 | | | | | | 1 | | | | 1 | | |
| 201-300 | | | | 1 | | | 2 | 1 | 5 | 14 | | 2 | | 1 | 3 | 2 | | 2 | | 1 |
| 301-400 | | 1 | | | | | | 4 | 1 | | 1 | | | 1 | | | | | 3 | |
| 401-500 | 1 | 1 | | | | 3 | 1 | 6 | 6 | 1 | 1 | | 3 | | 4 | 3 | 2 | 2 | 1 | 2 |
| 501-600 | | | | | | 1 | | | 1 | | | | | 1 | | | | | | |
| 601-700 | | | | | | | | | | | | | | | | | | | 1 | |
| 701-800 | | | | | | | | 1 | | | | | | | | | 1 | | | |
| 801-900 | | | | | | 1 | | | | | | | | | 1 | | | | | |
| 901-1000 | | | | | | 1 | | | | | | | | | | | | | | |
| 1001-1100 | | | | | | | | | | | | | | | | | | | | |
| 1101-1200 | 1 | | | | | 1 | | | 1 | | | | | | 1 | | | | | |
| 1201-1300 | | | | | | | | | | 1 | | | | | | | | | | |
| 1301-1400 | | | | | | | | | | | | | | | | | | | | |
| 1401-1500 | | | | | | | | | | 1 | | | | | | | | | | |
| 1501-1600 | | | | | | | | | | | | | | | | | | | | |
| 1601-1700 | | | | | | | | | | | | | | | | | | | | |
| 1701-1800 | | | | | | | | | | | | | | | | | | | | |
| 1800-1900 | | | | | | | | | | | | | | | | | | | | |
| 1901-2000 | | | | | | | | | | | | | | | | | | | | |
| + 2000 | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

***TABLE NO. 3 NUMBER OF OWNERS BY YEAR OF OBTAINING THE LAND***

| Year | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Before 1967 | | | | 1 | 2 | 3 | 1 | | 1 | | 2 | 2 | | 3 | 5 | 1 | 2 | 2 | 1 | 2 |
| 1968-1975 | | 1 | | | | 1 | 2 | | 5 | 1 | | | 1 | | 3 | 2 | 1 | 2 | 2 | 1 |
| 1976-1980 | | | 1 | | | 2 | | 6 | 6 | 3 | | | | 1 | | | | 1 | 1 | |
| 1981-1985 | 1 | 1 | | | | 1 | | 6 | 2 | 11 | | | 2 | | | 2 | | | 1 | |
| 1986-1990 | 1 | | 1 | 1 | | | | 1 | | 2 | | | | | 1 | | | | | |
| 1991-1995 | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

TABLE NO. 4 NUMBER OF OWNERS BY EVIDENCE OF OWNERSHIP

| Ways | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Certificate | | | | | | 1 | | | | | | | | | | | | | | |
| Taxation receipts | | 1 | | 2 | | | 3 | | 3 | 1 | | 1 | | 1 | 3 | | 2 | 3 | 2 | 3 |
| Have both | 2 | 1 | 1 | | 1 | 3 | | 12 | 11 | 16 | 1 | 1 | 3 | 3 | 5 | 5 | 1 | 2 | 3 | |
| W/O evidence | | | 1 | | 1 | 3 | | 1 | | | 1 | | | | 1 | | | | | |
| No response | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**ABLE NO. 5 NUMBER OF OWNERS BY YEAR OF OBTAINING THE CERTIFICATE**

| Year | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Upto 1967 | | 2 | 1 | 2 | 1 | 6 | 3 | 2 | 5 | 4 | 2 | 2 | 1 | 4 | 5 | 1 | 2 | 3 | 3 | 3 |
| 1968-1970 | | | | | | | | | | | | | | | | | 1 | 1 | | |
| 1971-1975 | | | 1 | | | | | 4 | 2 | | | | | | 2 | 2 | | | 1 | |
| 1976-1980 | 1 | | | | 1 | | | 5 | 5 | | | | | | | | | 1 | | |
| 1981-1985 | | | | | | | | 2 | 1 | 11 | | | | | 1 | 2 | | | 1 | |
| 1986-1990 | 1 | | | | | 1 | | | 1 | 2 | | | 2 | | | | | | | |
| 1991-1992 | | | | | | | | | | | | | | | 1 | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

***TABLE NO. 6 NUMBER OF OWNERS BY YEAR (LAST) OF PAYING TAX***

| Year | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Upto 1967 | | 1 | | | 1 | 3 | | 1 | | | | | | | | | | | | 1 |
| 1968-1970 | | | | | | | | | | | | | | | | | 1 | | | |
| 1971-1975 | | | | | | | | | | | | | | | 1 | | | | | |
| 1976-1980 | | | | | | | | | | | | | | | | | | | | |
| 1981-1985 | | | | | | | | | 2 | 2 | 1 | | | | | | | | | |
| 1986-1990 | 1 | | 1 | | | 1 | 2 | 6 | 2 | 5 | | | | | 3 | 2 | 1 | 3 | | |
| 1991-1992 | 1 | 1 | 1 | 2 | 1 | 3 | 1 | 6 | 10 | 9 | 1 | 2 | 3 | 4 | 5 | 3 | 1 | 2 | 5 | 2 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 7 NUMBER OF OWNERS BY RANGE OF TAX ON LAND**

| Range | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Upto 15 Birr | 1 | 1 | 1 | | 1 | 6 | 3 | 5 | 5 | 7 | 1 | 1 | 1 | 1 | 6 | 2 | 1 | 5 | 2 | 1 |
| 16- 30 | | 1 | | | | | | 3 | 3 | | | | | 1 | 1 | 1 | 1 | | 1 | 1 |
| 31- 45 | | | 1 | 1 | 1 | | | 2 | 2 | | 1 | | 1 | | 1 | 1 | | | | |
| 46-60 | 1 | | | | | | | 1 | 3 | 1 | | | | 1 | | | | | | |
| 61- 75 | | | | | | | | | | 3 | | 1 | 1 | 1 | | 1 | | | 2 | |
| 76-90 | | | | | | | | | 1 | | | | | | | | | | | |
| 91- 105 | | | | | | | | | | | | | | | | | | | | |
| +106 | | | | 1 | | 1 | | 2 | | 6 | | | | | 1 | | 1 | | | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 8 NUMBER OF OWNERS BY IDEA HOW TAX IS LEVIED**

| Idea | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | | | | | | | | | 1 | | | | | | 1 | | | | | |
| No | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 16 | 2 | 2 | 2 | 3 | 4 | 8 | 5 | 3 | 5 | 5 | 3 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 17 | 2 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 9 NUMBER OF OWNERS BY IDEA ABOUT THE PURPOSE OF TAX**

| Idea | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | | | 2 | 1 | 1 | 2 | 3 | 9 | 10 | 6 | 1 | 2 | 2 | 3 | 9 | 5 | 2 | 5 | 5 | 3 |
| No | 2 | 1 | | 1 | 1 | 5 | | 4 | 4 | 11 | 1 | | 1 | 1 | | | 1 | | | |
| No response | | 1 | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

TABLE NO. 10 NUMBER OF OWNERS BY IDEA ABOUT THE FAIRNESS OF TAX

| Level | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| High | 1 | 1 | 2 | 2 | 1 | 5 | 2 | 11 | 14 | 16 | 2 | 2 | 2 | 4 | 9 | 5 | 3 | 4 | 5 | 3 |
| Low | | | | | | | | 1 | | | | | 1 | | | | | 1 | | |
| Fair | | 1 | | | | | 1 | | | 1 | | | | | | | | | | |
| Don't know | 1 | | | | 1 | 2 | | 1 | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 11 NUMBER OF OWNERS BY APPLICATION TO THE MUNICIPALITY ON MATTERS RELATED TO LAND**

| Application | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 7 | 5 | 10 | 2 | 2 | 1 | 2 | 3 | 4 | 1 | 2 | 2 | 1 |
| No | 1 | 1 | | | | 4 | 1 | 5 | 9 | 5 | | | | 1 | 5 | | | | 1 | 2 |
| No response | | | | | 1 | | | 1 | | 2 | | | 1 | 1 | 1 | 1 | 2 | 3 | 2 | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 2 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 12 NUMBER OF OWNERS BY TYPE OF APPLICATION**

| Type of application | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Transfer of name | 1 | 1 | 1 | 2 | | | | | | 2 | 1 | | 2 | | 1 | | | | | 1 |
| Additional land | | | | | | 2 | 1 | 5 | 4 | 8 | 1 | | | 2 | 2 | 4 | | 1 | | |
| Legalizing ownership | | | | | | 1 | | 1 | 1 | | | | | | | | | | 1 | |
| Changing old certificate | | | | | 1 | | | 1 | | | | | | | | | | | | |
| Change of land use | | | | | | | | | | | | | | | 1 | | | | 1 | |
| No response | 1 | 1 | 1 | | 1 | 4 | 2 | 6 | 9 | 7 | | 2 | 1 | 2 | 5 | 1 | 3 | 4 | 3 | 2 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 13 NUMBER OF OWNERS BY REASON OF TRANSFER**

| Reason | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Purchase | 1 | 1 | 1 | 1 | | | | | | 2 | | | | | 2 | | | | | 1 |
| Gift | | | | | | | | | | | | | | | | | | | | |
| Inheritance | | | | 1 | 1 | 1 | | | | | 1 | | | | | | | | | |
| Exchange | | | | | | | | | | | | | 3 | | 1 | | | | 1 | |
| No response | 1 | 1 | 1 | | 1 | 6 | 3 | 13 | 14 | 15 | 1 | 2 | | 4 | 6 | 5 | 3 | 5 | 4 | 2 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 14 NUMBER OF OWNERS HAVING BOUNDARY DISPUTES**

| Disputes | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 1 | | | | | | | 3 | 2 | 2 | | | | | | | | 1 | 1 | |
| No | 1 | 2 | 2 | 2 | 2 | 6 | 3 | 10 | 12 | 15 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 4 | 4 | 3 |
| No response | | | | | | 1 | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

## TABLE NO. 15 NUMBER OF OWNERS HAVING THEIR BOUNDARY MONUMENTED

| Boundary | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 1 | 2 | | 1 | 1 | 6 | 3 | 13 | 13 | 15 | 2 | 2 | 3 | 3 | 8 | 4 | 3 | 5 | 5 | 3 |
| No | 1 | | 2 | | | | | | 1 | 2 | | | | 1 | 1 | 1 | | | | |
| No response | | | | 1 | 1 | 1 | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

## TABLE NO. 16 NUMBER OF OWNERS BY EXISTANCE OF THE BOUNDARY TODAY

| Boundary existence | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 1 | 2 | | 1 | 1 | 6 | 3 | 11 | 13 | 15 | 2 | 2 | 3 | 3 | 8 | 4 | 3 | 5 | 4 | 3 |
| No | 1 | | 1 | | | | | 1 | 1 | | | | | 1 | | | | | | |
| No response | | | 1 | 1 | 1 | 1 | | 1 | | 2 | | | | | 1 | 1 | | | 1 | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

## TABLE NO. 17 NUMBER OF OWNERS BY THE TYPE OF BOUNDARY

| Type | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Stone | 1 | 2 | | | 1 | 4 | 2 | 3 | 2 | 1 | 1 | 2 | | | | | 1 | 2 | | 1 |
| Building | | | | | | | | 1 | | | | | | | 2 | | | | 1 | |
| Fence | | | | 1 | | 2 | 1 | 8 | 11 | 16 | 1 | | 3 | 3 | 6 | 3 | 2 | 3 | 4 | 2 |
| Building & fence | | | | | | | | | | | | | | | | | | | | |
| No response | 1 | | 2 | 1 | 1 | 1 | | 1 | 1 | | | | | 1 | 1 | 2 | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 18 NUMBER OF OWNERS HAVING DISPUTES ON OWNERSHIP OF LAND**

| Ownership disputes | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | | | | | | 1 | | | | | 1 | | | | | | | | | |
| No | 2 | 2 | 2 | 2 | 2 | 5 | 3 | 13 | 14 | 17 | 1 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |
| No response | | | | | | 1 | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 19 NUMBER OF OWNERS BY THEIR OPINION WHETER THEY ARE GETTING PROPER AND TIMELY ANSWER TO THEIR APPLICATION**

| Opinion | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | | 1 | 1 | | 1 | 1 | 2 | | | 1 | | | | | 3 | 1 | 1 | 1 | 2 | |
| No | 1 | | 1 | 2 | | 5 | 1 | 12 | 9 | 10 | 1 | 2 | 3 | 3 | 3 | 4 | 1 | 4 | 3 | 3 |
| I don't know | 1 | 1 | | | | 1 | | 1 | 5 | 6 | 1 | | | 1 | 3 | | 1 | | | |
| No response | | | | | 1 | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 20 NUMBER OF HOUSES BY AGE**

| Age in year | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| up to 5 | | | | | | | 1 | | 1 | 1 | | | | | | 1 | | | | |
| 6-10 | 1 | | | | | | | 7 | 1 | 15 | | | | 1 | | 3 | | | | |
| 11-15 | 1 | | 1 | | | | | 3 | 6 | | | | | | | | | 1 | 1 | |
| 16-20 | | 1 | | | | 2 | 2 | 3 | 3 | | | | | | 4 | 1 | | 1 | 1 | |
| 21-25 | | | | | | 1 | | | | 1 | | | 3 | | | | 1 | 1 | 1 | 1 |
| 26-30 | | 1 | | | | 2 | | | 2 | | | 2 | | 1 | 3 | | | | | 1 |
| 31-35 | | | | 1 | 1 | 1 | | | | | 1 | | | 1 | | | | 1 | 1 | |
| +36 | | | 1 | 1 | 1 | 1 | | | 1 | | 1 | | | 1 | 2 | | 2 | 1 | 1 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 21 NUMBER OF MAIN HOUSES BY THEIR BUILT UP AREA**

| Area in $M^2$ | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| up to 25 | 1 | | | | 2 | | 1 | 1 | 2 | 1 | | | | | 1 | | | | | |
| 26-50 | | 1 | 1 | | | 1 | | 8 | 8 | 11 | 1 | 1 | | 3 | 6 | | 2 | 2 | 4 | 2 |
| 51-75 | 1 | | | 1 | | 2 | 2 | 4 | 1 | | 1 | | 1 | 1 | 1 | 4 | | 2 | 1 | |
| 76-100 | | 1 | | 1 | | 3 | | | 1 | 4 | | | | | | 1 | 1 | | | 1 |
| +101 | | | 1 | | | 1 | | | 1 | 1 | | 1 | 2 | | 1 | | | 1 | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 22 NUMBER OF HOUSES BY THEIR QUANTITY OF MAIN HOUSE ROOMS**

| No. of rooms | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| 1 | | | | | | 1 | | 1 | 2 | 1 | | | | | 1 | | | | | |
| 2 | 1 | | 1 | | 1 | 1 | 2 | 1 | 4 | 5 | 1 | 1 | | 1 | 1 | 1 | | 1 | | 1 |
| 3 | 1 | 2 | 1 | 2 | 1 | 3 | 1 | 9 | 3 | 8 | 1 | | 2 | 1 | 5 | 4 | 3 | 3 | 3 | 1 |
| 4 | | | | | | 1 | | 2 | 3 | 1 | | | | 1 | 2 | | | 1 | 1 | 1 |
| 5& + | | | | | | 1 | | | 2 | 2 | | 1 | 1 | 1 | | | | | 1 | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 23 NUMBER OF HOUSES BY THE AREA OF OUTDOORS BUILDING**

| Area in $M^2$ | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| up to 25 | 2 | | 2 | | 2 | | 1 | 8 | 9 | 10 | | 1 | 1 | 1 | 6 | 4 | 3 | 1 | 2 | 1 |
| 26-50 | | 2 | | 1 | | 5 | 2 | 4 | 4 | 5 | 1 | 1 | 1 | 3 | 3 | 1 | | 4 | 2 | |
| 51-75 | | | | | | | | 1 | | 1 | | | | | | | | | | 1 |
| 76-100 | | | | 1 | | | | | 1 | | 1 | | 1 | | | | | | | |
| +101 | | | | | | 2 | | | | 1 | | | | | | | | | 1 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 24 NUMBER OF HOUSES BY THE NUMBER OF OUTDOOR ROOMS**

| No. of rooms | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| 1 | | | | | 2 | | | 2 | 5 | 6 | | 1 | 1 | | 2 | 1 | | | 1 | |
| 2 | 1 | | 2 | | | 1 | | 5 | 4 | 5 | | | | | 2 | 3 | 1 | | | |
| 3 | 1 | | | | | | 1 | 3 | 1 | 2 | | 1 | 1 | 2 | 1 | | 2 | 2 | 1 | 1 |
| 4 | | 1 | | 1 | | 1 | 1 | | 3 | 2 | | | | 1 | 3 | 1 | | 2 | 1 | 1 |
| 5& + | | 1 | | 1 | | 5 | 1 | 1 | 1 | 2 | 2 | | 1 | 1 | 1 | | | 1 | 2 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 25 NUMBER OF HOUSES BY THEIR TOTAL BUILT UP AREA IN THE COMPOUND**

| Area in $M^2$ | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Upto 50 | 1 | | | | 2 | | 1 | 4 | 4 | 6 | | | | | 3 | | | | | 1 |
| 51-100 | 1 | 1 | 2 | 1 | | 1 | 1 | 9 | 6 | 6 | 1 | 1 | | 4 | 4 | 5 | 3 | 5 | 4 | |
| 101-150 | | 1 | | | | 3 | 1 | | 4 | 4 | 1 | | 2 | | 1 | | | | | 1 |
| +150 | | | | 1 | | 3 | | | | 1 | | 1 | 1 | | 1 | | | | 1 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 26 NUMBER OF HOUSES BY TYPE**

| Type | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| D.B. | | 1 | | | | 3 | 3 | 2 | 3 | 6 | 1 | 2 | 2 | 1 | | | 1 | | | 1 |
| A.B. | | | | 1 | | | | | 1 | | | | | | | | | | | |
| D.O.H. | 2 | 1 | 1 | 1 | 2 | 4 | | 10 | 9 | 11 | 1 | | 1 | 3 | 7 | 5 | 2 | 5 | 5 | 2 |
| A.O.H. | | | 1 | | | | | 1 | 1 | | | | | | 2 | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

Where:A= Attached, B=Building, H=House, O=Ordinary

**TABLE NO. 27 NUMBER OF HOUSES BY PURPOSE**

| Purpose | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Residential | 1 | 2 | 1 | 1 | 1 | 6 | 2 | 13 | 12 | 15 | 2 | 1 | 2 | 4 | 7 | 5 | 3 | 4 | 4 | 2 |
| Establishment | | | 1 | 1 | 1 | 1 | 1 | | 2 | 2 | | 1 | 1 | | 1 | | | | | 1 |
| Both use | 1 | | | | | | | | | | | | | | 1 | | | 1 | 1 | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 28 NUMBER OF HOUSES BY THEIR TYPE OF WALL MATERIAL**

| Wall | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Mud brick | | | 1 | | | | | | | | | | | | | | | | | |
| Mud & wood | 2 | 2 | 1 | 1 | 2 | 6 | 3 | 13 | 8 | 9 | 1 | | 2 | 4 | 8 | 5 | 3 | 5 | 4 | 2 |
| Stone | | | | | | 1 | | | 4 | 7 | 1 | 2 | | | 1 | | | | | |
| H.C.B. | | | | | | | | | | 1 | | | 1 | | | | | | | |
| Brick | | | | 1 | | | | | 1 | | | | | | | | | | 1 | 1 |
| Brick & stone | | | | | | | | | 1 | | | | | | | | | | | |
| Stone & H.C.B. | | | | | | | | | | | | | | | | | | | | |
| H.C.B. & brick | | | | | | | | | | | | | | | | | | | | |
| Wood | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 29 NUMBER OF HOUSES BY THEIR TYPE OF CEILING**

| Ceiling | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Fabrique | | 1 | | 1 | | 2 | | | | 1 | 1 | | | | 1 | | 1 | | 1 | |
| Cheep W. | | 1 | | 1 | | 3 | 2 | 1 | 3 | | | 2 | 1 | 1 | 1 | | | | 1 | 2 |
| Cocrete | | | | | | | | 1 | | | | | | | | | | | | |
| wooden parquet | | | | | | 1 | | | 4 | 1 | 1 | | | 1 | | | 1 | 1 | | |
| No ceiling | 2 | | 2 | | 2 | 1 | 1 | 11 | 7 | | | | 2 | 2 | 7 | 5 | 1 | 4 | 3 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 2 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 30 NUMBER OF HOUSES BY THEIR TYPE OF FLOOR**

| Floor | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Earthen | | | | | | | 1 | 8 | 3 | 5 | 1 | | | | 3 | 2 | 1 | 2 | 2 | |
| Cement screed | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 5 | 6 | 6 | | | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 2 |
| Cement tile | 1 | | | | | 4 | | | 5 | 6 | | 2 | 2 | 1 | | | | | | 1 |
| Timber | | | | | | | | | | | 1 | | | | | | | | | |
| Plastic | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

TABLE NO. 31 NUMBER OF HOUSES BY THE PRESENCE OF FOUNDATION

| Foundation | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 2 | | | 1 | | 2 | | | 4 | 4 | | 1 | 1 | | | | 1 | 2 | 1 | 1 |
| No | | 2 | 2 | 1 | 2 | 5 | 3 | 13 | 10 | 15 | 2 | 1 | 2 | 4 | 9 | 5 | 2 | 3 | 4 | 2 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 32 NUMBER OF HOUSES BY CONDITION**

| Condition | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Good | | 1 | | | | 4 | | 1 | 3 | 4 | | 1 | 1 | | 1 | | | | 1 | 1 |
| Fair | 1 | 1 | | 1 | 1 | 3 | 3 | 3 | 7 | 6 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 |
| Bad | 1 | | 2 | 1 | 1 | | 9 | 4 | 7 | 1 | | | | 2 | 6 | 4 | 1 | 4 | 2 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 33 NUMBER OF HOUSES BY THE PRESENCE OF TOILET**

| Toilet | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 2 | 2 | 2 | 2 | | 7 | 3 | 8 | 13 | 13 | 2 | 2 | 3 | 4 | 7 | 3 | 3 | 5 | 5 | 3 |
| No | | | | | 2 | | | 5 | 1 | 4 | | | | | 2 | 2 | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 34 NUMBER OF HOUSES BY TYPE OF TOILET**

| Toilet | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Pit | 2 | 2 | 2 | 2 | | 6 | | 7 | 10 | 7 | 2 | 1 | 3 | 3 | 4 | 3 | 2 | 2 | 3 | 1 |
| Flush | | | | | | 1 | 3 | 1 | 3 | 6 | | 1 | | 1 | 3 | | 1 | 3 | 2 | 2 |
| No | | | | | 2 | | | 5 | 1 | 4 | | | | | 2 | 2 | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 8 | 13 | 13 | 2 | 2 | 3 | 4 | 7 | 3 | 3 | 5 | 5 | 3 |

TABLE NO. 35 NUMBER OF HOUSES BY THE CONDITION OF TOILET USE

| Toilet | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Private | 2 | 2 | 2 | 2 | | 7 | 3 | 8 | 13 | 13 | 2 | 2 | 3 | 4 | 7 | 3 | 3 | 5 | 4 | 3 |
| Shared | | | | | | | | | | | | | | | | | | | | |
| No | | | | | 2 | | | 5 | 1 | 4 | | | | | 2 | 2 | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 36 NUMBER OF HOUSES BY THE PRESENCE OF BATH**

| Bath | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | | 1 | | | | 4 | 1 | | 2 | 6 | 1 | 1 | 1 | 2 | 1 | | 1 | | | 2 |
| No | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 13 | 12 | 11 | 1 | 1 | 2 | 2 | 8 | 5 | 2 | 5 | 5 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 37 NUMBER OF HOUSES BY TYPE OF BATH**

| Bath | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Bath tube | | | | | | 1 | | | | 1 | | | | | | | | | | |
| Shower | | 1 | | | | 3 | 1 | | 2 | 6 | 1 | 1 | 1 | 2 | 1 | | 1 | | | 2 |
| No Bath | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 13 | 12 | 11 | 1 | 1 | 2 | 2 | 8 | 5 | 2 | 5 | 5 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 38 NUMBER OF HOUSES BY THE CONDITION OF BATH USE**

| Bath | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Private | | 1 | | | | 1 | 1 | | | 1 | | | | | | | 1 | | | 2 |
| Shared | | | | | | 3 | | | 2 | 5 | 1 | 1 | 1 | 2 | 1 | | | | | |
| No | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 13 | 12 | 11 | 1 | 1 | 2 | 2 | 8 | 5 | 2 | 5 | 5 | 1 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

TABLE NO. 39 NUMBER OF HOUSES BY THE PRESENCE OF KITCHEN

| Kitchen | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 2 | 2 | 1 | 2 | 1 | 7 | 3 | 13 | 13 | 12 | 2 | 2 | 2 | 4 | 7 | 5 | 3 | 5 | 5 | 3 |
| No | | | 1 | | 1 | | | | 1 | 5 | | | 1 | | 2 | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 40NUMBER OF HOUSES BY THE CONDITION OF KITCHEN USE**

| Kitchen | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Private | 2 | 2 | 1 | 2 | 1 | 7 | 3 | 13 | 13 | 12 | 2 | 2 | 2 | 4 | 7 | 5 | 3 | 5 | 5 | 3 |
| Shared | | | | | | | | | | | | | | | | | | | | |
| No | | | 1 | | 1 | | | | 1 | 5 | | | 1 | | 2 | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 41 NUMBER OF HOUSES BY THE LOCATION OF KITCHEN**

| Kitchen | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| With in the house | | | | | | | | | | 1 | | | | | | | | | | |
| Out side the house | 2 | 2 | 1 | 2 | 1 | 7 | 3 | 13 | 13 | 11 | 2 | 2 | 2 | 4 | 7 | 5 | 3 | 5 | 5 | 3 |
| No | | | 1 | | 1 | | | | 1 | 5 | | | 1 | | 2 | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 42 NUMBER OF HOUSES BY THE CONDITION WATER SERVICE**

| Water | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Tap in the house | | | | | | | | | | 1 | | | | | | | | | | 1 |
| Tap in the compound | 1 | 1 | | 2 | 1 | 7 | 2 | 8 | 11 | 6 | 2 | 2 | 3 | 4 | 4 | 2 | 3 | 4 | 4 | 2 |
| Public tap | 1 | 1 | 1 | | | | | 3 | 2 | 2 | | | | | 3 | 3 | | 1 | | |
| Buying from individuals | | | 1 | | 1 | | 1 | 2 | 1 | 8 | | | | | 2 | | | | 1 | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

TABLE NO. 43 NUMBER OF HOUSES BY THE CONDITION ELECTRIC SERVICE

| Electric | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Private meter | 2 | 2 | 1 | 2 | 1 | 7 | 3 | 12 | 14 | 15 | 2 | 2 | 2 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |
| Shared meter | | | 1 | | 1 | | | | | 1 | | | 1 | | | | | | | |
| No electric | | | | | | | | 1 | | 1 | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 44 NUMBER OF HOUSES BY THE ACCESS ROAD WIDTH**

| Road width in meter | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Less than 4 | 1 | | 1 | | | | | | | | | | | | | | | | | |
| 4-10 | | 2 | | 1 | 1 | 3 | 2 | 13 | 10 | 12 | | 1 | 1 | 4 | 9 | 5 | 3 | 3 | 5 | 1 |
| 10-20 | | | 1 | 1 | 1 | 4 | 1 | | 4 | 4 | 1 | 1 | | | | | | 2 | | 2 |
| + 20 | 1 | | | | | | | | | | 1 | | 2 | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 45 NUMBER OF HOUSES BY THE TYPE OF ACCESS ROAD**

| Road type | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| A.G.C. | | | | | | | | | 3 | 4 | | | | | | | | 2 | | 1 |
| A,B.C. | | | | | | | | | | | | | | | | | | | | |
| Gravel | 1 | 1 | | | | 1 | | 1 | 2 | 1 | 1 | | | | | | 1 | 1 | | |
| M. Track | 1 | 1 | 2 | 2 | 2 | 6 | 3 | 12 | 9 | 12 | 1 | 2 | 3 | 4 | 9 | 5 | 2 | 2 | 5 | 2 |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

Where: A=Asphalt, B=Bad, C=Condition, G=Good

**TABLE NO. 46 NUMBER OF HOUSES BY THE PRESENCE OF PLAN**

| Plan | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 2 | | 1 | | 1 | 4 | 1 | 12 | 12 | 17 | 1 | 2 | 3 | 2 | 7 | 5 | 1 | 2 | 4 | 2 |
| No | | 2 | 1 | 2 | 1 | 3 | 2 | 1 | 2 | | 1 | | | 2 | 2 | | 2 | 3 | 1 | 1 |
| Don't know | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

**TABLE NO. 47 NUMBER OF HOUSES BY THE PRESENCE OF BUILDING PERMIT**

| Building permit | KEFETGNA 1 | | | | | | | KEFETGNA 2 | | | | | | KEFETGNA 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 05 | 06 | 07 | 08 | 16 | 17 | 09 | 10 | 11 | 18 | 19 | 20 | 02 | 03 | 04 | 12 | 13 | 14 | 15 |
| Yes | 2 | | 1 | 1 | 1 | 1 | | 11 | 10 | 16 | 1 | 2 | 2 | 2 | 5 | 4 | 2 | 2 | 4 | 2 |
| No | | 2 | 1 | 1 | 1 | 6 | 3 | 2 | 4 | 1 | 1 | | 1 | 2 | 4 | 1 | 1 | 3 | 1 | 1 |
| Don't know | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | 2 | 2 | 2 | 2 | 7 | 3 | 13 | 14 | 17 | 2 | 2 | 3 | 4 | 9 | 5 | 3 | 5 | 5 | 3 |

# REFERENCES


AMTD, 1997, Adma Municipality Technical Department, Study on Investment Potentials in Adma Town.

Aronoff, 1989, Geographic Information System: A Management Perspective, WDL Publication, Ottawa.

Bahl, Roy and J. Linn, 1992, Urban Public Finance in Developing Countries, Oxford University Press, New York, The World Bank.

Bahru Zewde, 1986, Early Safrs' of Addis Ababa, Patterns of Evolution, In Proceedings of the centenary of Addis Ababa, Addis Ababa.

Brook I., 1990, Geodetic Surveying and Positioning for Cadastral System, Swedsurvey, Stockholm.

CSA, 1984, Results of Population and Housing Census of Ethiopia.

CSA, 1996, Population and Housing Census of Ethiopia, Oromia Region, Addis Ababa.

CSA, 1997, Ethiopia, Statistical Abstract, 1998, Addis Ababa.

CSA, 997, Report on Small Scale Manufacturing Industries Survey for Oromia, Addis Ababa.

Catherine F. and Patrick Mc A., 1992, Reforming Urban Land Policies and Institutions in Developing Countries, Urban Management Program (UMP) No.5, Washington, D.C., The World Bank.

Eshetu Chole (ed), 1994, Fiscal Decentralization in Ethiopia, Addis Ababa.

Ethiopian Mapping Authority (EMA), 1998, Map Catalogue, Published by EMA, Addis Ababa.

F. Dale and D.McLaughlin, 1988, Land Information Management: An Introduction With Special Reference to Cadastral Problems in Third World Countries, J.W. Arrowsmith Ltd., Bristol, Great Britain.

Fagerstrom L. O. Cadastral Development, In Proceedings of Advanced Course in the Development of Cadastral System, Gavle, Sweden.

Henssen J., 1990 (a), Land Registration in The Netherlands and the Continental Europe, ITC, Enshede, The Netherlands.

Henssen J.. 1990 (b), Land Issues for Land Policies, In Proceedings of Advanced Course in the Development of Cadastral System, Gavle, Sweden.

Hoben, 1973, Land Tenure Among the Amhara of Ethiopia, The University of, Chicago and London.

Janis D. Bernstein, 1994, Land use Considerations in Urban Environmental Management, Published for the Urban Management Program (UMP), No.12, The World Bank, Washington, D.C.

Larsson G. 1990 (c), Definition of Cadastre and Land Registration as Parts of Land Information System, In Proceedings of Advanced Course in the Development of Cadastral System, Gavle, Sweden.

Larsson G., 1990 (a), Historical Development of Structure and Function of Different Types of Cadastral and Land Registration System, In Proceedings of Advanced Course in the Development of Cadastral System, Gavle, Sweden.

Li M., 1993, Integration- The Big Pay of for Municipal Geo-Based System, In the Proceedings of the GIS 87 Symposium American Society for Photogrametry and Remote Sensing, Falls Church, Virginia.

Mabogunje A. L., 1992, Perspective of Urban Land and Urban Management policies in Sub-Sharan Africa, World Bank Technical Paper No. 196, Washington, D.C.

Osterberg T., 1990, Development of Cadastral System, In Proceedings of Advanced Course in the Development of Cadastral System, Gavle, Sweden.

Pankhrust R., 1961, Introduction to Economic History of Ethiopia, London.

Pankhrust R., 1966, State and Land in Ethiopian History, The Institute of Ethiopian Studies and The Faculty of Law, Haile Sellassie I University in Association With Oxford university Press, Addis Ababa.

Parker, 1988, What is Geographic Information System? In the Proceedings of the GIS 87 Symposium American Society for Photogrametry and Remote Sensing, Falls Church, Virginia.

Sisay Ashenafi, 1996, Legal and Inistitional Aspects of Municipal Administration in Ethiopia, Paper Distributed on a Workshop on the Legal Status, Responsibilities Duties and Relationships of Municipalities, Organized by the UDSS and Held at Sodere.

Solomon Gebre, 1994, Urban Land Issues and Policies in Ethiopia, In the Proceedings of the Second Workshop of the Land Tenure Project, ed. by Dessalegn Rahameto, Working Papers in Ethiopian Development No. 8.

United Nations Economic Commission for Europe (UNECE), 1996, Land Administration Guidelines: With Special Reference to Countries in Transition, United Nations, New York and Geneva.

William M. Shenkel, 1992, Real Estate Appraisal, South-Western Publishing Co., Cincinnati, Ohio.

**Declaration**

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in any other University and that all sources of material used for the thesis have been duly acknowledged.

Name: Daniel Tadesse

Signature _____

Place: Addis Ababa University

Date of Submission: May, 2000

The thesis has been submitted for examination with my approval as a University advisor.

K.N. Singh (Ph.D)

May, 2000

**Declaration**

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in any other University and that all sources of material used for the thesis have been duly acknowledged.

Name: Daniel Tadesse

Signature _____

Place: Addis Ababa University

Date of Submission: May, 2000

The thesis has been submitted for examination with my approval as a University advisor.

K.N. Singh (Ph.D)

May, 2000