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AFAR ARCHITECTURE IN TRANSITION

from mobile structures towards permanent settlements

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AFAR ARCHITECTURE IN TRANSITION

From mobile structures towards permanent settlements

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'When a pastoralist sees that his animals are in bad shape, his children are hungry, and the water is drying up, he picks up and moves his whole household. Since the family will have to travel a long distance, and the animals aren´t giving a lot of milk, he will sell a few animals to buy grain and other foodstuffs. In a situation like this, the pack camels are weak, but they must still carry a lot – food, young children and young animals. The family will roll up their house and leave it in a tree. In an emergency you have to prioritise – and a house is not a priority.'

Abdi Abdullahi Hussein 2006: 10

ABSTRACT

The Afar are nomadic people living in the north–eastern part of Ethiopia, Eritrea and Djibouti. In accordance with their pastoralist lifestyle, they have developed simple forms of flexible shelters, which are grouped in compounds and form small mobile settlements. Due to changing political, economic and environmental circumstances more and more Afar are becoming permanently settled.

The main focus of this work is the urbanization process in the Afar Region, which has steadily increased in the last few years. For the research I chose to investigate the city of Logya, one of the biggest cities in the Afar Region. This city is located almost in the middle of the Afar Region, along the Addis Ababa Djibouti Highway which is the main transportation route of Ethiopia. This relatively new city consists of permanent houses which are arranged along paths or small open spaces. Accompanying the development of the city are new building types with different functions like schools, community buildings or administrative buildings. Logya developed without any city planning but because of the rapid growth, especially during the last ten years, the Regional Urban Planning Institute worked on a Master Plan which should be implemented during the next years. This plan leads to massive changes and does not consider the current structures.

The city of Logya is linked with the city of Semera, the new capital of the Afar Region, which was founded in 2003/04. There are only five kilometers between the two cities and because of the lack of infrastructure and strict building restrictions many people who work in Semera live in Logya. Most of the residents, Afar, Amhara or other ethnic groups, moved to Logya because of work.

There are only a few mobile houses functioning as permanent shelters found in Logya. Most of the houses are built in the *chikka* technique, the building technique from the highlands. The houses are made of wood and clay and are covered with corrugated iron roofs. This style has begun to dominate the landscape of the towns. For the *chikka* technique to be utilized, a large quantity of wood is needed which leads to deforestation of the tree population. This in turn has a negative impact on the environment and also on the lives of the pastoralists. Establishing a 'new' building technique (clay bricks) can be one approach to help solve the problems which come along with urbanization.

ABSTRACT

Die Afar sind Nomaden und leben im nordöstlichen Teil Äthiopiens, in Eritrea und Dschibuti. Im Einklang mit Ihrem Lebensstil als Pastoralnomaden haben sie einfache Formen flexibler Zelte entwickelt, welche in Gruppen zusammengefasst kleine mobile Siedlungen ergeben. Aufgrund politischer, wirtschaftlicher und ökologischer Veränderungen werden immer mehr Afar sesshaft.

Der Fokus dieser Arbeit liegt auf dem Urbanisierungsprozess in der Afar–Region, der in den letzen Jahren stetig zugenommen hat. Für meine Forschung wählte ich die Stadt Logya, eine der größten Städte in der Afar–Region. Die Stadt liegt nahezu in der Mitte der Afar–Region, an der Straße zwischen Addis Ababa und Dschibuti. Diese ist die wichtigste Hauptverkehrsader in Äthiopien. Logya ist eine relativ neue Stadt und besteht hauptsächlich aus befestigten Häusern die entlang von Wegen und kleinen Plätzen angeordnet sind. Einhergehend mit der Entwicklung der Stadt wurden neue Gebäudetypen mit unterschiedlichen Funktionen wie Schulen, öffentliche Gebäude und Verwaltungsgebäude errichtet. Logya entwickelte sich ohne Stadtplanung. Aufgrund des schnellen Wachstums, vor allem in den letzten zehn Jahren, hat das Institut für Regionalstadtplanung (Regional Urban Planning Institute) einen Masterplan entwickelt, welcher in den nächsten Jahren umgesetzt werden soll. Dieser Plan wird zu massiven Veränderungen führen und geht auf die derzeitigen Strukturen der Stadt nicht ein.

Logya ist mit der Stadt Semera eng verknüpft. Semera wurde 2003/04 als neue Hauptstadt für die Afar–Region gegründet. Zwischen den beiden Städten befinden sich nur fünf Kilometer und aufgrund fehlender Infrastruktur und der strengen Baurichtlinien in Semera, leben viele Menschen in Logya, die in Semera arbeiten. Die meisten Bewohner, Afar, Amhara oder andere Volksgruppen zogen nach Logya aufgrund von Arbeit.

In Logya gibt es nur wenige traditionelle mobile Häuser die als permanente Wohneinheiten fungieren. Die meisten Häuser sind in der *Chikka* Technik gebaut, eine Bautechnik vom Hochland. Die Häuser bestehen aus Holz und Lehm und sind mit Wellblechdächern bedeckt. Dieser Stil bestimmt jetzt zunehmend das Bild der Städte. Für die *Chikka* Technik benötigt man eine große Menge an Holz womit eine Abholzung der Baumbestände einhergeht. Diese hat einen negativen Einfluss auf die Umwelt und somit auch auf das Leben der Pastoralisten. Die Einführung einer 'neuen' Bautechnik (Lehmziegel) könnte ein Lösungsansatz für diese Probleme sein, die mit der Urbanisierung einhergehen.

CONTENTS

GLOSSARY

ALF – Afar Liberal Front

ANDM – Afar National Democratic Movement

ANDP – Afar National Democratic Party

ANLF – Afar National Liberation Front

ANRS – Afar National Regional State

APDA – Afar Pastoralist Development Association

APDO – Argoba People's Democratic Organization

ARDUF – Afar Revolutionary and Democratic Unity Front

AVA – Awash Valley Authority

DERG – Socialist Inspired Military Coordinating Committee

EPLF – Eritrean People´s Liberal Front

EPRDM – Ethiopian People´s Revolutionary Democratic Movement

ETB – Ethiopian Birr

EUR – Euro

GPS – Navigation device

NGO – Non Governmental Organisation

NUPI – National Urban Planning Institute

UN – United Nation

RWUDB – Bureau of Regional Works and Urban Development

TDIP – Tendaho Dam and Irrigation Project

WWCE – Water Works Construction Enterprise

INTRODUCTION

RESEARCH QUESTION

A process of transformation is taking place in the Afar Region where the nomadic way of life is changing to a sedentary lifestyle. How is this process happening and what affects does this have on the cities and towns in this region? What are the reasons for the Afar to settle down and for the Amhara to give up there lives in the highlands to move to the lowlands? Which types of building techniques are used for the houses and how do these building techniques affect the local environment and the lives of the pastoralists?

PREFACE

During an excursion in February 2011 with the Vienna University of Technology, my colleagues and I visited parts of the Afar Region including Logya. The focus of these excursions was to research the traditional way of life of the Afar. We had only one day in Logya and only a few hours to get an impression of the city. Many questions remained unanswered and so I decided to do research on Logya and also other cities in the Afar Region. The fieldwork began in February 2012 and lasted until the end of April 2012. During the field study I was accompanied by a fellow student, Emilia Chocian. She also did research in Logya but her focus centered on the housing conditions and the different building techniques. We did a few parts of the research together.

APPLIED METHODOLOGY

This document is compressed of two parts which can be divided into theoretical components and fieldwork. The data for this work was collected using qualitative methods. Ethnography was the major data collection method used. Specific fieldwork techniques for data collection, including participant observations, interviews, case studies and architectural building survey, were used.

Participation observation is a method of collecting data without influencing the researched area. There are different types of observations and I used the participatory unstructured observation (free observation) and the participatory structured observation. With the free observation the researcher stays more in the background and tries to observe the studied area and people without interaction. In contrast, in the participatory structured observation the researcher takes conscious part of an action. (Fischer 1985, Girtler 2001)

The fieldwork techniques involved also include structured interviews and ethnographic interviews. In the structured interview the interviewee agreed to take part and information was gathered by means of questionnaire or structured discussion. The ethnographic interview or informal talk developed purely coincidentally. (Breidenstein et al. 2013)

For a better understanding of the city, I used different approaches including, walking around the city, living in the compound from Valerie Browning, shopping in the stores and visiting coffee houses and restaurants, using public transportation, talking with peoples (if it was possible) and taking invitations. The entire stay in Logya was focused on gathering information. Jokingly I would say, 'everything that I do is work.'

Another approach in the research was to conduct interviews (which took usually approximately one or two hours) with residents and specialists from Logya, as well as a few from Semera and Dubti.

Most of these interviews were conducted with my colleague Emilia Chocian. These were structured interviews and we prepared a questionnaire but during our research time we changed the questions slightly. We removed a few questions because the interviewees did not see much relevance in them.

For the interviews with specialists we prepared specific questionnaires for each interview in correspondence to their respective field.

Beside the interviews with the residents we made sketches of the houses and compounds

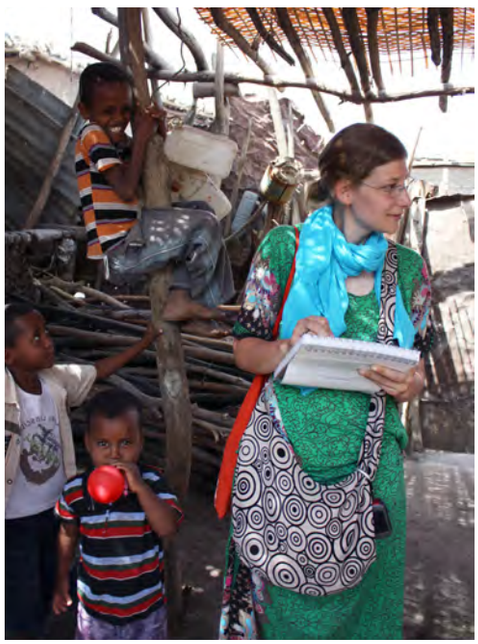


Fig. 01 During an interview

Fig. 02 Enter GPS data

Fig. 03 Building inspection

with approximate dimensions. We used GPS and a laser measurement to make our work more precise and easier.

Near the end of the stay, as I got to know Logya better, I picked out a section of the city to show the typical layout. The section runs to the old part of the city and it also includes the main road with the shops, one of the market streets, houses for mixed use and houses only for living. I went from house to house and carried out short interviews consisting of a few questions. The questions concentrated on the interviewees ethnicity and the ethnicity of their spouse, how long they have lived in Logya, reason for moving to Logya, the function of the house and whether it is a rented house or owned property.

For most of the research time I stayed in Logya and a few times I visited Semera, which was easy to reach via public transportation. I also visited Mille, Dubti, Yalo, Asayita and Afdera.

During our excursion in February 2011 we met Valerie Browning an Australian woman who is married to Ismail Ali Gardo, an Afar man. Together they established a NGO for the Afar pastoralists, the Afar Pastoralist Development Association (APDA). The office of this organization and the compound of Valerie are located in Logya. She invited us to stay in her compound during our research time. We were also given access to the office with workspace.

Three of us shared one room, me, Emilia and Fiona, an anthropology student from Paris. The compound has a few rooms and all of them are occupied. Valerie Browning helps many Afar people and she always admits someone who is in need of help, the compound is always full of people.

My working hours depended on the office hours of the APDA, which was Monday until Friday, from 8 – 12 o´clock and 16 – 18 o´clock. The working time in the afternoon was not attended by everyone and so most of the interviews were carried out in the morning (depending on the availability of the translator). During lunchtime we mostly stayed in the compound in our room, the weather conditions were too hot to do anything outdoors. In the afternoon I walked through the city or I worked in the office.

Due to the linguistic diversity of the region, Valerie Browning provided us with different translators for our research. The quality of the interview was extremely dependant on the skills of the translators. '…the language is the most important access to foreign cultures…'[1] (Fischer 1985: 18). It was not possible to learn the Afar or Amhara language for the fieldwork. I tried to learn the Afar language during my stay and at the end I could hold short conversations with a few sentences and words but not enough to conduct an interview without a translator. Despite the disadvantage of not being able to communicate directly because of the linguistic diversity, I gathered enough information for this work.

1 _ Translation from German in English

Fig. 04 Walk around the city

PART 1 - AFAR REGION

GENERAL INFORMATION

LOCATION

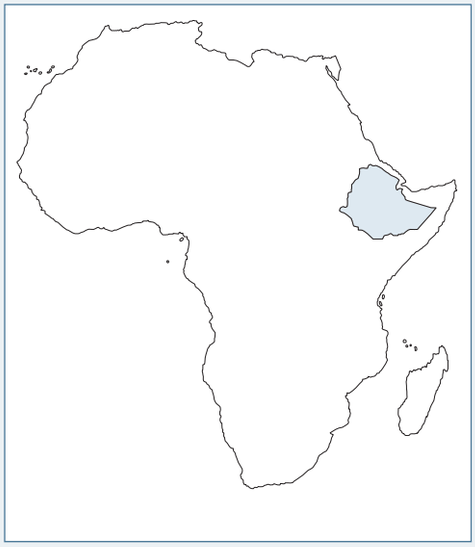


Fig. 05 Africa – Ethiopia

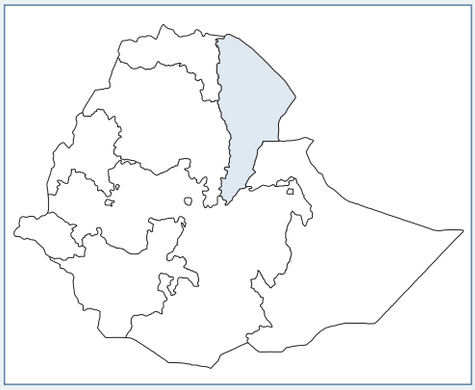


Fig. 06 Ethiopia – Afar Region

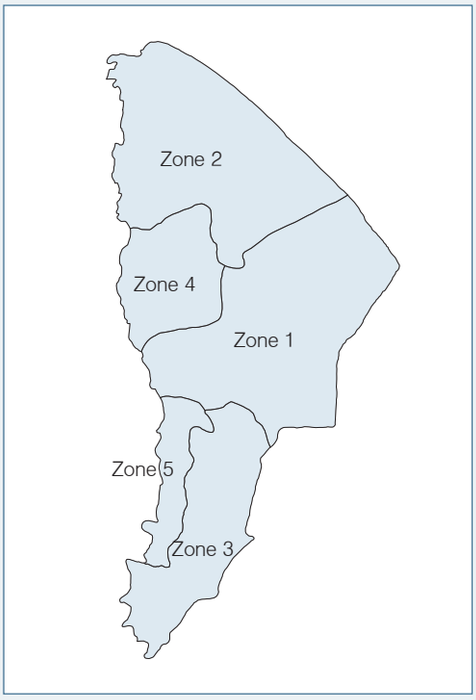


Fig. 07 Afar Region – Five Zones

The Afar National Regional State (ANRS) is one part of Ethiopia. It is located in the north–eastern part of the country and the exact geographic coordinates are 39°34‘ and 42°28‘ East Longitude and 8°49‘ and 14°30‘ North Latitude. The Afar Region borders four national states, the Tigray Region, the Amhara Region, the Oromia Region and the Somalia Region. It also shares two international borders with Djibouti and Eritrea. The Afar Region is the fourth largest national state of Ethiopia with an estimated area of 4,725,251 hectares. (Concept Plan 2009, Eriksen/ Marin 2011)

ADMINISTRATION

In 1991 the Derg regime took over with Meles Zenawi as head of state and Tamrat Layne as head of the government. The new government realigned the land by dividing Ethiopia into nine administrative regions based on their ethnic groups. (Fig. 06) (Eriksen/ Marin 2011, Hildemann/ Fitzenreiter 2011)

The Afar Region is one of the newest Regional states in Ethiopia. It is administratively divided into five Zones (Fig. 07), 32 *woredas*, 331 pastoral associations and 28 towns. A *woreda* is an administrative unit with regional governmental duties. The relatively new city, Semera, is now the capital of the Afar Region and it was founded in 2003/04. The Afar National Regional State decided in 1997 to move the capital from Asayita to Semera which is centrally located. The president of the Afar Region is Ismael Ali Siroh. (Rettberg 2009, Tezera 2009, UGDP 2010)

After the division of Ethiopia into ethnic groups in the year 1991, the Afar gained responsibility for administering the Afar Region. In the past the local government was made up of by Non–Afar people but these positions were filled by Afar people from many clans. Most of the Afar who were in higher posts in the administration sector were previously members and fighters for the Afar Liberal Front (ALF) and the Afar People´s Democratic Organization (APDO). (Getachew 2001)

The Afar National Democratic Party (ANDP) has been the regional government from the Afar Region since 1999. It has 93 of the 96 seats in the state parliament with the other three seats belonging to the Argoba People's Democratic Organization (APDO). In the year 1999 the Afar Liberation Front (ALF), the Afar People´s Democratic Organization (APDO), the Afar National Liberation Front (ANLF), the Revolutionary and Democratic Unity Front (ARDUF) and the Afar National Democratic Movement (ANDM) joined together to create a new party, the ANDP. (ANRS 2010, Ethiopia ALF 2001)

Since 2002 the local administration has been strengthened and the *woreda* should play a more important role in the future. The functions of the *woreda* should be the planning, coordinating and budgeting in villages and in rural areas. The administrators are the link between the local administrations and the regional government. (Rettberg 2009)

The Afar are politically structured in clans. Decisions are made from the clan authorities who are the clan leaders (*kedo abbas*) and the elders (*idalto*). The clan leaders represent the interests of their clan and administrate the adjudication of the Afar. They are the link between their people and the central government. Pastoral communities created their own cohesive social systems which vary from one system to the next. Important themes are communal land tenure, natural–resource management, multiple governing levels, ongoing dialogue, consensus–based decision–making and customary law and law enforcement. (Getachew 2001, Hussein 2006, Rettberg 2009)

POPULATION

The total population during the 2007 census was 1,411,092 in the entire Afar Region. Of this number 86.6% live in rural areas and 13.4% in urban areas. Almost 29% of the population live in Zone 1 in which 21% live in urban areas. In Zone 3 29.3% live in urban areas which is the highest amount in the Afar Region. This is contrasted with only 4% in Zone 4 the area with the lowest urban population. (Tab. 01)

In Ethiopia there are 1,276,374 Afar which is 1.73% of the total population. Remarkably, 98% of the Afar population from Ethiopia live in the Afar Region. The other 2% live in the Oromia Region, Tigray Region, Addis Ababa or other regions.

Of the total population of the Afar Region 90% are Afar, with the Amhara population accounting for 5.22%. Other mentionable ethnic groups in this region are the Argoba, Tigray and Oromo. (Tab. 02) (CSA 2007)

LANDSCAPE

Topography

The Afar Region is part of the East African Rift Valley, which is almost 6,000 kilometres long and starts in Djibouti and ends in Mozambique. Along the Rift Valley there are many volcanoes found and some of them are still active. The most famous volcano in Ethiopia is the Erta Ale. There is a lot of tectonic movement in this area which leads sometimes to fault lines. In the Afar Triangle is a triple–junction which means that three tectonic plates are moving away from this point. These are the Somali, Nubian and Arabic plates and this triple–point is located in the lower part of the Afar Region in the Danakil Desert. In this area there are many salt lakes located, one of them is the Assal Lake which is 150 meters below sea level and the deepest point in Africa. The area which is below sea level is called the Danakil Depression. This is one of the hottest places on earth and the average temperature is 48° Celsius during the dry season. The Danakil Depression accounts for 35.47% of the Afar Region. Of the remaining area, 51.44% is located between 400 to 900 meters and the remaining 13.09% are 900 meters or more above sea level. The highest peak in the Afar Region is Mussa–Alle which is 2,063 meters above sea level. (ANRS 2010, Concept Plan 2009, Olds 2008)

Climate

The climates are varied in the Afar Region, depending on altitude, air temperature, precipitation and also vegetation cover. There are three climate zones, the *kola* zone, the *woindega* zone and the *dega* zone. The *kola* zone makes up 99.33% of the Afar Region. The altitude of this zone varies between –150 – 1,300 meters and the average temperature is >27.5° Celsius, also the annual rainfall is measured between 500 and 1,000mm. The other two zones have an altitude of 1,300 meters and up and the average temperature is between 10° to 20° Celsius, with the annual rainfall between 1,000 – 2,000mm. There are three rainy seasons over the year, *daddah* – the winter rain, *suggum* – the short rain and *karma* – the main rain. (Concept Plan 2009, Eriksen/ Marin 2011, Olds 2008)

Land Cover

The table (Tab. 03) shows which types of land are found in the Afar Region. Almost 48% of the land is covered with exposed soil, sand or rock and equals 4,725,251 hectares.

The second most common land found here is shrub land which accounts for 32% of the land and covers about 3,150,167 hectares. Most of the shrub land is found in Zone 1.

Grass land covers 15% of the Afar Region and these areas are mostly found in the Amibara and Gewane *woredas*, in Zone 3 and along the Awash River and Ewa River in Zone 1.

Only 2.4% of the land is covered with forest or trees and only 0.1% is natural forests. These are found in the middle of the Awash River flood plain and Awash Delta, below Dubti.

All rivers, lakes and hot springs make up 1% of the total area and most of these areas are used for agriculture, salt extraction or drinking purposes.

The cultivated land covers only 0.6% of the total area, which is 59,065 hectares of land. Of this, 0.5% is irrigated and the remaining 0.1% are cultivated by rainfed. Zone 1 has 41,612 hectares of the cultivated land. (Concept Plan 2009)

Water Resources

There are some rivers that consistently have water, such as the Awash, Mille, Kesem Kebena, Awura, Guilina and others. There are also seasonal rivers found in this region and they have water only after rain. Some of the perennial rivers are irrigated like the Awash River for agriculture. The Awash River is one of

Population of the Afar Region			
188,973	1,222,119	1,411,092	Afar Region
82,827	317,553	400,380	Zone 1
26,190	325,241	351,431	Zone 2
58,267	140,361	198,628	Zone 3
9,430	246,112	255,542	Zone 4
12,259	171,442	183,701	Zone 5
Urban	Rural	Total	

Tab. 01 Population of the Afar Region, CSA 2007

Ethnic Groups of the Afar Region						
188,973	92%	1,151,947	8%	1,251,103	90%	Afar
56,308	78%	16,199	22%	72,507	5.2%	Amhara
5,684	26%	15,923	74%	21,607	1.6%	Argoba
10,861	68%	5,071	32%	15,932	1.2%	Tigray
6,620	78%	1,849	22%	8,469	0.6%	Oromo
				20,064	1.4%	Others
Urban	%	Rural	%	Total	%	

Tab. 02 Ethnic Groups of the Afar Region, CSA 2007

Land Cover of the Afar Region		
4,725,251	48%	Exp. Soil, Sand or Rocks
3,150,167	32%	Shrubland
1,476,640	15%	Grassland
196,885	2%	Woodland
98,443	1%	Water
98,443	1%	Wetland
49,221	0.5%	Irrigation Cultivation
29,533	0.3%	Riverine Forest
9,844	0.1%	Natural Forest
9,844	0.1%	Rainfed Cultivation
9,844,272	100%	Total Area
Area ha	%	

Tab. 03 Land Cover of the Afar Region

the most important rivers in the Afar Region. The source of the river exists in the highlands, at about 3,000 meter above sea level and is refilled from the rainfalls that fall in the area. With 1,200 km it is one of the longest river in Ethiopia. During August and September heavy rains in the highlands lead to flooding in the middle and lower Awash Valley. In this area extended wetlands have developed which are very important grazing areas during the dry period. (Concept Plan 2009, Rettberg 2009)

Mineral Resources

The major minerals from the Afar Region are salt, potash, sulpher, bentonite and gypsum. Long ago, the Danakil Depression (area below the sea level) was covered by the sea. Volcanic faults divided the Danakil Depression from the ocean and the enclosed seawater subsequently dried out. Now there are meter high salty crusts and salt lakes found here. Around 1,200 km² are covered with salt and it is one of the most important economical aspects of the economy. Another important mineral is bentonite, which is found in the Hadar and Ounda River Valley, near Semera and in the Bonketu Shet. (Concept Plan 2009, Hildemann/Fitzenreiter 2011, Olds 2008)

HISTORICAL CONTEXT

East Africa is often called the cradle of humankind. In Ethiopia, Kenya and Tanzania many archaeological sites have recovered corpses of ancient human ancestors, including *australopithecus afarensis* who lived 2 – 3 million years ago. The *australopithecus afarensis* were probably the first upright walking primates. In the Afar Region, 50 km away from Logya, one of the most famous *australopithecus afarensis* was found. Her name is 'Lucy' and she lived over three million years ago. She is the most complete skeletal finding ever discovered with about 40% of her skeleton recovered. (www.evolution-mensch.de, Lamprecht 2011)

It is believed that the Afar emigrated from the Arabian Peninsula over the Red Sea and into the Horn of Africa. This western migration occurred from the 16th century through 18th century. Travelling from the coast of the Red Sea, the Afar clans settled in the Afar Triangle which is now part of Ethiopia, Eritrea and Djibouti.

The Afar clans separated during this time into two clans, the *Adohimarra* (the white people) and the *Asahimarra* (the red people). Between these two clans violence would be continue until the beginning of the 20 century. These conflicts were often due to the rights over grazing areas in the Awash Valley.

In the 16th century several sultanates like Aussa, Bidu, Teru, Boori and Rahoyta were founded in the Afar Region. The sovereignty of the sultanates was accepted from the Afar both inside and outside the baronies, but they operated independently from each other. (Getachew 2001, Rettberg 2009)

The most powerful sultanate was the Aussa Sultanate whose sultan remains a traditional and religious leader for all of the Afar. The sultanate lies in the Awash Valley, which has prosperous areas that are subject to flooding. In this area the city Asayita was founded and around the city agro-pastoralists have settled.

In 1528 the Muslim leader Ahmed Ibn Ibrahim El Grazi, called '*el Granj*', took control of the Muslim city of Harar in the eastern highlands. From Harar, *el Granj* led his army against the Christians. In the holy war between the Christian kingdoms of Ethiopia and the Muslim principalities, the Afar people played a central role fighting alongside the Islamic forces. After the victory over the Muslim invaders the Afar Region experienced a significant population displacement. (Briggs 2009, Getachew 2001, Musa 2010)

The opening of the Suez Canal in the year 1869 created a sea route of significant importance through the Red Sea. The Italian and French colonial powers established bases on the Red Sea coast to control the seaway and to push forward into Ethiopian territory. To support this purpose the colonial powers made contracts with two Afar sultanates and also with the Somali-Issa. In 1890 the northern part of the Afar Region (Eritrea) was colonised by the Italians and France established French Somaliland (now Djibouti) in the year 1896. The rest of the Afar Triangle remained in the domain of Ethiopia. The colonial demarcation split the Afar people into three states, taking away their political autonomy and power.

At the end of the 19th century king Menelik II established the Ethiopian state but the Afar territory was unaffected by this. The sultan however did have to pay tribute to Menelik.

After the Italian occupation (1936–41) the Ethiopian state took control over more and more of the Afar Region. In 1944 the sultan Mohammed Yayyo from Aussa was arrested, which symbolised the loss of the Afar autonomy. Under the leadership of King Haile Selassie the Ethiopian part of the Afar Triangle was divided into five provinces: West-Harerghe, Shewa, Tigray, Eritrea and Wollo. The capitals of these regions were all located in the highlands and in every province the Afar were a minority group. These new administrations led to the weakening of local authorities and institutions. The Ethiopian government used the established structures from the Aussa Sultanate and the notable members of the sultan were offered the important political positions, but they had to act as negotiators between the government and the Afar. The traditional clan system and the position from the sultan remained.

Since 1960 the interventions from the state became more and more aggressive in the Afar Region because of the salt deposits, the potential agricultural areas along the Awash River and the transportation route between the highlands and the sea. Through an agriculture reform the Awash Valley was transformed into irrigation farming and the government planned to settle people in this region. The nomadic way of life was seen as retrograde. In 1962 the Awash Valley Authority (AVA) was established by the government and they were given the land rights to the Awash Valley. (Rettberg 2009)

After a military coup the emperor abdicated on the 12th of September 1974 and the Derg (socialist inspired Military Coordinating Committee) took over. A provisional military government was formed under the leadership of General Tefari Benti. A series of radical policies was implemented, one example was the Land Reform Bill which prohibited private land ownership and allowed land use only with the permission of local councils. This was the end for the feudalistic landlords and capitalist companies. As part of the land reform, the Afar Liberation Front (ALF) was deployed with

followers mostly from the sultan from Aussa. In the conflict between the army and the Afar the central force of the sultanate from Aussa was destroyed. (Briggs 2009, Rettberg 2009)

In 1977 Mengistu Haile Maryam became the leader of the provisional government. At the same time large parts of Eritrea were under rebel rule and the largest Ethiopian ethnic group founded the Oromo Liberation Front (OLF). Somalia populated parts of eastern Ethiopia rose against the government which resulted in a low-scale but very bloody war. (Briggs 2009)

In September 1987, Ethiopia was proclaimed a People's Democratic Republic and all candidates were nominated by the Derg. In 1988 the rebels gained more power and the peace talks in April 1989 failed. In May 1991 the Ethiopian People´s Revolutionary Democratic Movement (EPRDM) captured the capital, Addis Ababa, and Meles Zenawi became president of the new interim government. He allowed the Eritrean People´s Liberal Front (EPLF) to set up a transitional government in Eritrea and after a referendum in which the majority of Eritrea's people voted, Eritrea was granted independence in April 1993. Through this demarcation the Afar were again separated because the northern part of the Afar Region was awarded to Eritrea. In the northern Afar Region, the Afar Revolutionary Democratic Union Front (ARDUF) fought for the reunification between Eritrea and Ethiopia. This party was found in 1993 and were against the divide of the Afar and the independence of Eritrea, demanding the federation of the Afar in an autonomously administrated area. They surrendered to the EPRDM in the year 2002. (Briggs 2009, Rettberg 2009)

In December 1994 the transitional government drew up a federal constitution that divided the country into 11 electoral regions, with political autonomy in regional matters. This reorganization of administrations allowed each respective ethnicity more political voice and regional autonomy. Often however, the borders between these regions are not clearly marked and conflicts between different ethnic groups constantly arise. The Afar are consistently in conflict with the Somali-Issa. (Briggs 2009, Rettberg 2009)

From 1998 to 2000, Ethiopia and Eritrea fought another war because of a border dispute. In December 2000 both sides signed the Treaty of Algiers under the supervision of an UN peacekeeping force. The recommendation by the Independent Boundary Commission in The Hague in October 2003 was not accepted by Ethiopia. Throughout the war the border to Eritrea was closed and the north Afar lost access to their usual markets. In 2001, 30,000 Afar refugees were settled in the border area. (Briggs 2009, Rettberg 2009)

RELATIONS WITH OTHER ETHNIC GROUPS

The Afar Region is surrounded by different ethnic groups who are pastoral, agro-pastoral or farming neighbours. In the east, south and southwest there are the Somali-Issa and the Oromo groups, which are Cushitic-speaking Islamic pastoralists (Kereyu, Jille, Ittu and Harsu). In the west there are Semitic-speaking neighbours who are farmers and traders. The Argobba are Muslim and the Amhara and Tigray are Orthodox Christian. (Getachew 2001)

One of the more important neighbours are the Somali-Issa. The Afar and the Somali-Issa share pastoral values, the Islamic faith and Cushitic values, but for hundreds of years they have been in violent conflict. These conflicts are mostly about grazing areas and watering areas for the animals. The Somali-Issa have expelled the Afar from the north-eastern Ethiopian rangeland of the Alleideghii Plain during the last 70 years. Due to these conflicts the Afar have lost huge areas of their territory and many Afar and Somali-Issa have been killed. Both sides also consistently lose animals during these attacks. (Getachew 2001, Rettberg 2009)

The relation between the Afar and the Oromo groups are friendly, peaceful and important. They share pastures, live in shared settlements and their relationship are strengthened through trade. The markets in Oromo country are important for the Afar to purchase goods and food. In the past, marriages between neighbouring tribes, especially with the Oromo groups, were important for peaceful trade and securing access to pastoral resources. (Getachew 2001)

'If you want to thrive marry an Oromo, if you want to get devastated marry an Argobba and Issa.' (Getachew 2001: 48)

On the frontier of the Afar and Amhara Regions there are frequent conflicts between these two groups. The land in this area can be used for grazing and crop production. Both ethnic groups cross into the other groups region. The Afar cross into the highlands in search of grazing areas in times of draught, sometimes grazing their animals in crops. On the other side, the Amhara create new farming areas in the lowlands and are also responsible for the deforestation of the border areas. (Bedasa 2011)

TRADE – CONNECTION TO DJIBOUTI AND ERITREA

The Afar Region had important trade routes long before the Addis Ababa Djibouti Highway was built. Caravans with lots of goods were transported through the region. It was a very important connection from the highlands to the sea. Also, the sultanates profited from these caravan routes, taking trade taxes or serving as guards for the caravans. They also acted as middlemen, using these routes as trading points between different ethnic groups. One caravan route went though the Awash Valley and passed Asayita, which became an important supply point for goods, especially salt. Salt was and continues to be a very important export for the Afar, which they extract from the salt fields and salt lakes. In the highlands salt blocks functioned as the local currency in the past.

After finishing the railroad from Addis Ababa to Djibouti in 1917 and building started on the Addis Ababa Assab road in the early 1930's the caravan routes lost their importance. This caused a decline in the economical situation of Aussas expedentially.

In 1973 the road from Addis Ababa through the Awash Valley to Assab began to be built. After its completion in 1976 the road was an economical lifeline for Ethiopia.

During the conflicts between Eritrea and Ethiopia the access to the sea in Assab was not possible. During this time Djibouti played

an important role in the Ethiopian economy. In the 1970´s, 60% of Ethiopian exports were transported by railway between Addis Ababa and Djibouti. (Getachew 2001, Rettberg 2009)

The railway was eventually discontinued and the road at the border area to Assab was destroyed. The road was diverted from Addis Ababa through the Awash Valley to Djibouti, which is what is now called the Addis Ababa Djibouti Highway. This road is now the most important road for all the imports and exports of Ethiopia.[2]

PASTORALIM

During an annual meeting of the United Nation Forum on Minority and Indigenous Peoples Rights in Geneva, it was reported that there are 200 million pastoralists worldwide.

The estimated number of pastoralists in Ethiopia is 9.8 million, which is 13% of the total population. Between 60 and 70% of Ethiopia's land is arid or semi-arid areas, which is the perfect habitat for pastoralist. In Ethiopia 42% of the nation's herds belongs to pastoralists. (Bovin/ Manger 1990, Hussein 2006)

In the arid and semi-arid lands there are three different traditional production systems found: arable cropping, pastoralim and agro-pastoralim.

Arable cropping means cultivating different crops like sorghum, millet, maize, cotton, and others. Due to the easily exhaustible soil, it is important to clear new plots every few years which results in the movement of people as well.

Pastoralists are similar to nomads who manage extensive pastures and herds. The type of livestock differs depending on the local ecological conditions. Camels, cattle, sheep and goats are the most common used animals in arid and semi-arid lands. The livestock are diverse species of animals, resulting in differences in reproductive rates, mobility and market values. Herd management is based on a careful and delicate balance of animal movement regarding space and time. Movement is bonded to the variations in rainfall and pasture conditions.

The purest form of pastoralism is when the entire food for the family is produced from own animals. Everything is used, milk, meat and even blood. In reality it is normal for pastoralists to buy some grain, sugar and other things in the market.

Pastoral production system means that 50% of the household income comes from animals and animal products and more than 15% of the food consumption consists of milk or milk products.

Agro pastoralism is a combination of crop farming and raising livestock. For this, 50% of the household income must comes from farming and 10 – 15% from pastoralism. (Bovin/ Manger 1990)

PASTORAL TRIBES IN ETHIOPIA

There are different pastoralist groups found in Ethiopia. The two biggest ethnic groups are the Somalis and Oromo which each have approximately four million people. The third largest group are the Afar with about 1.3 million people, followed by many other smaller tribal pastoralist groups. (CSA 2007, Tezera 2009)

2 _ Information from Youseff, 21.02.2012

Fig. 08 Afar pastoralists

AFAR PASTORALISTS

GENERAL DATA

Afar Population

The Afar live in the Afar Triangle which includes areas from Ethiopia, Eritrea and Djibouti. Currently, 150,000 Afar live in Djibouti (35% of the population of Djibouti), 200,000 in Eritrea (4% of the population of Eritrea) and 1.3 million in Ethiopia (1.73% of the population of Ethiopia). In all three states they are a minority group. There are 1.25 million Afar living in the Afar Region which means 90% of the total population resides in this region. Of these, 92% live in rural areas and 8% in urban areas. (CSA 2007, Rettberg 2009)

Religion

In the ninth century Arabs who migrated to the Horn of Africa brought Islam to Ethiopia and to the Afar. From the coast, Islam was spread trough traders and scholars to the hinterland. In Ethiopia 45% of the population is Muslim.

The religion of the Afar is Islam commingled with traditional animistic elements. The Islamic calendar, Islamic names and other Islamic practices have been implemented into the Afar cultural. The *Imam* (scholarly and respected Muslim) are socially and politically important to their communities and they work together with clan leaders and elders. (Getachew 2001, Hildemann/ Fitzenreiter 2011, Lamprecht 2011)

Islam is the dominate religion in the Afar Region making up 95.3% of the population. Only 3.9% of the population are Orthodox Christian and 0.7% are Protestant. (CSA 2007)

Language

The Afar people are Cushitic-speaking people and they call their language the '*Cafar-af*'. The Cushitic language forms are an important family of the Afroasiatic languages. Thirty languages and dialects belong to the Cushitic language family and range from the north-east Sudan, Djibouti, Somalia, parts of Ethiopia, Kenya and parts of Tanzania. (Getachew 2001, Hildemann/ Fitzenreiter 2011)

The Afar language had no written alphabet and Enid Parker collaborated with the Afar to create their own written language. Ali Aref Bourhan decided to use the Latin script and Parker adapted it to the Afar language. The first edition of the Afar-English-French Dictionary was published in 1985. (Parker 2006)

ECONOMICAL BASIS – ANIMALS

Split-Herd Management

The resources in the arid and semi-arid areas of the lowlands of Ethiopia are scarce and it is difficult to survive in this environment. For the pastoralists it is very important to minimise livestock loss and to provide access to seasonal grazing areas and water sources. To find adequate resources for their livestock, the Afar practice transhumance by migrating depending on the dry season and wet season. The movement depends on the season and can be short distances or long distances. This mobility requires a division of the livestock and the household, the split herd. This split herd system is a very old invention and consist of two herds, the lactating herd and the dry-herd. (Getachew 2001, Hussein 2006)

Dry-Herd or Non-Lactating Herd

The dry-herd is on the move during the rainy season. This herd consists primarily of non-lactating animals and the young male members of the family. Only a few lactating animals travel with this herd, in order to provide dairy for the shepherds travelling with the animals. The dry-herd move several hundred kilometres away from the main settlement and then returns during the dry season. These rotating grazing circuits allow the land to rest. After reaching the pasture a satellite camp (*magilda)* is built. (Hussein 2006)

Lactating Herd

The lactating-herd consists of milking, pregnant and young animals and stays with the family in the main settlement, the *homa*. (Fig. 14) In semi-permanent houses (*depoita*) women, children and older people live. During the daytime animals graze close to the main base and they spend the nights in areas which are enclosed with thorny branches. The animals from the lactating herd need water every few days and the camp is normally close to permanent water sources. The animals always stay within reach of the same water point and

Fig. 09 Afar pastoralist

Fig. 10 Herd of cattle

Fig. 11 Herd of camels

Fig. 12 Lactating herd

Fig. 13 Afar woman milks a sheep

Fig. 14 Lactating herd

Fig. 15 Newborn goat

only in case of an emergency the encampment moves to another area. Normally they move the encampments once a year. (Getachew 2001, Hussein 2006)

Herd Composition

Pastoralism can vary depending on the type and composition of the herd. A herd with lot of camels and cattle and only a few small animals moves differently than a herd with almost all small livestock like sheep and goats. (Fig. 12) From one group to another the combination of the herd composition varies because of the natural environment. Usually the herd consists of camels, cattle, sheep, and goats, but in some areas donkeys, mules and horses are also reared. (Bovin/ Manger 1990, Getachew 2001)

Importance of the Animals

Livestock is very important in the life of the Afar. They produce milk, butter, meat, and hides, which are important for both subsistence and to sell. (Fig. 13) The pastoral diet was rarely based on animal products only, but grain has become an increasingly important part of the diet as well. When milk from the animals is low, the consumption of meat rises. Normally small animals are slaughtered before the large livestock. One reason for this is how quickly the small animals reproduce as well as due to their small size they can be consumed immediately after slaughter.

Throughout history the nomads have been in contact with cultivators. The exchange of animal products and grain has been common and still is. Normally the pastoralists are selling young male animals, old animals or animals that are likely to die. Also, small livestock are ideal for market and are an important resource for acquiring grain. It goes without saying, that pastoralists are also traders. (Bovin/ Manger 1990, Eriksen/ Marin 2011)

Zakka is one social practise used among the Afar. At the end of Ramadan the richer herders must give 10% of their earnings to the poor. Currently, wealthy families are expected to give between 25 and 40 animals per year. This number is much lower but Afar households generally own fewer animals than before and the cattle losses have been between 30 and 50 percent during the last years. (Eriksen/ Marin, 2011)

For the Afar the camel is the most valued animal. (Getachew 2001) (Fig. 11)

'We are breeders. We take camels as if they are our children. If it is the end of camels, it is the end of our life.' (Malone et al. 2006: 30)

SOCIAL ORGANISATION

The social structure of the Afar are divided by family (*burra*), extended family (*dahla*), lineage (*gulub/ dahla*) and clan (*kedo*). (Getachew 2001)

Family (*burra*)

A burra is composed of a man, his wife or wives (some Afar practice polygamy) and their children. The duties of the household are based on gender, age and traditional values.

The husband has authority in the family and he has most of the rights involving property and children. His responsibilities usually include the herding, milking and selling of animals and he makes the decisions about moving. (Fig. 09)

Adult men are responsible for managing all matters pertinent to the household and the community. They have to defend the family and its herd from wild animals and raiders, as well as settle legal disputes, marriages, bride–prices, marital problems and arrange ritual ceremonies. Others have to herd camels in areas far away from the settlement.

Women are mainly concerned with the daily domestic chores. They fetch water, mill the grain, prepare the food and take care of the children. (Fig. 17) (Fig. 18) Also, the construction of the mobile houses (*depoita*) is part of their duties. The women also take care of the small livestock, they milk them, look for them in the field and produce and sell livestock products. (Fig. 13) Women generally have a lower status in the Afar society. They have no full membership rights, while their own male children do.

Children (boys and girls) play an important role in herding by caring for calves and small livestock. The children are responsible for moving the small animals to fresh grazing areas, but they stay close to the settlement. (Getachew 2001, Kelemework 2011) (Fig. 19)

Each household is not an autonomous or separate unit, it is linked to other similar units which form bigger settlements. (Getachew 2001)

Extended Family (*dahla*)

An extended family is comprised of families of up to four generations and the settlement can consist of five to eighteen households. A *dahla* refers also to a household with co–wives who share the same residence and this settlement consists of two to six households. Gradually, the extended family settlement expands and the members belong to multiple generations. The extended family is connected through descent, kinship, shared settlement, ownership and marriage. The members often prefer to live together and move together to new pastures. (Getachew 2001)

Lineage – (*gulub/ dahla*)

Several related people who are linked to each other by shared descent belong to a lineage. They share the same locality, residence, pasture and migration. Every lineage has a name and a defined leader who represents them. The members can live together in one settlement or they can live spread out over the clan's territory. The Afar people are patrilineal, which means 'through the father´s line and are a group of people with whom an individual shares the same *bone and blood*. (Getachew 2001)

Clan – (kedo)

Between ten and twenty lineages and sub–lineages form a clan. From a few hundred to five thousand people can be associated with one clan and this group of people is related by descent. One determining difference between lineage and clan is that lineage members can prove their descent from an ancestor, while clan members cannot. Each clan has a clan leader (*abba kedo*) who makes decisions with the elders. (Getachew 2001, Kelemework, 2011)

The main source of support in difficult times is the family, neighbours and the clan itself, whose members support each other in times of need. Being part of a clan as a family or an individual means that a person is in a social protection system. They are given economic security and their emotional, psychological and social well–being are dependent upon.

If someone falls out of this system (there can be different reasons) they are losing the connection to the clan system and the protection offered during times of crisis. They become ineligible

Fig. 16 Afar girl

Fig. 17 Afar woman – fetching water

Fig. 18 Afar women – carrying wood

Fig. 19 Afar children

for support from the clan, lose the right to voice opinions and lose the right to claim entitlements. (Brocklesby et al. 2009)

The Afar have a special local sanction–executing institution called *fimaa* and it is related to customary law, Islamic law, government law and other social institutions. From one clan to another the size of the *fimaa* varies. The role of the *fimaa* is to apply sanctions and punishments, which can consist of several different solutions, including violence. Each *fimaa* has one leader, the *fimaa–aba*, who wields considerable authority and can act on his own, even if needed without prior elder input. (Getachew 2001, Markakis 2011)

Marriage

The Afar practice different marriages including inter–clan marriage between unrelated people, cross–cousin marriage (*absuma*), parallel cousin marriage and leviratic arrangement (widow inheritance).

Normally the Afar practice the cross–cousin marriage in which a boy marries his father's sister's daughter. It is claimed that these marriage are stronger than the others because no serious harm is inflicted on ones own blood and flesh in times of conjugal conflict.

Inter–clan marriages or marriages with a Non–Afar group widen alliances and create peaceful relationships. These marriages also enable access to other groups resources.

Parallel cousin marriages are seldom and occur only when the parents of two parallel–cousins agree. In these cases, a man marries his father´s brother´s daughter or his mother´s sister´s daughter.(Getachew 2001, Kelemework 2011)

Polygamy is exercised in accordance with Islamic laws and an Afar man can have up to four wives and households if he can afford it. (Getachew 2001)

LAND AND SETTLEMENTS

Clan Land

The land from the Afar is subdivided into several clan areas. The areas are separated and are marked out by natural boundaries. Each clan has its own clan land and the clan head and elders control the allocation of usage rights to members and to non–members. Land cannot be owned or claimed by an individual and cannot be sold. Every member of the clan has the right of access to their clan land and its resources. The Afar also have rights to any part of Afar land in which their lineage resides. (Getachew 2001)

Co–Operative Settlement (*Ganta*)

A co–operative residential unit (*ganta*) consists of families and extended families and is a rural based pastoral settlement. The size and the number of residents vary from unit to unit and there can be from six to sixteen households. (Fig. 22) (Fig. 31) There are four types of settlements, the family settlement, the lineage settlement, the clan settlement and the clan

Fig. 20 *Depoitas* near Serdo

Fig. 21 *Depoitas* near Afdera

Fig. 22 *Ganta* near Yalo

neighbourhood settlement. Each *ganta* has its own autonomous ritual and political authority. These settlements are semi-permanent and are mostly found close to permanent water sources. (Getachew 2001, Kelemework 2011)

Mobile House (*depoita*)[3]

Due to the nomadic way of life, the houses of the Afar are mobile. The name for these houses is *depoita* (family house). (Fig. 23) Depending on the region the *depoitas* vary in size, height, form and materials, based on the environment and the available resources. However, the basic elements are almost always the same.

The primary structure is bent wooden sticks, which are covered with woven mats made out of palm leaves. (Fig. 25) (Fig. 28) The wooden sticks are dug into the ground and are bounded together with stripes of animal skin.(Fig. 26) (Fig. 27) The wood for these houses are dead wooden sticks collected from the ground or more rarely branches which have been cut from a tree. The Afar are not allowed to cut trees except for hut construction and even then not the whole tree is taken (Markakis 2011). The houses are normally surrounded with thorny branches which keep the animals from eating the palm mats. In barren areas, stones are used instead of branches. In some regions the houses are fenced in with thorny branches and the space between the house and the fence is used to shelter the animals during the night. The orientation of the house is aligned with the wind.

The main functions of a *depoita* are providing space for sleeping and cooking. The centre of the house is the bed, which is covered with mats and animal skins. (Fig. 33) The bed is also mobile and is taken with them when they move on. A fire place for cooking is also in the house and the smoke from the fire makes the mats waterproof. (Fig. 30)

When the Afar move to another place, they pack the house and all household good onto camels. The house is constructed so that it can be deconstructed and rebuilt relatively quickly and it is perfectly adapted to be stored on the camels back. (Fig. 34)

The women are responsible for the construction and the preservation of the house. A *depoita* belongs to the women and when a new one is built all the women from the family help together. It normally takes one week to build a new *depoita*.

In some areas in the Afar Region there is a second house found near the *depoita*, called the *guest house*. It has the same construction as the *depoita*, but is covered with grass. These houses are situated in the semi-permanent settlements and do not have a mobile design. When the family moves to another area they take only the *depoita*, leaving behind the *guest house*. The *guest house* is used as a shady resting place during the day and as a sleeping place for family members and travellers. (Fig. 22)

3 _ Interview with Valerie Browning, Ali Adayto/ Uwwa, 10.02.2011

Fig. 23 *Depoita* in Dubti

Fig. 24 *Depoita* near Afdera

Fig. 25 Substructure of a *depoita*

Fig. 26 Detail – junction

Fig. 27 Detail – ground fixation

Fig. 28 Substructure with mats

Fig. 29 Storage of house inventories

Fig. 30 Inside of a *depoita* – fireplace

Fig. 31 *Ganta* in Dubti

Fig. 32 Temporary solitary place of a *depoita*

Fig. 33 Inside of a *depoita* – bed

Fig. 34 Pastoralists – on the move

Fig. 35 Orthodox Christian priest in Lalibela

AMHARA

The Amhara have a population of almost 20 million, (27%) and after the Oromo (35%) are the second largest ethnic groups in Ethiopia. Roughly 72,500 Amhara live in the Afar Region, 78% of which live in urban areas with 22% living in rural areas. (CSA 2007)

The Amhara live predominantly in the central highlands. Amhara belongs to the Semitic language and is the official language of Ethiopia. Most of the Amhara belong to the Orthodox Christian religion. (Hildemann/ Fitzenreiter 2011) (Fig. 35)

The Amhara likely descend from the Nilotics, the Cushites and the Arabic Semits and adapted over time into a new ethnic group with their own culture and language. Throughout time the Amhara have developed into a dominant ethnic group in Ethiopia and equalise Ethiopian with Amhara.

Their kinship relations are unlike any other in African ancestral groups and is based on land ownership. The right of land and land use define the membership of the Amharic ancestral group. Most of the Amhara practice an ancient form of agriculture and for this simple irrigation is used along with ox–drawn ploughs and other simple tools for harvesting. (Musa 2010) (Fig. 36)

Fig. 36 Amhara during the field work

Fig. 37 Amharic coffee ceremony

Fig. 38 Amharic village near Lalibela

Fig. 39 *Tukul* – Amharic house

PART 2 - FIELD STUDY

'Who would use the thorny shrubs and trees if we settled and became farmers? Our camels, cattle, goats and sheep are the factories that change this bush into milk, meat and skin.' (Hussein 2006: 29)

In the book 'On the move' (Hussein 2006) many of the positive aspects of pastoralism are explained. It attempts to put the lives of pastoralists more into focus. Pastoralists have a very close connection to their land and love their animals, and this literature illustrates this quite well. Unfortunately, pastoralists are becoming less and less because they are settling down more. The reasons for settling down are different but the lives of nomads are being largely affected from outside sources.

One crucial issue is the change in the climate. Higher temperatures and less rainfall, in particular more unreliable and less local rainfall, have resulted in drought. This subsequently leads to a deterioration of the grassland and the pastoralists are forced to move further away with their animals in search of grazing areas and water. There has been a drastic reduction in the number of herds and also changes to the herds themselves. Big animals like cattle have been exchanged for small stock like sheep and goats. (Eriksen/ Marin 2011)

Another reason for giving up the nomadic life is the deterioration of the traditional institution of wealth–sharing called *zakka* (one of the Five Pillars of Islam). This has become increasingly lost due to a series of bad years and longer droughts. *Zakka* asks that richer herders give some of their livestock as a gift to poorer ones. For a functional herd a certain amount of animals are needed. If one family losses their herd or part of it, they receive from members of the clan a few animals for restocking the herd or to start a new one. The clan leaders and the religious leaders are responsible for rating the wealth of each herder. Fewer herders can give away parts of their livestock any longer without increasing their own vulnerability. (Bovin/ Manger 1990, Eriksen/ Marin 2011)

The market situation can also become a reason why pastoralists give up there nomadic lifestyle. Different products like animals or products from animals such as butter or milk are sold by the pastoralists. The Afar who are living close to the highland area are trading with the Amhara, Oromo or Tigrinya. The highlanders control the food market and determine the prices and while the prices for food and clothing have dramatically increased, animal products have not. Also, the prices for agricultural products such as grains have increased disproportionately in relation to animal products. (Eriksen/ Marin 2011)

Another environmental problem in the Afar Region is the plant *Prosopis Juliflora* (*Woyane*), which has invaded the local ecosystem by stealing the vital resources that the indigenous plants and trees need to survive. Indigenous trees are important for food and fodder during drought and they also spread shade and moisture which contribute to a better microclimate for livestock. Deforestation of the indigenous trees has lead to declining grasslands and bushy vegetation and these affects reduce the quality of the grazing areas.

Sarganto is another foreign tree which has established itself and it is only useful for building houses. It grows in the places where originally the indigenous trees have been.

The cutting of live trees is forbidden in the Afar culture, but because of drought and other environmental factors this rule is often ignored. Wood is needed for construction and also for the production of charcoal. (Eriksen/ Marin 2011)

Huge areas in the Afar Region are used for agriculture. The biggest agriculture project in the Afar Region is the sugar cane plantation and factory located in Zone One, between Dubti and Asayita. To accommodate this plantation the Tendaho Dam was built and first used in 2009. This dam traps water from the Awash River, which flows back for 35 kilometres into the Awash Valley. The space here is now lost as a grazing area. Lots of areas are now used for agriculture and there is little space for animals anymore.

Since the 1950´s big areas of land have started to be irrigated for farming in the Middle Awash, Aussa and Amibara. In 1962 the Awash Valley Authority (AVA) was created from the imperial government. The AVA is an autonomous agency and supported in large scale through commercial enterprises which are mostly financed and managed by foreign agencies in agreement with the state. The land from the Valley was given to the AVA without any consideration for the pastoralists in this area and their traditional land rights.

During this same time of irrigation agriculture, the Addis Ababa Djibouti Highway was built and along this road more and more market towns were founded. (Bovin/ Manger 1990, Eriksen/ Marin 2011, Getachew 2001)

'I prefer to be a pastoralist but due to the challenges, if we get equipment like water pumps from the government, I would try to do farming. (45–years old man, herder of medium wealth, Mille)' (Eriksen/ Marin 2011: 29)

As a result of the irrigation farming more and more violent conflicts are occurring between the Afar and the state. At the end of the 1960's the AVA initiated a project to resettle the Afar in compensation for their land loss. The aim was to pacify the clan leaders and regions in Aussa (Dubti, Tendaho) and in the middle of the Awash Valley (Amibara) were chosen.

Since the 1990´s almost half of the agricultural areas have been given back to the Afar Regional Government and due to this the Afar clans have returned. Most of these clans lease the areas to foreign investors. The irrigation farming areas in the Awash Valley total 25% of all Ethiopian irrigation farming. (Rettberg 2009)

The establishment of the Awash National Park in 1962 also led to a huge loss of land (80,000 ha) for the pastoralists in this area. (Rettberg 2009)

Not only is climate change at fault for the decrease in grazing land. Another problem is the conflicts with neighbouring Somali Issa. Due to the violence some parts of the grazing areas have become unavailable. (Eriksen/ Marin 2011)

The life of pastoralist is seen as a backward way of life. The Amharic term for pastoralist is *zelan* (wanderer) and they are regarded as inefficient land users. Pastoralists are thought to be damaging the rangelands by overcrowding and overgrazing. The Afar, the Kereyu and the Oromo nomads have lost important grazing areas and their movements are limited, leading to the overuse of the existing grazing areas. The problem is not that the pastoralists are overgrazing the land on purpose, but instead over cultivation. (Getachew 2001, Rettberg 2009)

In Ethiopia the pastoralists have the right to allow their animals to graze on their land and to also cultivate it. The pastoralists also have the right not to be displaced from their own land, unfortunately this is not always the reality. (Hussein 2006)

'Agro-pastoralists become completely sedentary agriculturalists; and people from bush houses go to villages, and people from villages go to towns, and further to cities. The process of sedentarization and the process of urbanization go together. (Bovin/ Manger 1990: 51)

LOGYA

Logya is one of the fastest growing cities in the Afar Region. During the last fifteen years the population has almost tripled and the city limits have grown to accommodate this influx. The reasons for the growth in population, the resulting problems and how the government has reacted will be described in this chapter. Also, how the city is structured and functions will be depicted. The residents will also be described and with my own statistical data I will illustrate what ethnic groups live in Logya, for how long these different groups have lived in Logya and their reasons for moving.

GENERAL INFORMATION

FOUNDATION

Logya is located in the middle of the Afar Regional National State (ARNS) and is one of the biggest cities in the region. After the construction of the main road from Addis Ababa to Djibouti more and more cities were founded around the road. The road was built in the mid-70s (Rettberg Simone 2009). Logya is one of these cities, but the exact date the city was founded is not known. Contrasting information and statements exist about the founding year.

In Mahmued's 2008 article, he writes that Logya was founded in 1942, but in contrast, during an interview in the office of the Semera Logya City Administration I was told that Logya was founded before 1971.[4] The oldest mosque in the city was founded in 1960.[5] Logya is definitely one of the most emerging urban centres in this region and is still growing very fast. Logya is definitely one of the most rapidly expanding urban centres in this region and continues to grow very fast.

The name 'Logya' comes from the Italian language and was named during the time of the Italian occupation (1936 – 1941). The meaning of the name is not clear, but there are two possibilities for its origin. The first one is that the name comes from the city 'La Loggia' from the Piemont region. The second possibility is that it was derived from the last name of an Italian person.

LOCATION, AREA AND TOPOGRAPHY

The Afar Region is divided into five zones. Logya is located in Zone 1 and the exact geographic coordinates are 14.59° 12.53´ East Longitude and 11.43° 58.5´ North Latitude (Concept Plan 2009). (Fig. 40) (Fig. 41)

The flat dessert surrounding area with very little vegetation is characteristic of the region. In the northeast and in the south the city has a natural boundary, the Logya River, and an artificial irrigation canal which is connected to the Tendaho Dam.[6] On the other side of the canal heading south there is a flat area which is used for farming. In the west, a little bit further from the city there are small hills where the dam is located.

Logya is approximately 420 meters above sea level. Most parts of the topography where the city is located are flat and there are only a few slopes, with the average slope ranging from 2% to 3%. (Concept Plan 2009)

Further south from the irrigation canal is the Awash River and numerous upstream tributaries which have water most of the year. Logya River, on the other hand, is mostly without water, except after rainfalls in the area or in the highlands. After a rainfall the river becomes raging very quickly. The two rivers serve as natural drainage systems for the city, helping to prevent flooding.

During a flood in 2010, the artificial irrigation canal was destroyed by the heavy amount of water. A new channel was built a few meters south and the old channel is still used as a buffer against floods.

Fig. 40 Afar Region, Five Zones

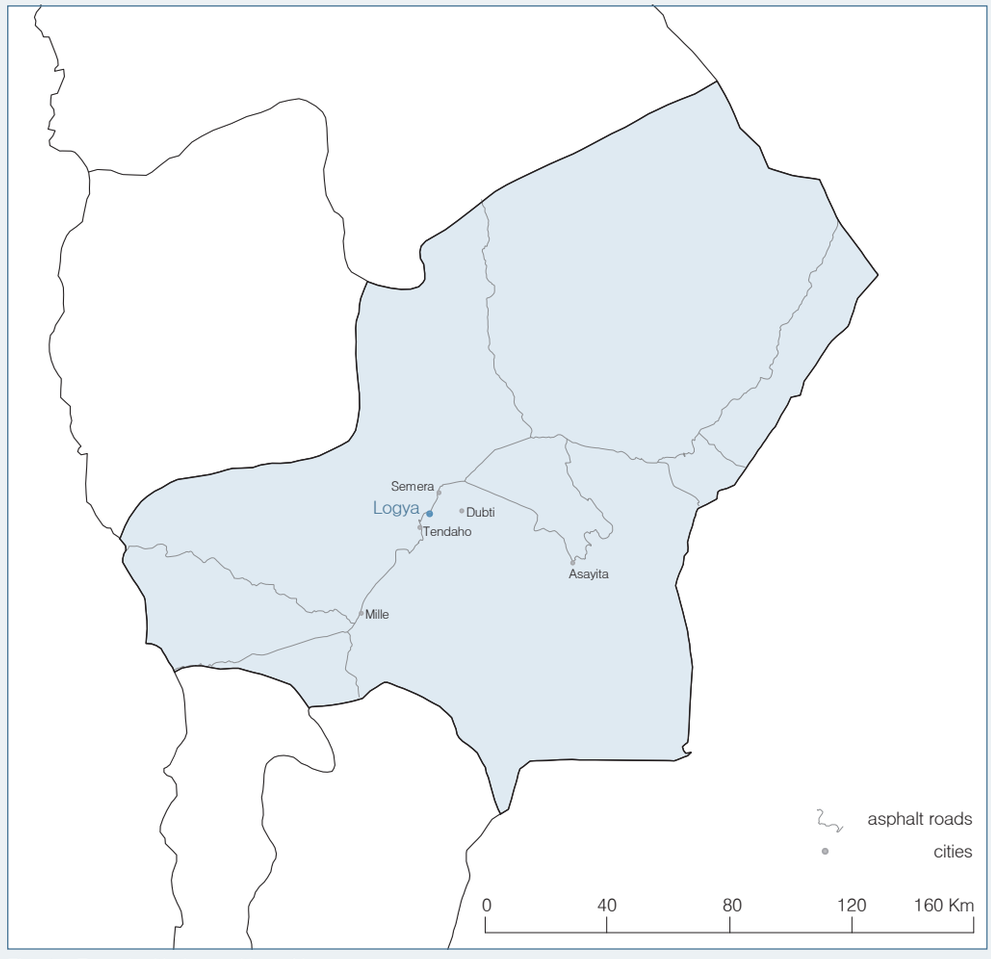


Fig. 41 Zone 1 with the position of Logya

Population Size of Dubti *Woreda*			
10,656	10,014	20,670	Dubti Town
10,410	9,309	19,719	Logya Town
1,163	1,031	2,194	Date Bahri Town
1,857	1,830	3,687	Semera Town
Male	Female	Total	

Tab. 04 Population Size of towns, CSA July 2012

Population Size Urban + Rural					
1,411.092	188,972	13.4	1,222.119	86.6	Afar Region
410,790	82,886	20.2	327,904	79.8	Zone 1
65,314	32,914	50.4	32,400	49.6	Dubti Woreda
Total	Urban	%	Rural	%	

Tab. 05 Population Size, urban and rural, CSA 2007

Logya Town Growth Rate			
7,411	6,627	14,038	Logya 2007
10,410	9,309	19,719	Logya 2012
Male	Female	Total	
growth rate 2007–2012: ~40%			
growth rate each year: ~8%			

Tab. 06 Logya Town, growth rate, CSA 2007, CSA 2012

Housing Unit – Urban Areas			
188,972	48,454	3.9	Afar Region
82,886	21,812	3.8	Zone 1
32,914	9,974	3.3	Dubti *Woreda*
Population Urban Areas	All Housing Unit	Average Number of Persons per Housing Unit	

Tab. 07 Housing Unit, urban areas, CSA 2007

Climate

There are different climate zones in the Afar Region.[7] Logya belongs to the *kola* zone, which implies that the city has a rather hostile and uncomfortable climate. The historical meteorological records state a mean annual temperature of around 37°C degrees. It is not surprising to learn that this region is one of the hottest places on earth. The highest temperatures are between the months of May and September, while the lowest temperatures are between November and April. (Concept Plan 2009)

During my research from February to April, I could feel the transition from the low to high temperatures. At first, it was very comfortable, the days were hot and the nights cold. Towards the end of my study the temperatures continued to rise and working became more difficult. Once I measured 40.5°C in our room during the daytime and during the night the temperatures did not decrease. Normally the air is very dry, which makes it easier to withstand these hot temperatures. On some days however, there was more humidity in the air and it felt like even hotter temperatures.

Due to the altitude and vegetation of the area it does not have a high volume of rainfall. The city is located in Rain Zone Two, which means a very low altitude and a rain level below <300 mm. Due to the soil structure and the high heat, water also evaporates rapidly. The amount of rainfall received is therefore not a good indicator of water remaining in the soil. (Concept Plan 2009)

Water

The supply of drinking water is assured by three main water pipes.[4] Most of the time they are buried in the ground but not very deep and in some places they are even visible. The water which comes from the pipes is warm or sometimes hot because the layer of sand on the top of the pipes heats up very fast during the day. The hot water can be useful for some household chores but not for drinking. The water quality is good and due to this, Logya also supplies other towns in the region like Semera or even as far as Afdera, with drinking water. The water is clear but tastes a little bit salty.

Every resident has the right to get their own water connection after first getting permission from the Urban Development Department.[4] After permission is granted residents must pay a monthly fee in advance to use the water connection. Devices to measure the amount of water used are installed on each families pipes and the family pays according to how much water is withdrawn.

The fee is not very high and most of the residents have their own water connection or share one. There are also a few public water sources for people who have no access to water. Some of these water sources are free and others require users to pay a fee. Some of the people from the southern outskirts of the city, without access to water, use the water from the irrigating canal because it is free.

POPULATION

Population Size of Logya

In the office of the Semera Logya City Administration, we received the information that almost 30,000 people live in Semera and Logya. More than 20,000 of these inhabitants live in Logya and the rest in Semera.[8]

The last census was in July 2012 and it shows almost the same results. (Tab. 04)

It is difficult to get a correct figure on the number of inhabitants because some of them are still 'nomads', but not in the conventional sense. Many of the inhabitants move between different locations, for example, Logya, Semera, Dubti and Asayita because they are close to each other. One example is a man who usually lives in Asayita and works in Semera. During the week he lives in Logya at a friend's residence.[9]

Growth Rate of Logya

The urbanisation of the Afar Region started relatively late and it has one of the lowest per capita urban populations in Ethiopia. In Africa more than 40% of the territories in the arid and semi-arid lowlands are occupied by pastoral groups and in Ethiopia it is even higher, with 60%. The Afar Region has one of the lowest urban populations in Ethiopia, with fewer than 14% of people living in cities. Settled life in these

Fig. 42 Logya 2006

Fig. 43 Logya 2011

Housing Unit – Logya Town			
14,038	4,469	3.1	Logya 2007
19,719*	6,278*	3.1*	Logya 2012
Population	All Housing Units	Average Number of Persons per Housing Unit	
*linear extrapolation			

Tab. 08 Housing Unit, Logya Town, CSA 2007, 2012

Type of Housing Unit – Rural Area in %			
90%	3%	7%	Afar Region
90%	2%	8%	Zone 1
95%	3%	2%	Dubti Woreda
97%	1%	2%	Logya Town
56%	32%	12%	Semera Town
Conventi–onal	Improvised	Mobile	

Tab. 09 Type of Housing Unit, CSA 2007

Monthly Income*			
>2,000	10%	39	High
670–2,000	43%	89	Middle
<670	47%	97	Low
Monthly income in ETB	Percent of the respon–dent	Number of the respon–dent	Income Level
*shows the monthly income of the respondents in Semera, Jaffer Mahmued Field Survey 2008			
100 ETB = 4,27 €			

Tab. 10 Monthly Income

Ethnic Groups – Afar Region			
90.03%	52.47%	95.94%	Afar
5.22%	29.80%	1.35%	Amhara
1.55%	3.01%	1.33%	Argoba
1.15%	5.75%	0.42%	Tigray
0.61%	3.50%	0.15%	Oromo
0.59%	2.17%	0.34%	Welaita
Total	Urban	Rural	

Tab. 11 Ethnic Groups in the Afar Region, CSA 2007

areas is not common and the urban population is very low. (Alemu, Adamu 2012)

One exception is the Dubti *Woreda*, where almost 50% of the population lives in urban areas, which is probably due to the fact that the capital of the region is located here. (Tab. 05)

The Afar Region has exhibited a fast and alarming urban growth rate over the past ten years. An annual growth rate of 4.3% was calculated in Afar towns and the number of urban settlements has more than doubled in the last decade (Alemu, Adamu 2012).

Logya is one of these fast growing cities and the connection with the new city, Semera, has increased the growth even more. According to the Bureau of Regional Works and Urban Development (RWUDB), the population size of Logya before the establishment of Semera was about 7,000. (Mahmued 2008) Since the founding of Semera ten years ago, the population has probably tripled. My linear extrapolation shows that the city grows 8% each year. (Tab. 06)

There are different reasons why the city is growing this fast. There is the connection with the relatively new main city Semera. Also, rural citizens looking for work and the belief of a better life in the city plays a role. Another reason is that it is easier for the state if residents settle down and are sedentary.

The two plans show this growth. The first plan (Fig. 42) is from the year 2006 and the second one (Fig. 43) from 2011.

Housing Units in Logya

Currently Logya has about 6,278 housing units. This number comes from my linear extrapolation, based on the population size from 2012. (Tab. 08) 34.2% of the family sizes are 1–3 people, 61.4% are 4–8 people and 4.2% are 9–12 people respectively (Mahmued 2008). There is not only the classic family structure, but the extended family is also common. One man lives with his wife or co–wives and their children in one housing unit.

Nearly all of the residences of Logya, 97%, live in conventional houses. Conventional houses means paved houses on a legal building plot, like the houses built in *chikka* technique.[10] Having 97% of people in conventional houses is a very high number for the Afar Region. For example, in Semera this number is significantly lower. Only 56% of people live in conventional houses and 32% of the residents live in informal settlements. (Tab. 09) Informal settlements are usually unstructured, unplanned and inadequate buildings with lack of water, sanitation and municipal services (Mahmued 2008).

(Tab. 10) The table shows the monthly income of people in Semera, which is almost the same in Logya. The rent of a room or a house is 200.– ETB (~8,50.– EUR) and up each month. The price depends on the location and also on the size of the premises.

Ethnic Groups

The statistical data from the CSA 2007 shows that 52.47% Afar, 29.8% Amhara, 5.75% Tigray and 11.98% other ethnic groups live in the urban areas. (Tab. 11) This data applies also to Logya but it is not mentioned specifically. In the urban areas almost 50% of the residents are from other ethnic groups than Afar. Most of them come to Logya because of work. Amhara women very often work as maids and Amhara men as salesmen.

In the rural area, Afar represent 95.94% of the population and the rest are from other ethnic groups. This shows very clearly that the urban areas in the Afar Region are attractive places for other ethnic groups to find work and start a new life.

In contrast, only 0.3% of the Afar live in the Tigray Region and less than 0.02 in the Amhara Region. Only 0.14% of the total Afar population live in the main city Addis Ababa.

There are two obvious facts I noticed in the blending of cultures. The first is that an Afar woman would never work as a maid. A lot of Afar families have an Amhara woman as a maid and they live together in one household. The second is that an Afar man can marry a woman from another ethnic group but an Afar woman is only allowed to marry an Afar man.

Language

The main language of Ethiopia is Amhara. In the urban areas most of the people speak two languages, their tribal language and the main language Amhara. In Logya this is the same, most people speak Afar and Amhara. These two languages have a completely different language phylum. The Afar language comes from the Cushitic language family and the Amhara language from the Semitic language family. Some people also speak English or another tribal language like Tigray or Oromo.

Religion

Islam, with 77.3% of the population, is the predominant religion in the urban areas in the Afar Region. Next comes Orthodox Christians with 19.8% and the rest are others. (Tab. 12) The Afar are almost 100% Muslim and some of the Amhara people are also Muslims. Referring to the Muslim religion of the Amhara people, it is possible to say that many of them are from the Wollo area. This is an old province which overlaps with the Amhara and the Afar Region. (Ethnie in Äthiopien 2011) (Fig. 45) This is one reason why some of the Amhara people are Muslim. Another reason is that they converted to Islam after they moved to the Afar Region.[9]

ADMINISTRATION

Zone 1 is divided into seven *woredas*. (Fig. 44) Logya is one part of Dubti *Woreda*, which also contains the cities Dubti, Semera and Date Barhi. (CSA 2012) A *woreda* is an administrative unit with a regional government. The cohesion between the cities of the Dubti *Woreda* is noticeable.

Semera is the capital of the Afar Region and most of the administrative tasks are done there. There are different sectors of the city including administration, housing, finance and economics, city service, water supply, electricity and others. There is one administrator for Logya and Semera, his name is Kanteba. He runs the housing department, decides the financial steps of the cities and collects taxes.[4] The people from Logya have to go to Semera to pay almost all expenses. Every month they have to pay different fees for water, electricity and/or television but there is no authority to pay in Logya.

A *woreda* can be further divided into smaller areas called *kebele*, which are the smallest administration units. The *kebele* Logya has one *kebele* administrative unit under the title of RWUDB. (Concept Plan 2009) The RWUDB is also located in Semera.

4 _ Interview in the Semera Logya City Administration, 15.02.2012

5 _ Interview with the Imam from the oldest mosque, 11.04.2012

6 _ The Tendaho Dam is described in chapter: Tendaho Project, p. 102

7 _ The different climate zones are described in chapter: Afar Region, Climate, p. 11

8 _ More information about Semera and the connection between both cities are described in chapter: Semera – Comparison with Logya, p. 96 – 99

9 _ Interview with M.H., 12.04.2012

10 _ The *chikka* technique is described in chapter: Chikka Technique, p. 66 – 69

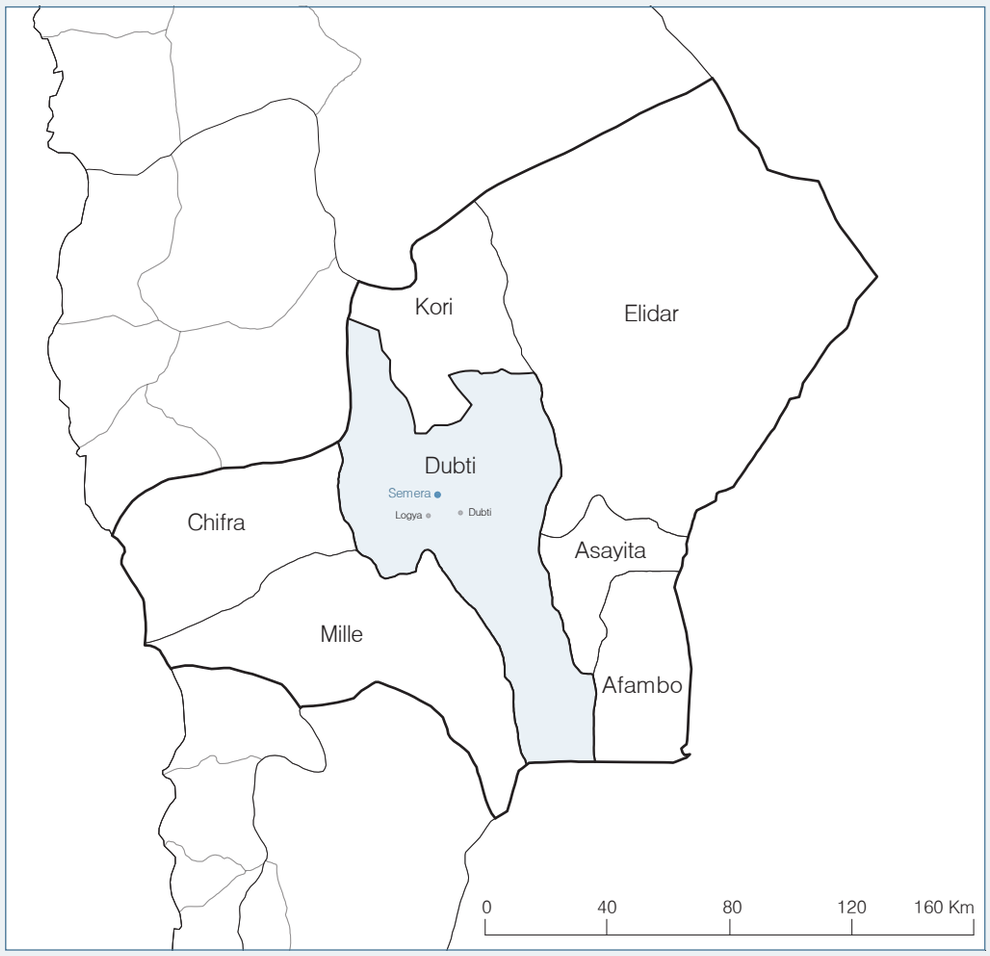


Fig. 44 Zone 1 – *Woredas*

Religion – Afar Region – Urban Areas	
77.3%	Muslim/ Islam
19.8%	Orthodox
2.6%	Protestant
0.3%	others

Tab. 12 Religion – Afar Region – urban areas,CSA 2007

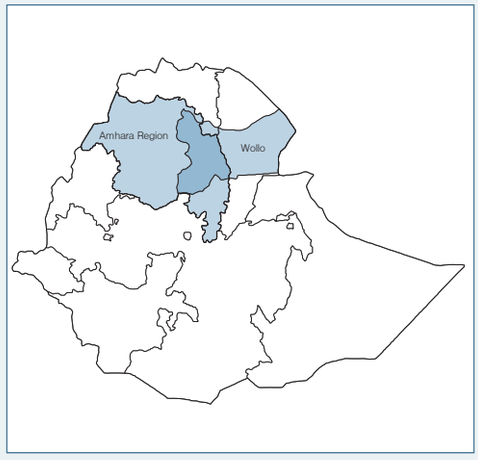


Fig. 45 Intersection – Amhara Region/ Wollo

A WALK THROUGH LOGYA – PERSONAL IMPRESSIONS

My first impressions about Logya was friendly people, heat and sand …

The arrival in Logya is always fascinating. The road (Addis Ababa – Djibouti) before you arrive in the city is mountainous and therefore curvy. From some places, the city is already visible and I always had the same impression – it´s bigger than in my mind.

At the beginning, I had the feeling that everything was different from the western world but after a few days I realised that there were not so many differences. The people live in their houses, they have shops, restaurants, schools, clinics, a good infrastructure, public transport, water and electricity and almost everyone has a cell phone and a television. Of course however, there are differences. Many of the residents were previously pastoralists and one of the most important elements of their lives was their animals. The animals are still visible because almost every household has a few animals like sheep, goats, donkeys or camels. The sheep and goats are allowed to roam freely and are everywhere in the city. Another difference is the sand, which is also everywhere.

The residents of Logya are very friendly, open and helpful. There are always a lot of people outdoors; on the street, in the outdoor coffee houses or in their own yards and I was always greeted in a friendly way. I received many invitations but unfortunately could not accept them all. Although it was clear that I am from Europe, I always got the same prices in shops or restaurants as the locals. During my stay I never felt unpleasant or uncomfortable but actually the opposite. Naturally, I was a magnet for children and sometimes I had a large group around me.

Referring to the citation at the beginning, I can say that there is some truth to the following statement. '…In an emergency you have to prioritise – and a house is not a priority…' I had the feeling that the house is not so important in the people´s lives. The houses sometimes seem like provisional buildings but the people are very often outdoors and the functions of the houses are not only for living.

One of the main characteristics of Logya is the main road which divides the city into two areas. During the day there is always a lot of hustle and bustle. Trucks, buses, cars, *Bajajs*, some animals and a lot of people are coming and going.

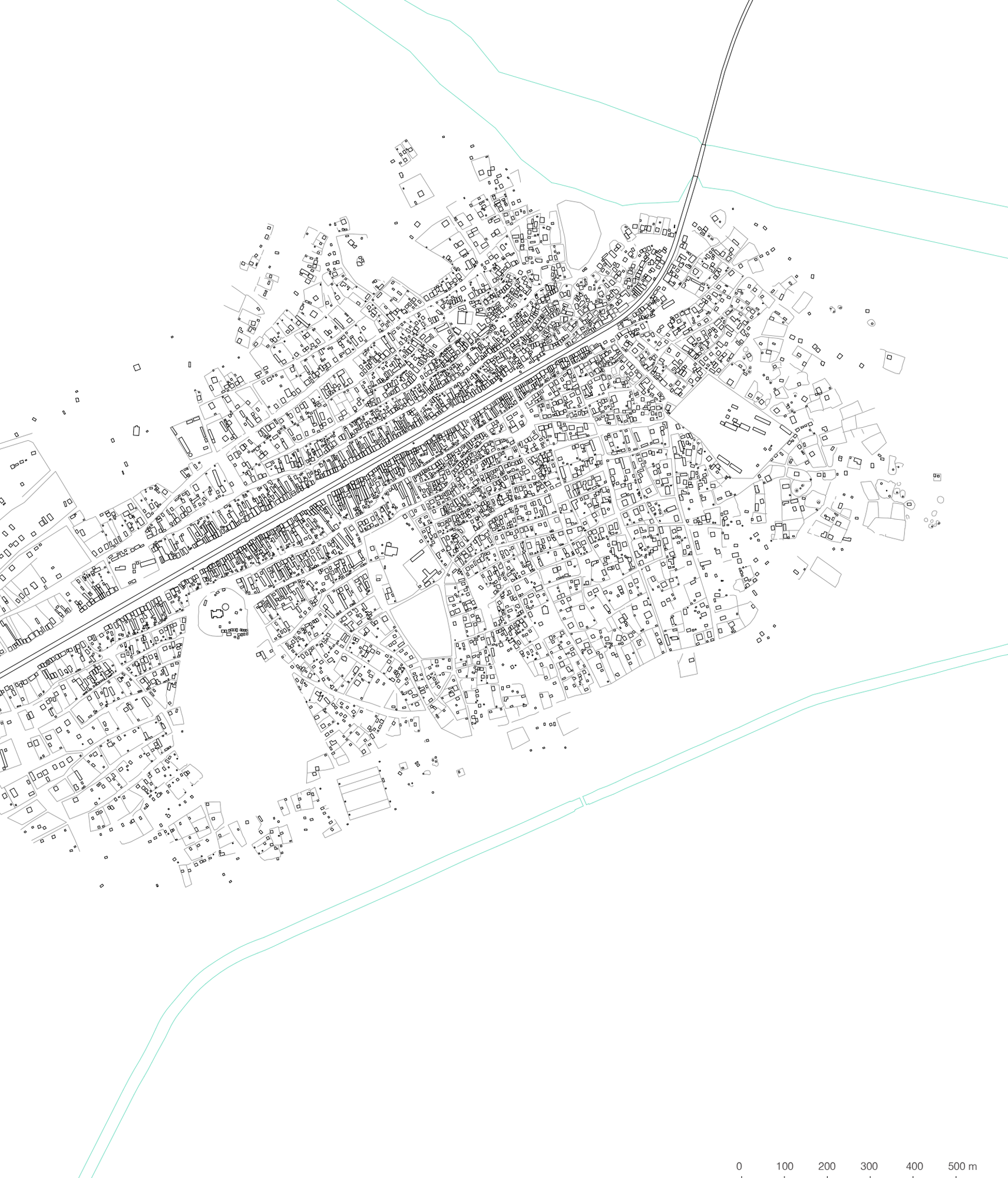
As a pedestrian, you are always second class. Off the main road, you realise that you are in the middle of the desert. The roads are sandy and soft and therefore there is less traffic. The streets are separated from the houses with high fences which prevent a passer-by from seeing into the houses and the courtyards are also hidden from view. This is also a common characteristic because each house is fenced. Zoning between public and private is thus clearly marked. At the beginning, it was difficult to orient myself because everything looked very similar to me. After three days however, I found the way from our living quarters to the APDA office by myselves.

In the city centre, the built-up structures are very dense and there are always a lot of people around. You could say that the whole infrastructure is concentrated there. Away from the city centre, it becomes less and less dense. In the outskirts there are only a few houses and it is completely different from the centre. The outskirts are almost a bit scary and I no longer had the feeling that I was in the same city anymore. Beyond the last houses, to the south and south-east of the town, there is a big waste dump which attracts wild dogs and vultures. This dump reinforced the feeling even more that I was in a different city. There is also an animal cemetery where different animal parts lie around. This however, can be found everywhere in the city. There is no slaughter house and the animals get slaughtered outdoors. Goat legs and heads are not needed and they stay on the street. The good thing is that it does not stink. I thought this was because of the dry heat.

Finally, even though I was a foreigner in the country and I came from a different culture, I felt very secure and Logya is now like a second home for me.

CITY STRUCTURE

Fig. 46 Logya city structure M= 1:10,000, July 2012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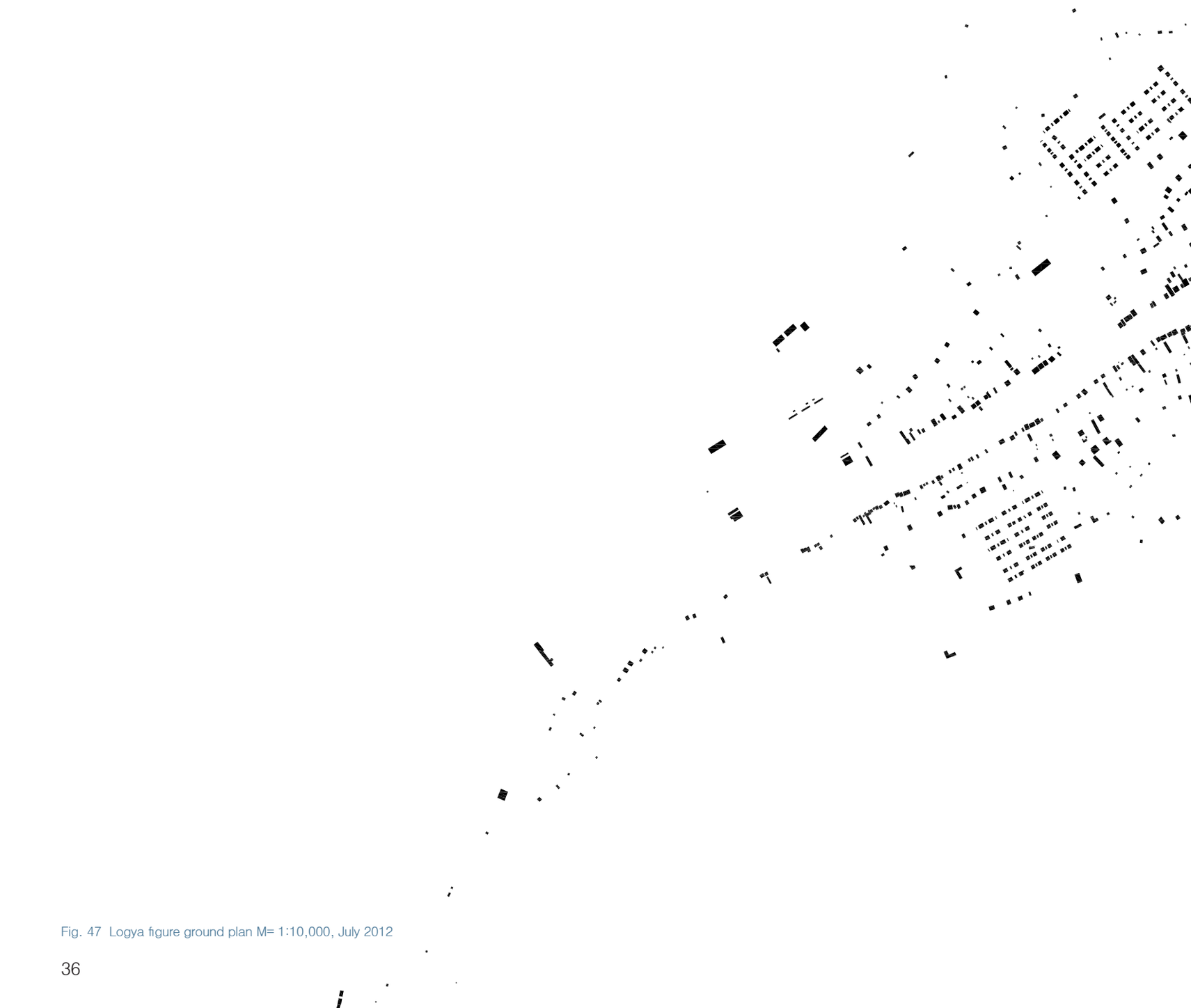
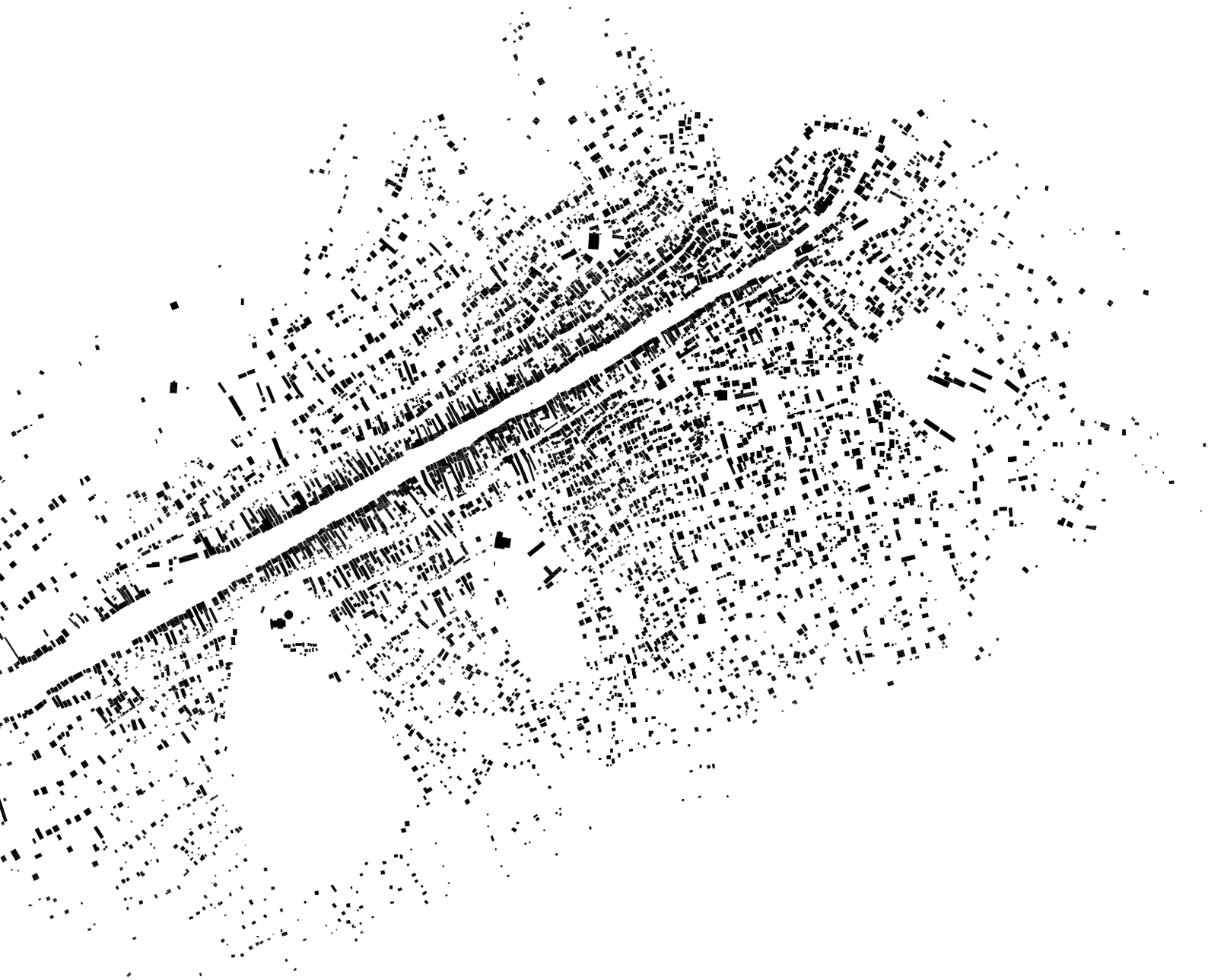


Fig. 47 Logya figure ground plan M= 1:10,000, July 2012

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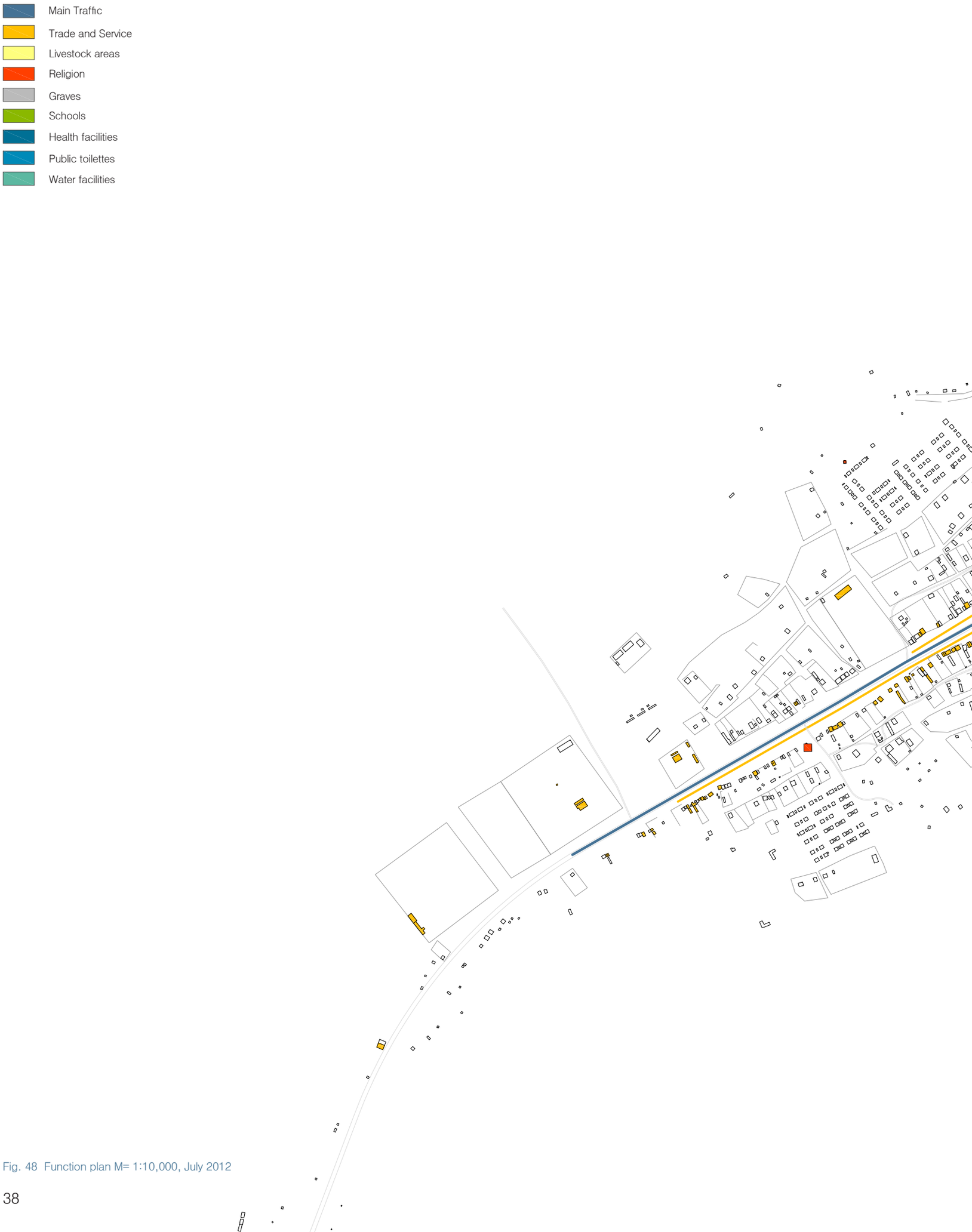
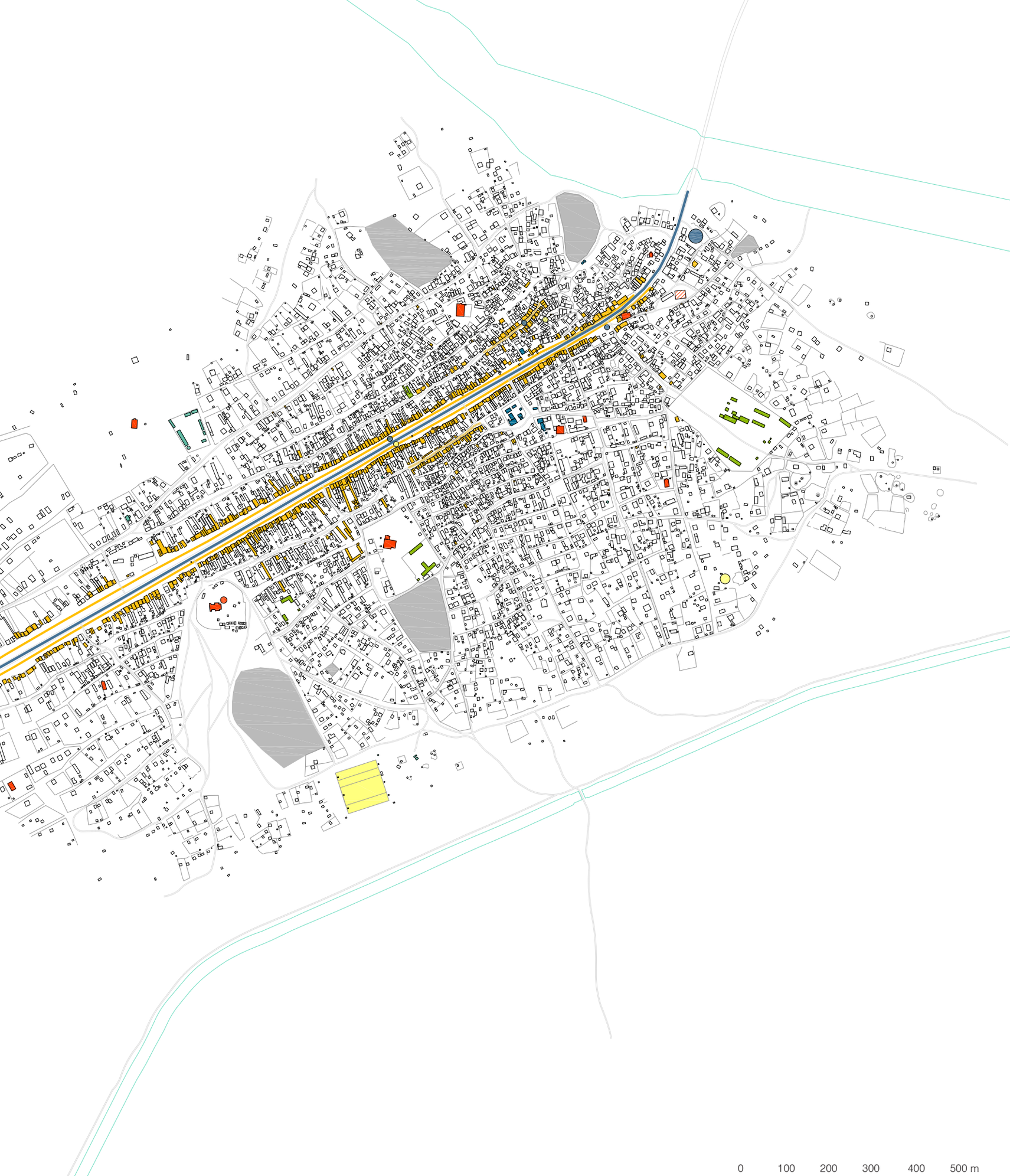


Fig. 48 Function plan M= 1:10,000, July 2012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DESCRIPTION

The structure of Logya is very logical and understandable and is closely tied to the history of the city. The first element is the Addis Ababa Djibouti Highway (Addis Ababa – Assab road). Ethiopia does not have its own coastline, but trade with the Arabic world plays a very important role in the economics of the country. Trade involving Eritrea was suspended due to the ongoing conflict between these two countries. In the last years Djibouti has become the main trading partner of Ethiopia. All of the goods transported between the coast and Ethiopia travel through Djibouti. Along the Addis Ababa Djibouti Highway more and more people have settled and new cities, including Logya, have begun to emerge. Additionally, there were restaurants, shops and hotels built for the truck drivers who stopped to rest during their trips.

From the start, the houses were built beside the road which describes the linear structure the city has now. There is also a small place in the east of the city named *Piassa*. This is the old part of the city which is home to the oldest mosque (52 years old) and also serves as a popular meeting place in this area. (Fig. 49)

The structures beside the street are very tight and most of the commerce can be found there. These buildings are for business only and the residential areas are located in other parts of the city. A few blocks away there are buildings for mixed use which are for business and living.

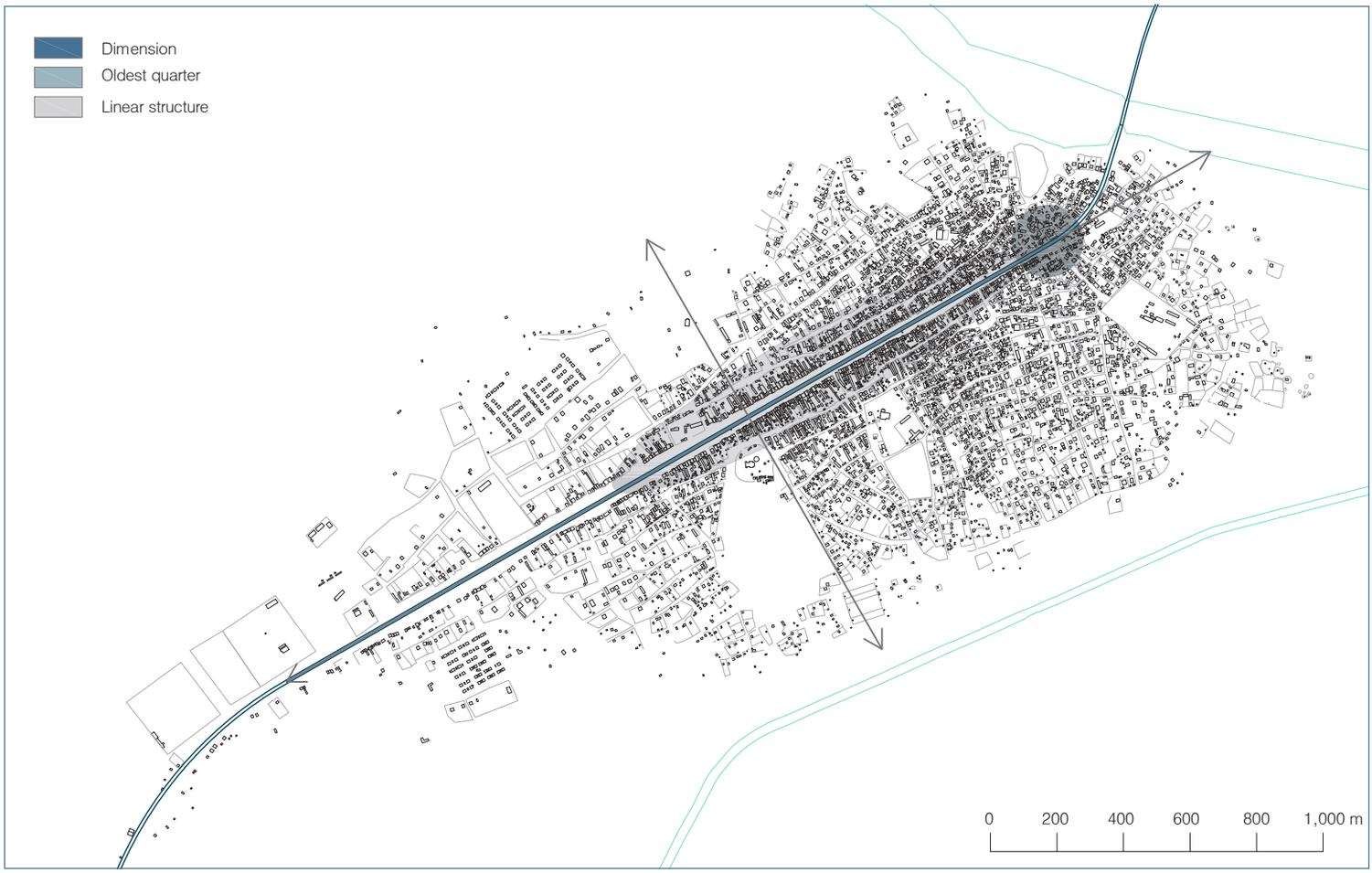


Fig. 49 Logya M= 1:20,000, July 2012

Fig. 50 Buildings beside the main road

Even further away from the road there are only residential houses. As the city spreads away from the highway the structures becomes less and less dense. This development is clearly visible on the figure ground plan. (Fig. 47)

The size of Logya is ~3.2 km length and ~1.4 km wide. (Fig. 49)

Logya does not have a true centre, such as market places or religious buildings, where people meet. It is more an elongated core which emerges from the Addis Ababa Djibouti

Existing Land Use classification		
129.35	42.27%	Residence
61.25	20.02%	Road and Access
35.42	11.57%	Service
29.79	9.74%	Gorge River ways
19.48	6.36%	Commerce
14.96	4.88%	Mixed residence
7.60	2.48%	Manufacturing
6.75	2.20%	Vacant land
1.33	0.43%	Administration
0	0%	Recreation, Open & Green
0	0%	Agriculture
0	0%	Forest
305.95	100%	Total existing town
Area ha	%	

Tab. 13 Land Use in Logya

Highway. Due to the importance of the road, connected buildings of up to 350 meters have developed. This has led to narrow fronts for the shops and service facilities. (Fig. 50) Often however, there are long plots on the back of these buildings.

It can be seen that the later expansions are more structured, which shows that the city concentrated more on the development of establishing a permanent, serviceable town. (Concept Plan 2009)

LAND USE

From the start, there were only basic service provisions in the transport sector. With the further expansion of Logya and the birth of Semera, there was space for diversifying land use. The function plan (Fig. 51) and the table (Tab. 13) show how the land is used.

The size of Logya was figured at 305.95 hectares which delineated the boundary of the areas which are actively used and have direct contact with the town and its occupants. From this area, 68 hectares were circulation and vacant lands with scattered settlements. (Concept Plan 2009)

Most of the land is used by the residents and the area is only for living. Only a few small shops can be found here. In the second position are the roads and accesses which include the asphalt main road and all other unpaved roads, parking areas and bus stations. Also, a large part of the land is used as a service area. These can be public or private and are used for holy places, graves, clinics, schools, and more. Along the main road are most of the commercial areas, which include shops, coffee houses, restaurants and hotels. The last mentionable areas are mixed used. Different functions are mixed with living in these areas. These can have two separate appendages. The residence can be separated from the other function or it is included. There are many houses with a shop or a coffee house in the front and an adjacent room for living on the backside.

Recreation, open and green areas, agriculture areas and forests do not exist.

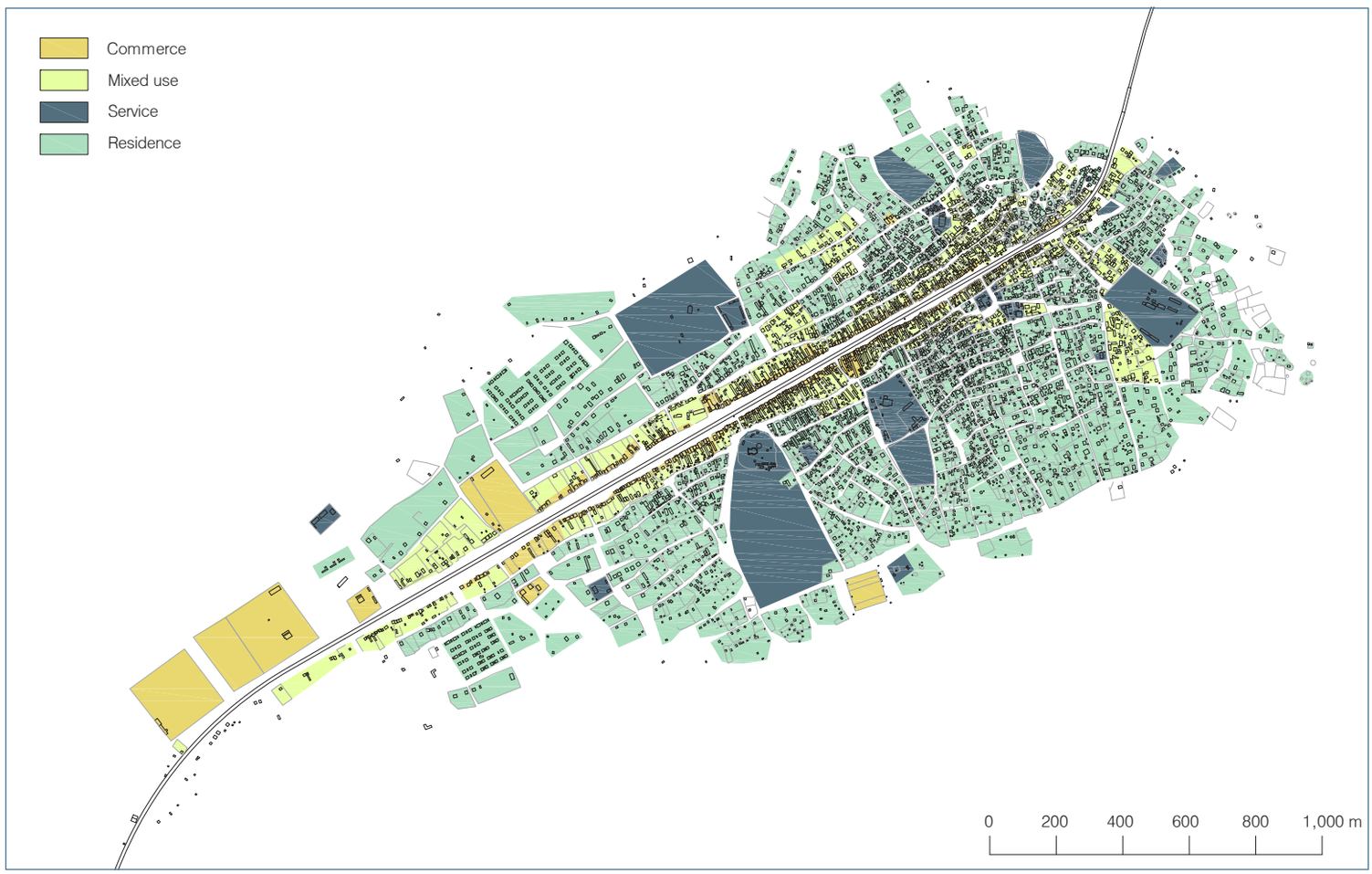


Fig. 51 Function plan M= 1:20,000, July 2012

STREETS AND TRAFFIC

Main Existing Roads

The most important road in Logya is the Addis Ababa Djibouti Highway and it is the only paved street. It separates the city into two areas and acts as a barrier between them. As a result of the highly frequented road it is not easy as a pedestrian to cross the road. In some places the street is elevated more than three meters from the grounds original level because of technical reasons. In between are gravel slopes and they can be quite steep. (Fig. 52) There can be a distance between the street and the buildings that ranges from 1.5 to 30 meters.

Every day of the week there is an exuberate amount of hustle and bustle on this road. Trucks, busses, cars, *Bajajs* and pedestrians are all using this space. But it is not only used as a traffic zone, it is also a place where products are sold.

Unlike the main road, around which the city structure was orientated, the unpaved roads were not planned and they developed just between buildings or fences. (Fig. 53) The high fences that surround the residential buildings are kind of a trademark of the city. Even currently they have not been revised or developed. These roads have no cover, it is only the sand surface from the desert floor. The size of the roads range from very small (~ one meter) to very wide (~ twelve meters).

The traffic on these roads is predominately pedestrians and animals, with few automobiles. There are roads that are fairly frequented and the main unpaved roads are marked on the plan. (Fig. 54)

The unpaved roads have more functions than the main road. There are places where people can meet and there are playgrounds for children. There is also a market place and some of the waste is burned on the road.

Fig. 52 Addis Ababa Djibouti Highway

Fig. 53 Unpaved road

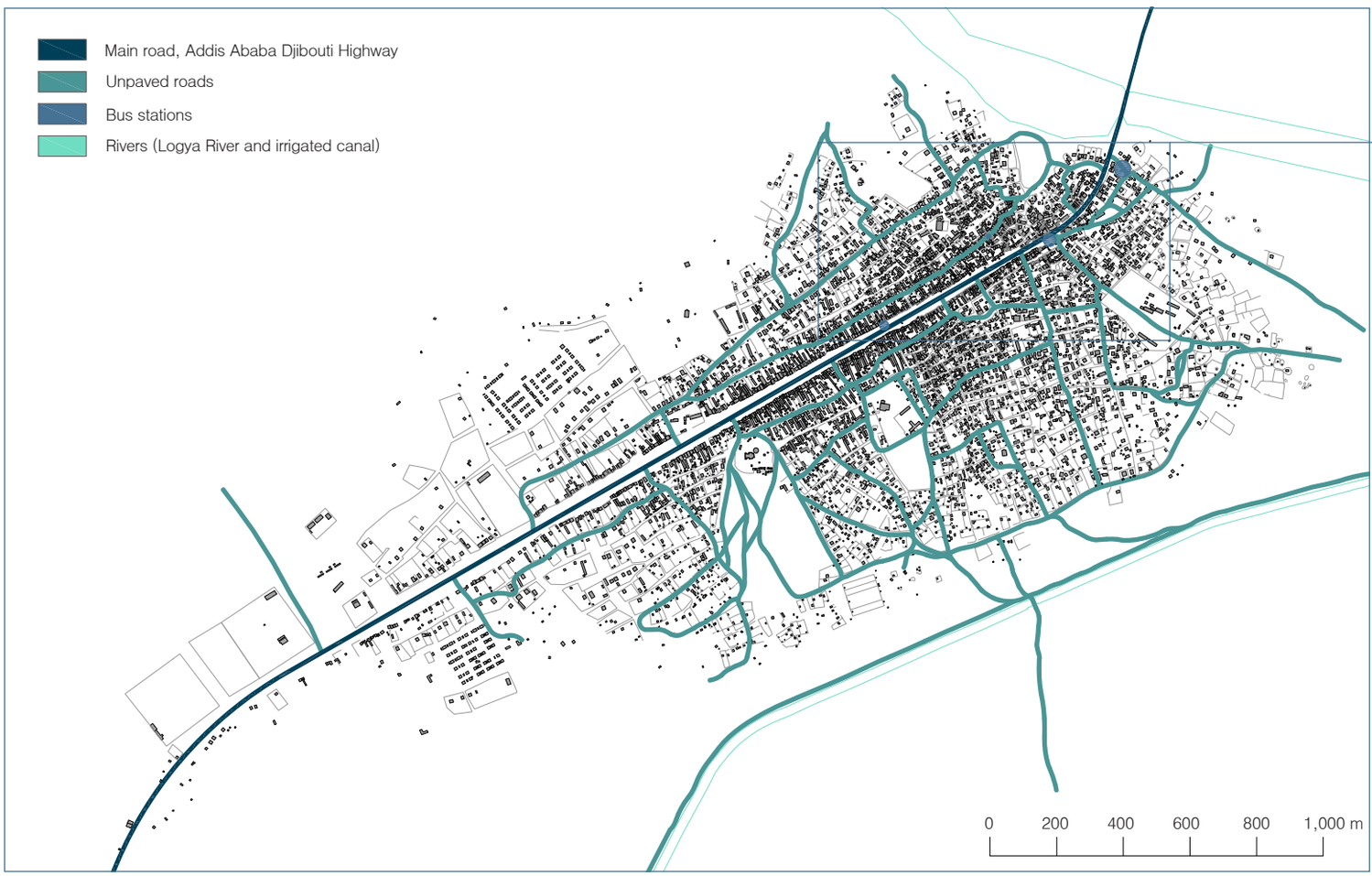


Fig. 54 Important roads from Logya M= 1:20,000

Passenger Transportation

The local transportation in Logya is very good. There are local and regional routes. Minibusses, midibusses and some trucks are used for regional transportation. For local transportation *Bajaj* and horse buggies are used. All these are run by private companies, with only the service busses being operated by the government.

Mini and Midibuses

The most important transportation is the mini and midibusses. (Fig. 56) (Fig. 57) They are intended for short distances (for example to the nearest city Semera, which is five kilometres away) as well as long distances. The system is the same for both of these types of transportation.

The only visible bus station is located in the east part of Logya which is also a parking area for the busses. There are two more stations but they are not marked. One of these stations is located by the *Piassa* and the other one more west beside the main road. (Fig. 55) Everyone knows the stations and it is also possible to get into the bus from the road, but you have to attract the attention of the bus driver. The three bus stations are distinguished by their final destination. There are no bus stations between the cities, but it is always possible to get in and out of the bus at any place.

There is no departure time, but simply leave when the bus is full. The busses are not labelled in any way and there are no route maps. Normally there are two people working in the bus, the bus driver and an assistant, who shouts the final destination out of the window and collects the money from the passengers during the drive.

The busses are only allowed to drive during the daytime. The first bus starts at six o'clock in the morning and the last one leaves at eight o'clock in the evening. If the distance is too long to be covered in one day, they must stop and continue the journey on the following day. There are no days off but it is normally busier during the week (Monday to Friday).

The busses are owned by private companies. They need a license for running these businesses and they have to renew this license yearly. The transportation office has to inspect the busses for safety reasons once a year. The bus driver needs a drivers licence. It takes one day to get the drivers permit for every car, except in the Afar Region, in Addis Ababa which takes a lot longer. The transportation office is located in Semera and they have to go there to check the car and for the permits. The companies are required to pay taxes from their profits, which is done in a separate office also located in Semera.[11]

One of the most important routes is between Logya and Semera. For every bureaucratic necessity the people have to go to Semera, the main city in the Afar Region. Almost all fees and taxes have to be paid there. During rush hour there are many busses in each direction. One ticket costs 4.– ETB (~0.16.– EUR) for one way.

The permitted number of passengers is limited to the existing seats, but usually the busses are overcrowded. The government carries out random checks to discourage violations. If the

Fig. 55 Bus stations M= 1:5,000

bus is overcrowded the companies must pay a fine.

The busses are also used to transport goods. Normally the passengers take the goods with them, but it is also possible to give the bus operator a transportable package. During one drive a man gave a small package to one of the bus operators. On the way the bus stopped and I saw a small semi-permanent nomad village further away. The bus operator made hand signals to the village and after a reply from the nomads the operator left the package beside the road.[12]

Truck for Passengers

There are also smaller trucks with a loading area for the passengers. The loading area has space for approximately 70 people. (Fig. 60) Transportation of this type is used for long distances. These trucks also drive during the night because of the long distances between villages in the region. The truck to Teru takes twelve hours and it costs 200.- ETB (~8.- EUR). In one week they drive two or three times in each direction.

Bajaj

Bajaj is the name of an Indian company, with their flagship being *Bajaj* Auto. They are specialized in two-wheelers and three-wheelers. The company is one of the ten biggest in India and it is the largest exporter of three wheeled commercial vehicles in the world. Most of these vehicles are sold to Africa, Latin America and South Asia. (www.bajajauto.com)

Most of the three-wheelers are used for commercial transport of passengers. In Ethiopia they call the vehicle *Bajaj* which comes from the name of the company. The *Bajaj* are only for local transport and they are found in bigger cities. One precondition needed for using them is an asphalt road.

The *Bajaj* in Logya are usually found on the main road and they drive from one end of the city to the other. There are no stations and you can get in and out of the vehicle at any point. (Fig. 58) (Fig. 59)

It is also a private business and the bureaucratic procedures are the same as for the mini- and midibusses. The drivers need a drivers licence and permission from the company. Permission for running a *Bajaj* costs 200.- ETB (~8.- EUR) each year.[11]

During an interview in April 2012 with the Transportation Office in Semera I was informed that 103 minibusses and *Bajaj* in Logya and Semera have a permit to operate. The *Bajaj*-drivers have no fixed time limits for working; they are allowed to drive the entire week during daytime hours.

The price depends on how far you travel. It costs 5.- ETB (~0.2.- EUR) from one end of the city to the other and a short trip costs 1.- ETB (~0.04.- EUR). Normally the *Bajaj* drive on the main road but it is possible to go inside to Logya on the unpaved roads; the price however increases by approximately three times.

The official maximum number of passengers allowed per *Bajaj* is three but normally the operators pay no attention to this rule. Once we were eight people in the *Bajaj*, the driver, three children and four adults. On the road we were

11 _ Interview in the Semera Transportation Office, 23.02.2012

12 _ The bus offered good possibilities for me to travel around the area. It was very interesting to see how people dealt with each other. Taking the bus is a diverse social experience and the bus operator takes care of the passengers. Once we went from Mille to Logya and the bus was already in the 'bus station'. The bus operator told us that they would drive at the earliest in an hour but we could walk around and the seats would be reserved for us. The bus was already full after we came back but our seats were free. Then we were informed that we would start a bit later because we had to wait for other passengers. It was praying time and two women were in the mosque. Another time someone brought a sheep with him and it was stored in the luggage space.

13 _ I conducted an interview with a man who owns 20 camels. Normally he is moving between places and distributing goods around the region using his camels as a means of transportation. (Interview 28.02.2012)

Fig. 56 Minibus

Fig. 57 Midibus

Fig. 58 *Bajaj*

Fig. 59 *Bajaj*-driver

Fig. 60 Truck for passengers

Fig. 61 Horse buggy

Fig. 62 Donkey

Fig. 63 Transportation of goods via camel

stopped by an Afar policeman but after a short chat he allowed us to continue.

Horse Buggy

There are also horse buggies used for local transportation besides the *Bajaj*. They are not allowed to drive on the main road, only on the unpaved roads. The horse buggy is used for the transportation of passengers and also goods. It is much cheaper than the *Bajaj* if you want to drive on the unpaved roads. There is no permission or licenses necessary to operate a horse buggy. (Fig. 61)

Service Buses

Service busses are operated by the government. They function only as a connection between Logya and Semera. As already described, most of the offices are located in Semera which is the main city of the Afar Region. Semera is a relatively young city and its development started with erecting the most important offices and the university. There is however a lack of residential houses and an infrastructure does not really exist. Most of the people who work in Semera live in Logya.

The government allocates these busses to be used by these personnel. The busses are driving two times in each direction per day from Monday to Friday. Normally the office hours are from 8 – 12 o´clock and from 16 – 18 o´clock, with Saturday and Sunday free. The bus is free but only for government employees who work in Semera.

Private Transport

Most of the traffic in Logya is made up of the trucks and public transportation. There are a few jeeps on the roadway but most of them belong to organizations or NGO´s and not individual persons. Normally the people in this region do not have a drivers license if they are not a driver or an owner of a car. The NGO APDA for example has a few jeeps and each of them has its own driver.

It is really an exception that a private person owns a car, only perhaps a handful in all of Logya.

Bicycles are also incredibly rare. We have not seen many of them in the Afar Region except for Afdera. Here there are lots of bikes and there is also a place where you can borrow them.Thus, it goes without saying that almost all of the residents from Logya and from the other cities go by public transportation.

Transportation of Freight

As described earlier, the city is correlated with the Addis Ababa Djibouti Highway, which was built for the purpose of transporting the imports and exports of Ethiopia. It is the only connection to the sea and all the trucks have to pass through Logya. This has different effects on the city. The business aspect is one positive consequence. Some of the truck drivers stop in Logya to buy something to eat, take a break or stay overnight in a hotel. Another positive effect is the good connections to other cities because of the well developed road. Some of the negative aspects come from the consequences of having heavy traffic in the city. Some of the goods are transported to Logya in this way.

For the regional transportation of goods it is possible to travel by car or with camels.[13] (Fig. 63) You can rent cars in Logya with or without a driver.

Donkeys and horses are used for the local transportation of goods. (Fig. 62) The donkeys are carrying goods on their backs or on primitive trailers and the horses on a horse buggy.

EDUCATION

During my field study in Logya there was one elementary school (public) and three kindergartens (private). Most of the pupils are going to the public school. (Tab. 14) Ethiopia in general has no compulsory education.

The school system is divided into primary and secondary school. The primary school has eight grades, from one to four is the basic education and from one to eight the general education which includes a certificate. After that comes the secondary school with grades nine and ten, ending with a final exam. If students want to go to university they have to finish a preparation phase (grade eleven and twelve) with a university entrance examination. (Schröder 2005)

Many of the children cannot go to school because they have to help at home or with the animals and the family cannot afford it. Normally the pupils start at age seven but this is not a requirement. The age does not necessarily correlate to a grade. It is also possible to start later or as an adult. Students can also suspend their studies and continue later.

Public School

Junior High School

The public school buildings are some of the oldest in Logya. (Fig. 67) The complex was built by the Italians during the occupation (1935 – 1941). The school area is very big with a few buildings and one large area which is used as a meeting place or soccer field. This is a primary school and they teach from grade one to eight. The lessons are in Afar but the students also learn Amharic, which is the main language of Ethiopia and has to be taught as a second language.

The pupils have to wear an uniform and they need books and something to write with. For many families the costs are to high and the children cannot go to school or cannot finish.

The school is overcrowded because of the lack of classrooms. There are only 18 rooms for 1,710 pupils; meaning that in every room there are almost 95 students. There are also not enough teachers, only 29 for the whole school.

Kindergarten[14]

There are three kindergartens in Logya. I visited all three of them and conducted two interviews. One in the *Aramis* kindergarten and the other in the *Awash* kindergarten. Both of them are private, which is noticeable in the better quality of the school buildings, the equipment and also in the more professional education. (Fig. 66) There is a small area with a playground which can be used during the break. The price for the private kindergarten is 150.– ETB (~6.– EUR) per month.

Close to the refugee camp there is a new school being built but it was not finished during my visit.

Aramis Kindergarten

The *Aramis* kindergarten is for children between the ages of four to nine and after the third grade they can go to school. (Fig. 69) The kindergarten had 60 pupils in 2012 which were divided into four classrooms. Each classroom has one teacher. There are six classrooms in total but only four of them are used for lectures. One of the free classrooms is used as a small library. Education time is in the morning from seven to eleven o'clock and in the afternoon from three to five o'clock. The children have one hour each day for playing. The school is open from Monday through Friday and closed on Saturday and Sunday. [15]

Awash Kindergarten

The *Awash* kindergarten was built in 2007 and offers an elementary school and kindergarten. The lessons go from grade one to grade eight. There is space for 400 pupils in ten classrooms. In April 2012 the school had 9 teachers. Normally the lessons are in the morning and in the afternoon from Monday through Friday. During the hot time of the year (starts from May) the lessons are only in the morning. The break lasts a quarter of an hour and the children can use this time for playing.[16]

Sport

There are no obvious sport areas in the city. Soccer is the most played sport and there are some area where the children can play. One of the biggest of these areas is the soccer field in front of the public school. (Fig. 64) There is also a big field close to the Christian church which is used for playing and the kids also use wider roads. (Fig. 65) Another sports area we found was a volleyball field but during my time I never saw anyone using this facility.

14 _ The 'Kindergarten' is a Pre school and an elementary school and the age of the pupils ranges from four to nine. In the Pre school the children are already learning to write and read and they have to sit in a classroom. The children can use the time during the break for playing.

15 _ Interview with a teacher of the *Aramis* kindergarten, 11.04.2012

16 _ Interview with the director of the *Awash* kindergarten, 13.04.2012

Number of pupils and teachers by school type			
1,710	400	60	Pupils Nr.
29	9	4	Teachers Nr.
18	10	4	Nr of rooms
95	40	15	Pupil: room ratio
58.9	44.4	15	Pupil: teachers ratio
Junior High school	Awash Kinder–garten	Aramis Kinder–garten	

Tab. 14 Number of studens and teachers

Fig. 64 Soccer field in front of the public school

Fig. 65 Kids playing football on the road

Fig. 66 *Asan* kindergarten

Fig. 67 Junior High School

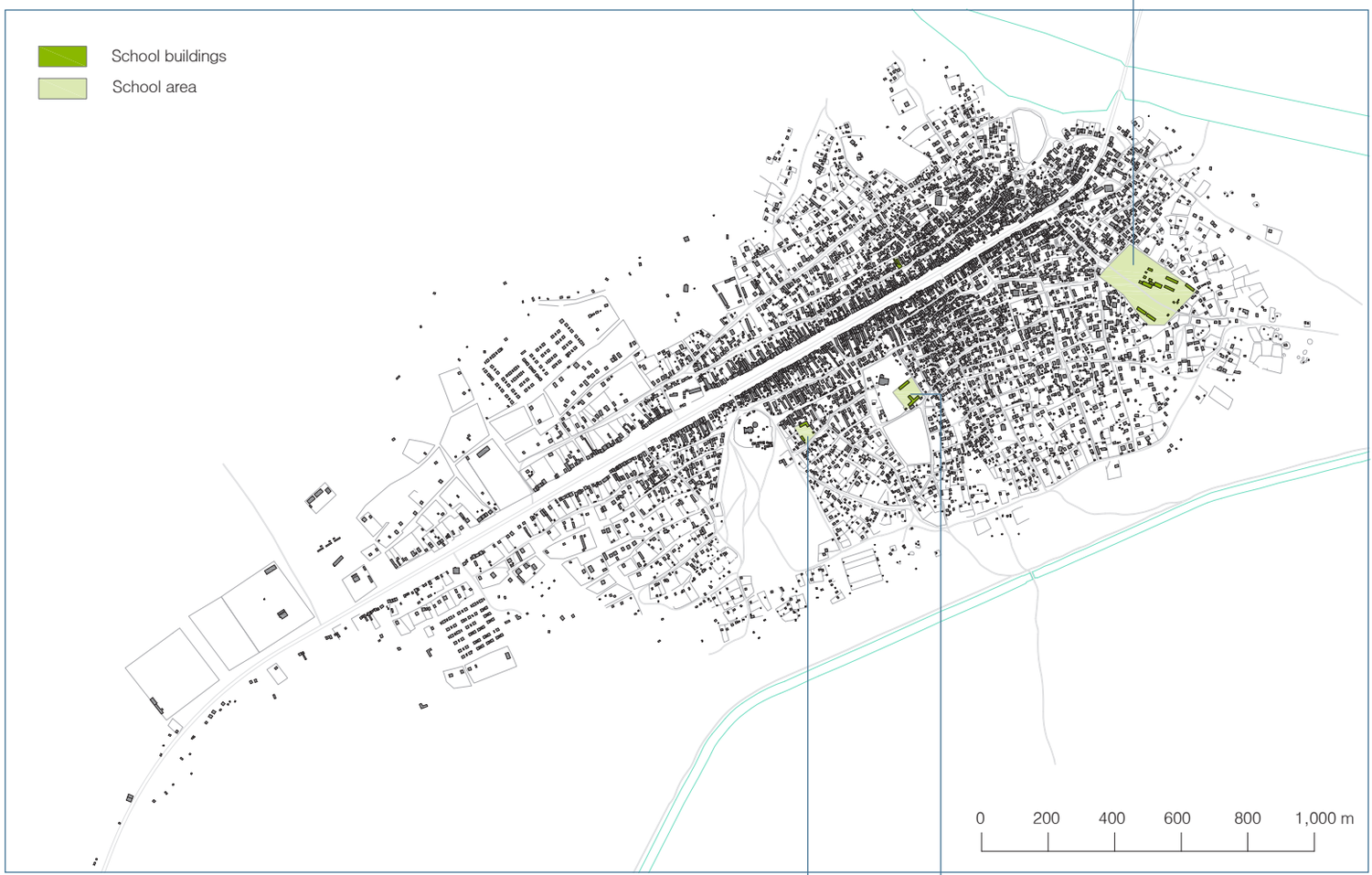


Fig. 68 Schools in Logya M= 1:20,000

Fig. 69 *Aramis* kindergarten

Fig. 70 *Asan* kindergarten

HEALTH FACILITIES

There are eight clinics in Logya. One, the government health centre, is public. The other facilities are private clinics.[17] There are also chemist shops, but they are all private.

In the document 'Concept Plan', there is a table which shows that in 2009 27 health workers were employed in the government health centre. There are medical doctors, traditional birth attendants, mother and child treatment, pharmacy technicians, laboratory technicians and nurses working in the clinic. (Concept Plan 2009)

During my stay I visited one of the private clinics for health reason. It was very interesting to see how it works. We went to a private clinic and a man wrote up our personal data in the entrance area. The first visit costed 25,– ETB (1,– EUR). In the back part of the facility there is a covered courtyard with different rooms. The next step was visiting the doctor's office. After the medical check–up we needed some medication, which we bought from the chemist shop next to the clinic. For subsequent visits we did not have to pay anything. The doctors in the clinic were well trained and friendly and we had the feeling that we were in good hands.

I also conducted a small interview in a chemist shop. The man who runs the business is a doctor and a chemist. Before he could open the shop he needed a permit and each month he has to pay taxes for the business.

17 _ Interview in the Semera Logya City Administration, 15.02.2012

RELIGION

As already described, Islam is the predominant religion with 77.3%, of the population considered followers, the next biggest religion is Orthodox Christian with 19.8%, then Protestants with 2.6% and the rest of the population is spread among other religions with smaller followings within the country. These three religions are mentionable because they have religious buildings in the city.

During my research time ten mosques, one Orthodox Christian church and one Protestant church existed. Two of the mosques are quite big and are easily visible from a long distance. The other mosques are small inconspicuous buildings which were placed in the existing municipal boundary. One of the predominate buildings in Logya is the Orthodox Church which is placed close to the main road.

The design of the mosques are quite different. Two of the mosques are more visible than the others. Both of them have a minaret and they are colored. (Fig. 71) (Fig. 72) Another mosque has a completely different shape, with a dome that has green color on the roof. (Fig. 76) Also of interest is the oldest mosque, which is 52 years old. It is not easily visible but the design of the facade is unique. The bricks of this mosque are alternately colored in black and white. (Fig. 78) One Islamic practice is washing before entering the mosque. Normally there are places for worshippers to do this, but the old mosque has nothing and the people wash themselves on the road in front of the building. The other mosques look like normal buildings only bigger. (Fig. 73)) They are built in the *chikka* technique with the same shape, openings and roof. When it comes to the shape and building technique, most of the mosques resemble ordinary living houses. Sometimes the only distinguishing feature is the high minaret adjoining the building or loudspeakers installed on a mast. There are also some which are only marked with the Islamic Religious symbol of the crescent and star.

Most of the mosques are relatively young and were only built in the last four years. There are three mosques which are older than the others, which are 52, 24 and 18 years old.

Almost all of the mosques have a Koran school within them. They can be separate buildings or an outside open area. There are also Koran schools which are not connected to a mosque.

The Orthodox Christian church is a very dominate building, which distinguishes itself from the other buildings. (Fig. 77) They started building a few years ago and during our visit in February 2011 it was almost finished. In 2012 the church was already being used but the outside area was not yet finished.

In the document 'Concept Plan' it is written that the church is well located and has enough space. The three mosques on the other hand are found in the expansion area and are too small. (Concept Plan 2009: 72) In the last years eight new mosques have been built and some of them are quite big and also highly visible. It seems as if after construction on the church began the Islamic community also started to build bigger and more visible buildings.

During my stay I had the feeling that the Islam and the Orthodox Christian communities coexisted well. It appeared to me that there was a positive acceptance between the denominations.

The city has six cemeteries. One of them is located near the church and is for the Christians. The others are close to the mosques and are for the Muslims. There is no difference between Islamic and Orthodox graves. The cemeteries in Logya are open areas with small heaps of stones. These are the graves and the heaps of stones have two functions. One is to mark where the body is placed and the other is to prevent animals can digging them up.

Fig. 71 Mosque

Fig. 72 Mosque with minarette

Fig. 73 Mosque

Fig. 74 Mosque under construction

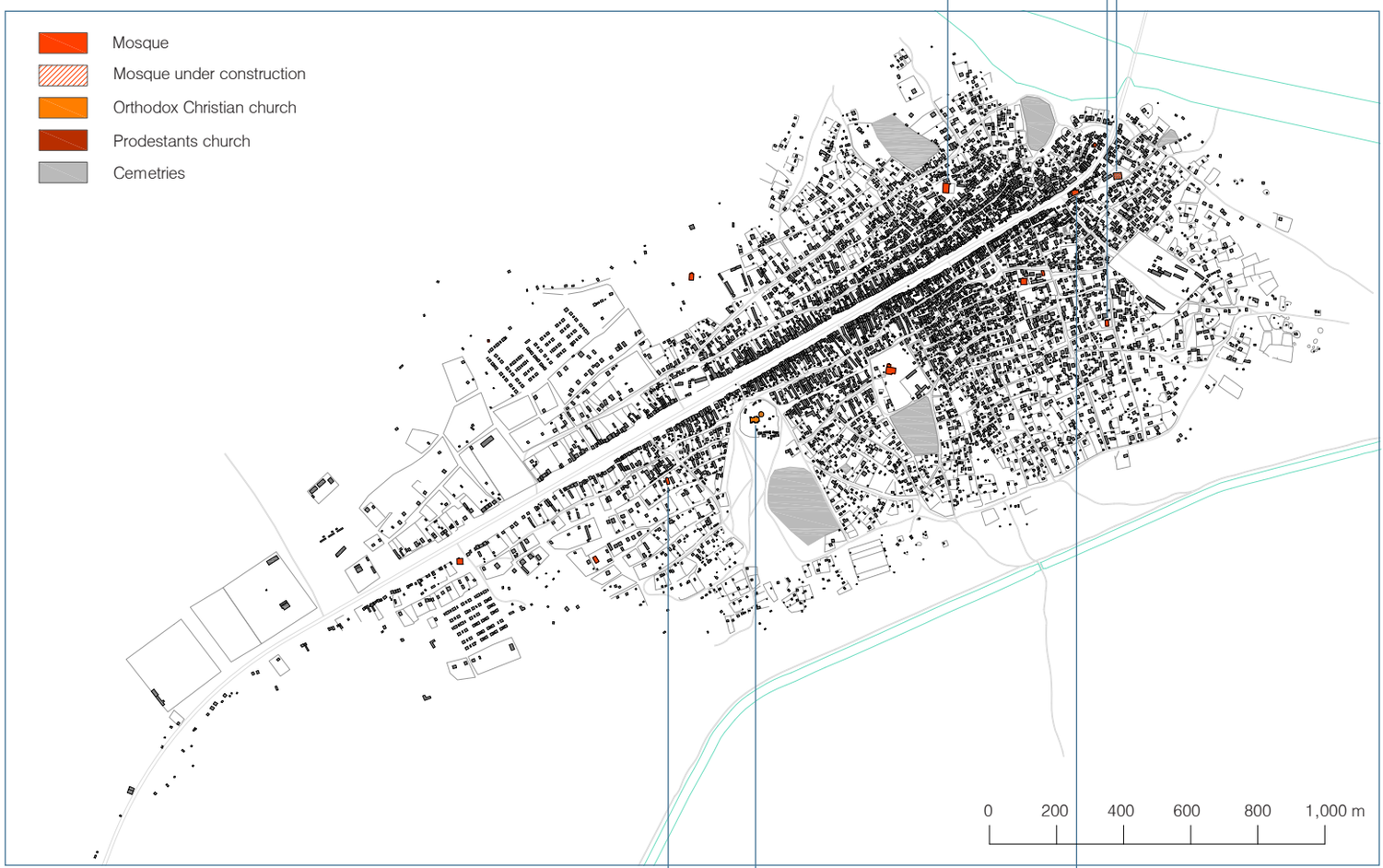


Fig. 75 Mosques, churches and cemetries in Logya M= 1: 20,000

Fig. 76 Mosque

Fig. 77 Orthodox Christian church

Fig. 78 Oldest mosque

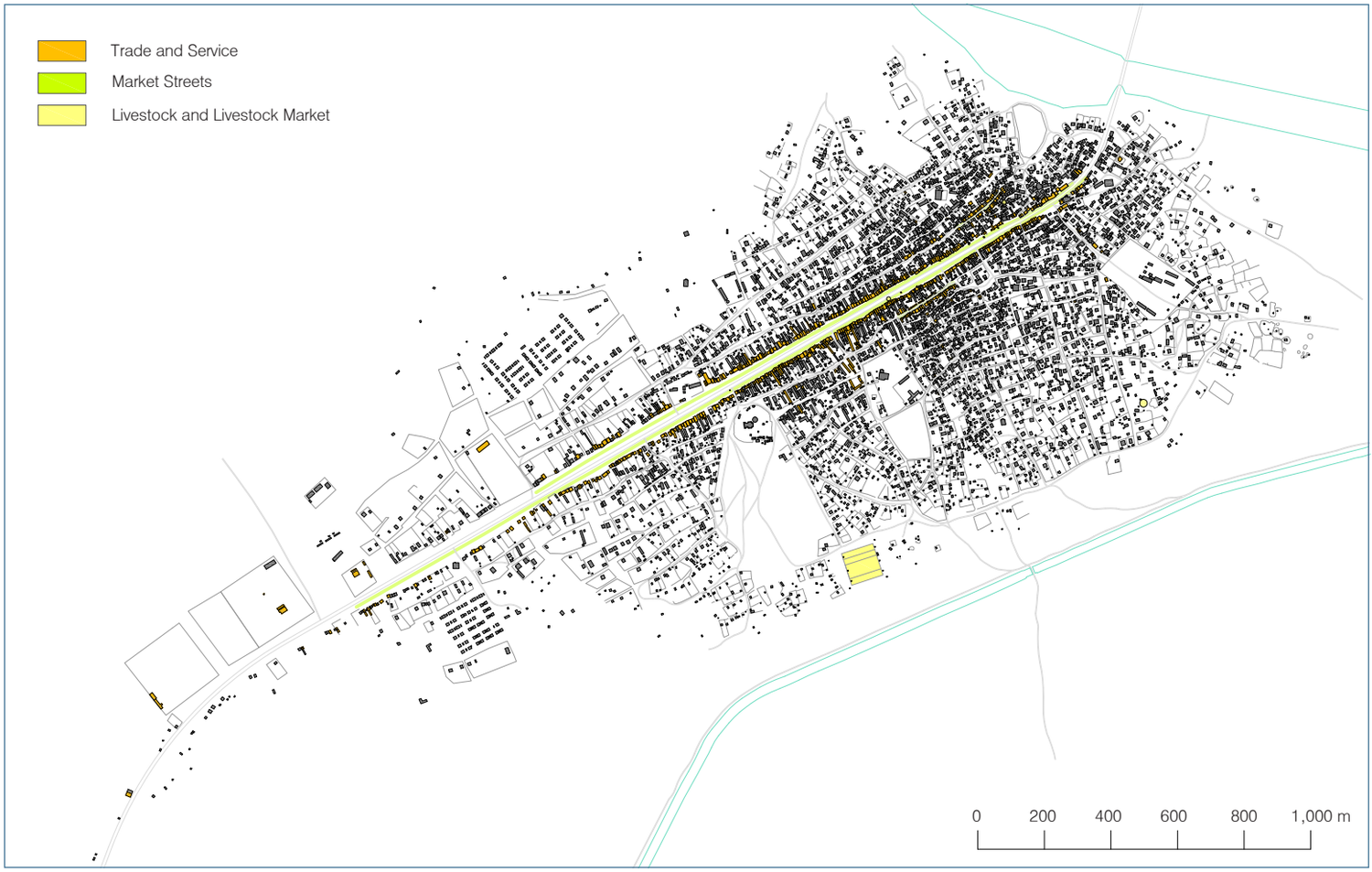


Fig. 79 Trade, service and livestock in Logya M= 1: 20,000

TRADE AND SERVICE

The most important aspects of the local economy is trade and catering services. In 2009 there were approximately 500 trade and service businesses, half of which were officially regestired with the government and half of which were not. All of the service businesses were informal and also almost one third of the trade. (Concept Plan 2009) The government is becoming more and more visible in Logya and to open a new business it is necessary to have a permit. The existing businesses also need a permit, which are now being exhibited gradually. Some of the service businesses are not informal anymore. Business owners also need a permit for coffee houses and restaurants now. It is common practice to place the permits somewhere visible within the business.

Most of the trade and services are found beside the main road. There are also two market streets with many shops, coffee houses and restaurants. (Fig. 79) There also are shops and restaurants in the residential areas but most of them are integrated with the living houses and some of them are not really visible.

Fig. 80 Shop beside the main street

Fig. 81 Inside of a shop

Fig. 82 Meet shop

Fig. 83 Small shop

Trade

Wholesaler

There are some wholesale shops in Logya which sells various products like sugar, salt, fabrics as well as many others. Normally these shops sell products that are for daily needs.

To lower the costs of goods, some shop owners (mostly Amhara) decide to go to the highlands, where they acquire what the need and transport it to Logya themselves.

Some Afar on the other hand go to Djibouti and buy their cloth or even already made clothes, which they trade either in the city or in the rural areas.

Retail Trade

There are very different types of trades in Logya. The formal bigger shops are located in the designated areas. The shops differentiate based on the products which they sell. There are shops for food, household articles, electronics, fabrics, shoes, cosmetics and so on. Normally the shops have one room with shelves and one counter which divides the customers from the salesman and the products. These shops are never self-services. (Fig. 80) (Fig. 83) The super markets are somewhat bigger and are self-service shops with a wider range of products.

It is not easy to explain what the shops look like. The small shops are not self-service and you can buy different products such as food, vegetables, eggs, soaps, shoes, household articles and more. (Fig. 81) Once in a fabric shop I was told that they also sell cold drinks and there is a small place on the floor with a covered mattress where the customers can sit.

The shops are open every day of the week and the opening hours depend on the praying time. Some of the shops are closed during lunch time from 12 – 16 o'clock.

It is not possible to get every type of food in one shop. The super markets have no fruits, vegetables, meat and so on. There are other stores which are selling these products. There are a few market stalls where you can buy meat. (Fig. 82) It is a place with four wood piles and the roof is a palm mat and the meat is sold only in the morning from 7 – 10 o'clock or until everything is gone.

Most of the shops are marked in some way, but there were also some that did not clearly distinguish themselves as shops. You have to know that they are selling products to find them. The saleroom is often connected to the living area and normally the salesmen are absent and you have to clap your hands to attract attention to yourselves.

Some salesmen use the street as a sales area. For example, for wood or charcoal they place small amounts in front of the house and if you want to buy something you have to enter the private house. (Fig. 84) Another type of business is one which has no salesroom and is found beside the main road. Here women are selling fried dumplings filled with vegetable or meat and also fried corn. Mostly they are selling these goods in the evening and they are aimed at drivers, but of course everyone else, including me, also were taking advantage of their availability. Next to the *Piassa* women are selling fruits. The goods are presented on a box and they have a scale for the weight. Sometimes the areas in front of a shop are also used for selling products.

Another possibility for selling products is to move around with the goods. People sometimes use a wheelbarrow and walk from house to house selling goods. (Fig. 85)

Normally the shops have to pay a tax and every month two men come from the government and collect the money.

Fig. 84 Charcol and wood sellers

Fig. 85 Portable shop – wheelbarrow

Fig. 86 Coffee house and restaurant

Fig. 87 Portable coffee house

Fig. 88 Coffehouse and restaurant

Mrs. Burtukan

Logya, 29.02.2012, Interpreter: Mr. Osman

Mrs. Burtukan is an Amhara woman from Kombolcha who has lived in Logya for fifteen years. Both of her parents are also Amhara and her ill mother moved with her to Logya, so that Mrs. Burtukan can look after her. Her husband was already in Logya and she joined him.

The household members consist of Mrs. Burtukan, her husband, mother, brother, their three children and one maid for housekeeping and cooking.

The plot is roughly 180 meters from the Addis Ababa Djibouti Highway. She runs a small food shop in an external house in her compound. The business however, does not do very well. The location of the plot is not ideal for a shop. There are not many people living in the area. She said it would be much better to run a shop in the city centre, but due to the high rents it is not an option for her. Her husband arranged the government license for the shop. The shop is open everyday from 7am – 7pm and only closes at praying time from 1 – 3pm. The family buys the goods in Kombolcha, which is seven hours away by car, using a rented car for the transportation. If someone else goes to Kombolcha they ask them to bring the goods.

The shop and the living house are built in the *chikka* technique which they hired a specialist to construct. The living house is divided into halves and the family lives in one of them. They rent the other half because the family needs the money. She hoped that the shop would perform better and the family could live in the entire house. The half house consists of one guest room and one sleeping room which eight people sleep in. There is a roofed terrace with a bed and they also sleep outside during the hot period.

The compound has several outbuildings with different functions like toilette, storage room and a stable. Mrs. Burtukan breeds about 30 goats and sheep and sells them.

Service

Most of the coffee houses and restaurants are close to the main road. Normally they are easily visible and there are benches and chairs inside and/or outside of the building. (Fig. 86) The outside areas are covered and are located in front of the building or in the courtyard. Sometimes they also include a small shop.

There are also restaurants and coffee houses which are not visible. During my interviews I asked people who live in houses if they have a business and they answered yes. Then they showed me a courtyard in the back of their homes with a few tables. There was no sign or anything else which marked the home as a restaurant. (Fig. 88)

The portable coffee houses are not only visible but extraordinary. This is a small plastic table with a coffeepot and some cups. It is also possible to order a coffee ceremony to your home. If you do this, the owner comes with the entire portable coffee house. (Fig. 87)

There are a lot of hotels found in Logya and they are also next to the main road. Most of them are also restaurants and coffee houses. Normally the hotels have small rooms with one bed. It is often possible to sleep inside or outside. The hotels have shared toilettes and washing rooms.

Market Streets

There are three places (Fig. 79) which concentrate on trade and services. One is located next to the main road. (Fig. 89) Another is a market street which runs parallel to a south section of the main road. This market street is where the Amhara shops are concentrated. (Fig. 90) The other market street runs parallel to the north section of the main road. Here there are more Afar products found but most of the sellers are Amhara. (Fig. 91) There is not a totally strict separation.

LIVESTOCK AND LIVESTOCK MARKET

Normally the bigger cities in the Afar Region have big livestock markets where the pastoralists can sell their animals. Most of them come from the rural areas into the cities, sell the animals and then use the money to buy some grain for their families. This is not the case in Logya, where there is only a small goat market which is next to the main road. (Fig. 92) It is not every day and it is a local market for the people from Logya and the pastoralists who come from around the city. The place is not marked out and only visible when the goats and the salesmen are present.

As described earlier almost every resident has a few animals like sheep or goats. They are allowed to run around freely or they are in the compound. These animals are usually for the families own use. There are Afar who have already settled down but still have a herd of animals. Normally one family member is on the move with the herd in search of grazing land. (Fig. 94) Close to Logya there is no grazing land and they have to go further. We met one woman close to the city centre who had about ten goats which she raises. When they are big enough she sells them, but instead of taking them to graze she has to buy their food. (Fig. 93)

On the southern border of the city is a large area where many animals are kept and bred. It is owned by a private company and they sell sheep, goats, cattle and camels. The animals are only sold in large quantities and there are ramps which are built to more easily load the livestock into trucks. (Fig. 95)

For pastoralists, livestock is the most important aspect of their survival. If a family loses its livestock because of a drought or other reasons they get a few animals from other family members or from their clan. With these animals they can hopefully raise a new herd. Normally the Afar pastoralists help each other if someone is in need. The grazing lands are decreasing and after a drought it is sometimes not possible

Fig. 89 Market streed next to the main road

Fig. 90 Amhara market street

Fig. 91 Afar market street

Fig. 92 Goat market

Fig. 93 Goat herd in the city

Fig. 94 Herd on the outskirts of Logya

Fig. 95 Ramps for making truck-loading easier

Fig. 96 Free water well

for a clan to increase their number of livestock. They then depend on the help of others. The organization APDA has an area in Logya for keeping goats. If the family or the clan cannot help anymore the organization tries to help.

There is no slaughter-house in Logya and the slaughtering is done in the traditional way. To get meat there are two options, one is to slaughter your own animals or people can buy meat from the special meat shop which were previously described. Slaughters are done in the compound or on the street and because of the non-existing waste system some unused pieces from the animals are left behind on the street.

Electricity

The power supply of the city comes from hydraulic power (Concept Plan 2009). The power is not reliable and sometimes it is gone for a few hours or even for one or two days. The electricity passes through an overhead power line which are arranged fairly equally around the city. Almost all houses in Logya have a power connection and the users have to pay a monthly fee. To pay this fee and to get the permit for the connection they have to go to Semera.[18]

Telecommunication

The most important communication mediums are mobile phones. In the east side of the city there is a telephone and mobile phone service and the mobile phone tower. The subscriber identity module card for the mobile phones and for the internet is only available in Semera. Credit for the mobile phone or the internet can however be bought in Logya. During my research time the connection was quite stable and good.

Post Office

Also in the east side of the city is one post office that serves the entire city (Concept Plan 2009).

Water Supply

Logya is be fortunate to have high quality groundwater. Three water pipes were built to supply drinking water. It is the same system as with the electricity. First the residents have to get a permit for the connection and after that they have to pay a monthly fee.[18] Most of the houses have their own water connection or they share one.

There are also other possibilities for getting water. For instance wells, some of them are free and some others require a payment for use. (Fig. 96) It is also possible to use the water from the irrigation canal which carries water the whole year. It is for free but not easy to get because of a steep riverbank. (Fig. 97)

In 2009, 25 people from the government worked for the electricity and water supply (Concept Plan 2009). There are two water generator houses, one water tanker, one water reservoir, one water supply authority and one water development authority store in Logya.

Sanitary Facilities

There are two public toilettes in the city. They are not used and their state of disrepair reflects this. More and more people are getting their own toilettes and showers (washing places). (Fig. 98) These are usually separated from the residential house. In a compound with more

18 _ Interview in the Semera Logya City Administration, 15.02.2012

Fig. 97 Irrigation canal

than one resident people share the toilette and the shower. There are however still houses without sanitary facilities.

There are some restricted areas in the town, where it is forbidden to build a traditional toilet with a cesspool. (Actually because there is no canal system developed yet, it is forbidden to have any toilet in these areas). These are marked areas around the three main water points (radius of about 50m, marked with blue tables), as well as the areas along the irrigation canal.

This is due to the potential risk of the drinking water being contaminated, which would have serious consequences not only for Logya, but also for all the towns which profit from the local water reservoirs, which includes the capital of the region.

It is also important, that the water in the canal is not polluted, because it is used for watering the sugar cane plantation.

Canal System

There is no canal and drainage system in Logya. Every toilette has its own cesspool and normally they are right next to it. (Fig. 99) The wastewater from washing the dishes or the clothes seeps into the ground.

Most of the time it is not noticeable that there is no drainage system, because there is not much rain. The main highway runs perpendicular to the natural flow of water and it blocked the natural drainage system. After a little rain the western part of the city is flooded and the soil is muddy for couple of days and smells unpleasant.

Waste System

The population of the town is increasing more and more and there are lots of products that are being packaged in the city. There is little consciences about environmental problems caused by trash. A portion of the waste is simply thrown to the ground or it is burned on the streets. (Fig. 101) The toxic components thus going directly into the ground.

To collect the waste the gaari association–donkey cart were established. (Fig. 100) These private company consist mostly of 1–2 members but sometimes these are just single person businesses.

There are 3 ways to operate a waste collecting business with a donkey:

– if you have a donkey, you just take the waste to the outside of the town yourself

– local communities organize regular garbage pick–ups from the community members homes for a small monthly charge of around 20.– ETB (0.8.– EUR).

– people pay directly the private gaari company to have their waste picked up. They deposit the waste close to the Logya River and after the rainy season the waste is gone.

On the border of the city there is also a kind of waste dump. (Fig. 101) There are dogs, birds and vulture here looking for something to eat.

Most of the Afar people are not thinking about the future and do not see not the problems which result from this method of dumping waste.

It is also surprising that there are some restrictions concerning building toilets around water points and the canal, but there is no problem if used batteries and syringes, plastic foils etc. lay around the canal.

Fig. 98 Private toilette and washing room

Fig. 99 Cesspool

Fig. 100 Gaari assosiation–donkey cart

Fig. 101 Waste burned on the street

Fig. 102 Waste deposit on the outskirts of the city

SECTION OF LOGYA

Near the end of my stay, as I knew the city better, I selected a section of the city to illustrate the typical layout. (Fig. 103) The section includes the old part of the city, as well as the main road with the shops, one of the market streets, houses with mixed use and houses only for living.

It is fair to say that this city structure is consistent through the entire city and this section will simply show it in a smaller scale.

I went from house to house and carried out short interviews consisting of a few questions. The questions concentrated on the owner's ethnicity and ethnicity of their spouse, how long they have lived in Logya, their reason for moving to Logya, the function of the house and whether it is a rented or owned property.

Another objective was to find out if the city was segregated by ethnic groups. As previously described, many Amhara people live in the cities of the Afar Region.

The results are displayed in plans, diagrams and pictures.

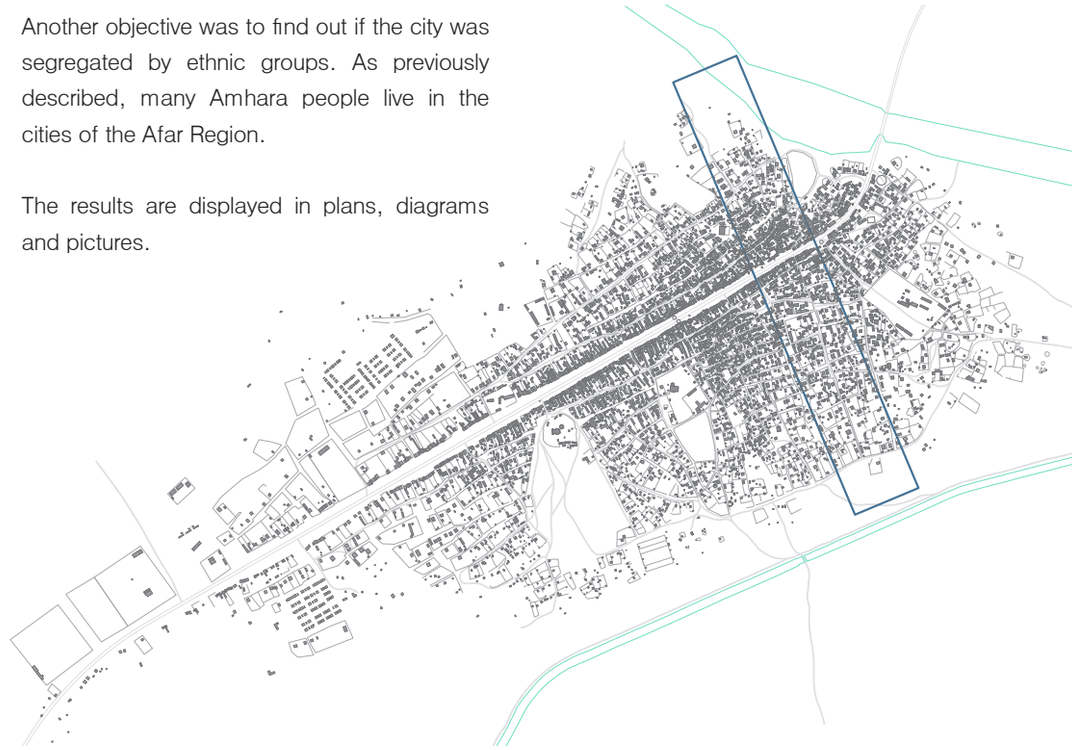


Fig. 103 Section of Logya

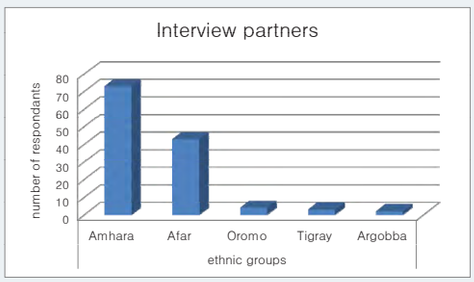


Fig. 104 Interview partners – ethnic groups

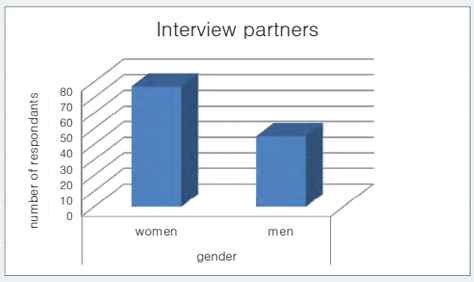


Fig. 105 Interview partners – gender

GENERAL DATA

I made a total of 124 interviews. The greatest number of my interviews came from Amhara people. (Fig. 104) Some of these interviewees are maids who work for either Afar or Amhara families. Normally the maids live with the families for which they work.

A greater number of interviews were conducted with women then men. (Fig. 105) During the day most of the women are at home, running the household and looking after the children. Most of the interviews with men were done in shops and restaurants. I always conducted interviews during the working hours, which are from eight o'clock until twelve o'clock and four o'clock until six o'clock, because due to my need for a translator I was limited to these times.

The diagram (Fig. 108) shows that 1/5 of people are married to someone in another ethnic group. Most of these marriages consist of Amhara women married with Afar men. Every married Afar woman I interviewed was married to an Afar man.

The diagram (Fig. 109) shows what ethnic groups actually live in my example area. Most of the population, 45%, are Amhara while 30% of the population are Afar. If the interviewee was married to someone in a different ethnic group I divided it into 0.5 for a ($\sum$ 1) housing unit. For example, if an Amhara woman is married to an Afar man I calculate for that house or flat 0.5 for the Amhara ethnic group and 0.5 for the Afar ethnic group.

Fig. 106 Ethnic groups M= 1:7,000

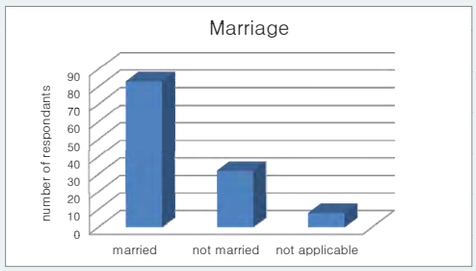


Fig. 107 Marriage

Fig. 108 Marriage – same or other ethnic group

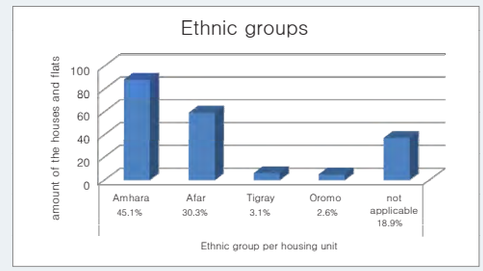


Fig. 109 Ethnic groups

The plan (Fig. 106) shows that there is a denser concentration of Amahara people along the market streets. Most of the shops are run by Amhara people.

It is a positive sign that in the residential areas the ethnic groups are mixed and there is no separation between them. (Fig. 106)

MOVING _ WHEN AND WHY

One of the most important changes to Logya was the founding of Semera ten years ago. Afterwards, more and more people began moving to Logya. There is only five kilometers between the two cities and due to the non-existing infrastructure in Semera most people settled in Logya. The diagram displays this quite clearly. (Fig. 110) Most of the interviewed residents had moved to Logya during the last ten years.

I divided the diagram (Fig. 110) into Afar and Amhara people. (Fig. 111) (Fig. 112) The two groups are almost the same, most of the Amhara and Afar people moved to Logya during the last ten years. It is however worth mentioning that more Afar people were born in Logya than Amhara people. During the last year more Amhara moved to Logya in relation to Afar.

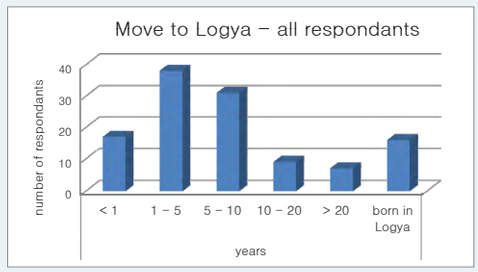


Fig. 110 Move to Logya_When_all respondants

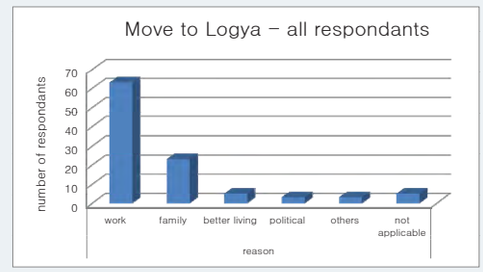


Fig. 113 Move to Logya_Reason_all resident

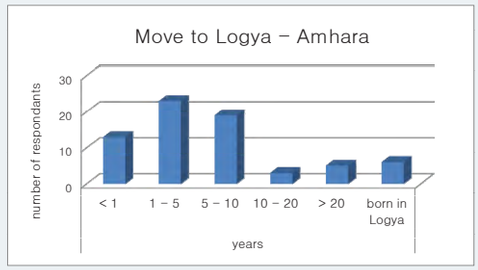


Fig. 111 Move to Logya_When_Amhara

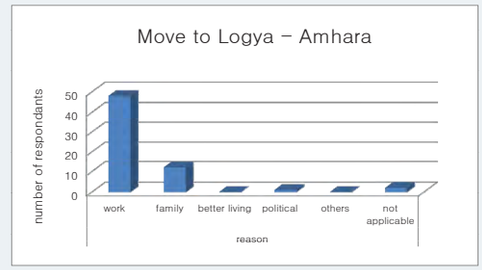


Fig. 114 Move to Logya_Reason_Amhara

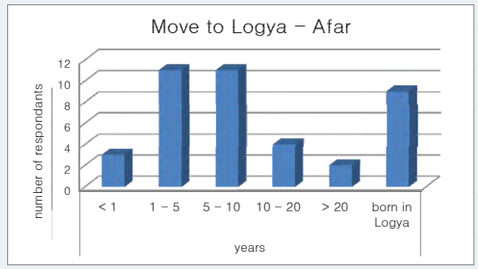


Fig. 112 Move to Logya_When_Afar

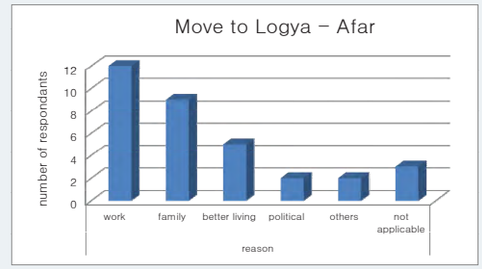


Fig. 115 Move to Logya_Reason_Afar

Fig. 116 Type of houses M= 1:7,000

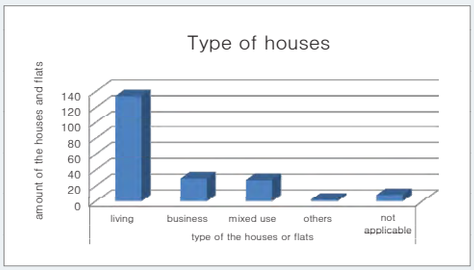


Fig. 117 Type of houses

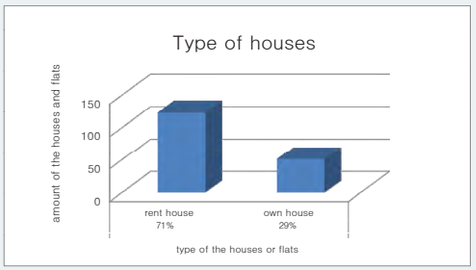


Fig. 118 Rent house or own house_all respondants

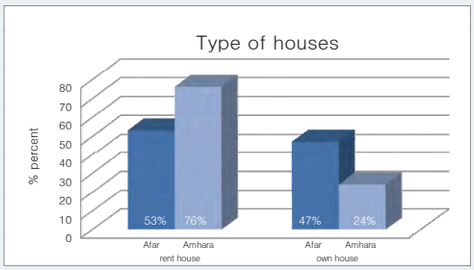


Fig. 119 Rent house or own house_Afar/Amhara

Fig. 120 Type of houses

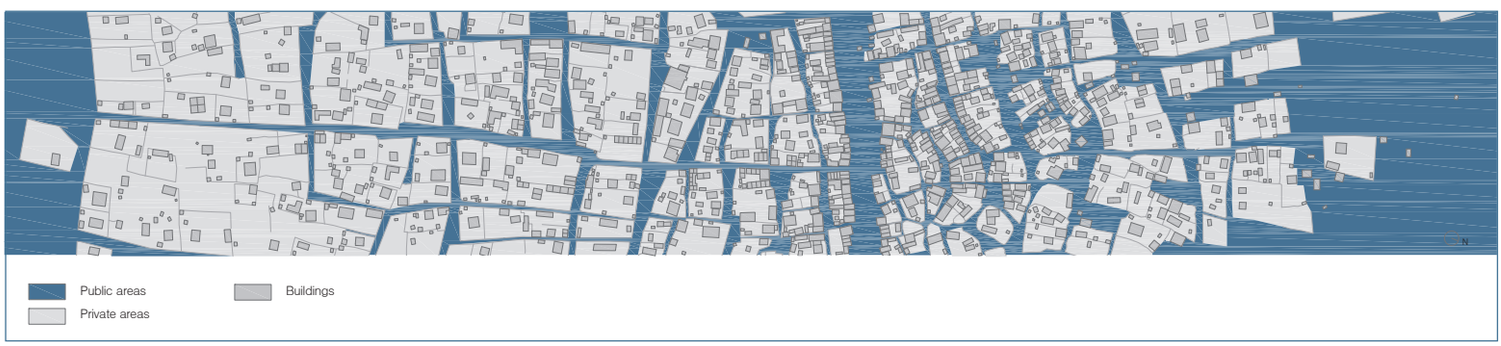


Fig. 121 Public and private areas

The diagram (Fig. 113) shows the reasons why people have moved to Logya. Of the residents I interviewed 2/3 moved to the city because of work.

I heard again and again that the life of a nomad has become more difficult. One reason is that the grazing areas are constantly shrinking and the periods of drought are getting longer and harder. Some of the nomads which had lost their livestock started new lives in the cities. Others moved into the cities for a better life. Marriage and family are also reasons why some people move to Logya.

TYPE OF HOUSES

Most of the housing units in Logya are only for living. (Fig. 117) The buildings used only for business are concentrated along the main street and the market street. (Fig. 116) The people who work in these areas live in different parts of the city.

Mixed use means working and living in the same housing unit. This can be a shop or a coffee house which is merged with the living quarters. Another possibility is to use the area in front of the house as a sales area for charcoal or wood. I met one woman who is a widow and bakes *Taita* (type of bread) at home which she sells to restaurants.

Rent House – Own House

One of the most interesting results was that 71% of the houses are rented and only 29% are privately owned. (Fig. 118)

Most of the houses in Logya were built by specialists which are mostly Amhara. Interestingly 47% of the Afar people and only 24% of the Amhara people have their own houses. (Fig. 119) I only analyzed the data after returning to Austria and if I had known the outcome before, I would have asked the people 'Why?'

There are houses owned and rented out by the government and I found three of them in the section. They are located in the old part of the city. All other rented houses are from private citizens.

Mr. Mohamed

Logya, 23.02.2012, Interpreter: Mr. Omar

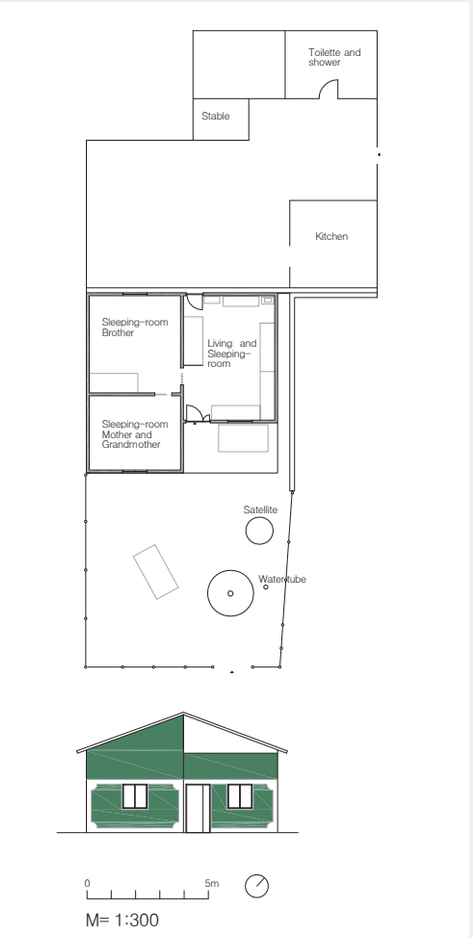
Mr. Mohamed is 30 years old and was born in Logya. He and both his parents are Afar. His parents were pastoralists and they moved around the area surrounding Logya. Their plot of land originally had a semi-permanent shelter with a *guest house* before they built a *chikka* house. His parents gave up the pastoral lifestyle after they lost their livestock during a drought, some of the animals died and the others were sold.

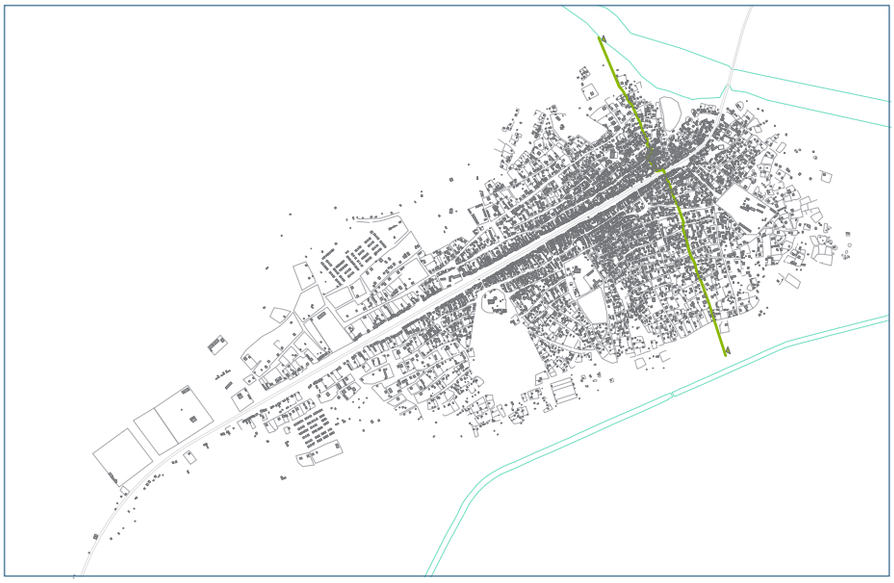
He lives with his older brother, sister, mother and grandmother in the house. His father died. He attended primary school but now he is unemployed and walks daily to the market areas in search of work. His older brother covers the costs for the whole family.

The plot is close to the Addis Ababa Djibouti Highway on a side road. It is a busy street, with lots of coffee houses and small shops. Before they built the *chikka* house, which was eight years ago, the family lived in a *depoida*. They did not need permission to own or build on the plot because the family was the first to live there. The *chikka* house was built by professionals from the highlands and the construction time was two month and cost 35,000.– ETB (~1,400.– EUR). Before moving into the house they killed a goat. This is a traditional ceremony which they also performed when they were nomads.

The most important room in the house is the guest room. This room has different functions, like living room, dining room and sleeping room. He and his sister sleep in the guest room and his mother and grandmother sleep in another room. His brother has his own bedroom because he is now the oldest man in the house, which means he owns the house. There is one small roofed terrace which they sleep under during hot times of the year.

The compound has its own water tube, electricity, satellite dish for the TV, an outdoor covered kitchen, external toilette with washroom facilities and a storage room.





one family: Amhara
living house – it is their own house
interviewpartner: Amhara man
he is not married
he lives in Logya since one month
reason for moving: family

one family: Amhara
living house

Main buildings

Outbuildings

four families: all are Afar
living house
four housing units
three are for rent and in one lives the owner
interviewpartner: Afar woman
she is married with an Afar man
she lives in Logya since two years
reason for moving: work

On the following few pages I want to show pictures of a street in my selected section – green line in the map. I chose one side of this path to show the typical structures found in Logya.

If it was possible I conducted short interviews in every house and took pictures. Most of the people in Logya are very friendly, open, welcoming and answered my questions. Most of them also gave me permission to photograph their houses.

The buildings, which are marked in dark grey, are the main buildings and the buildings in light grey are outbuildings. The main buildings can have different purposes, including living, mixed use or business. The outbuildings can be toilettes, washing places, kitchens or storage rooms. Compounds on the outskirts of the city usually include a main buildings and several outbuildings. In the city center, where the population is more dense, it is more common to see compounds with several main buildings along with a few outbuildings that are shared by the families. The number of families that a single compound supports is based on its size.

Most of the area in Logya is private land. There are only a few public places and they are open areas without a specific purpose. The map (Fig. 121) shows the private and public areas in this section. Most of the public spaces are used by the citizens in a variety of ways, including playgrounds and gathering areas.

one family: Afar
living house – it is their own house
interviewpartner: Afar woman
she is married with an Afar man
she lives in Logya since two years
reason for moving: family

no data available

three families: Afar/Amhara
living house – rent house
two Afar famies and one Amhara family
interviewpartner: Afar woman
she is married with an Afar man
she doesnt know how long she lives in Logya
– it is been a long time

no data available

nobody lives here
the house is for rent

Organisation:
Integrated Development
for Pastoral and Agro
Pastoral Communitie

four families: all are Afar
living house
four housing units
three are for rent
and in one lives the owner
interviewpartner: Afar woman
she is married with an Afar man
she dosn´t know how long she lives in Logya
she is the owner of the house
interviewpartner: Amhara woman
she lives since 1.3 years in Logya
reason for moving: work
she works for the Afar people as a maid

one family: Amhara
living house – rent house
interviewpartner: Amhara woman
she is a maid and she works for the Amhara family

one family: Afar/Amhara
living house – own house
interviewpartner: Afar man
he is married with an Amhara woman
he lives since eight years in Logya
reason for moving: work

more families: six flats
one Afar family, one Tirgray family
and four Amhara families
living house – rent house
interviewpartner: Amhara woman
she is married with an Amhara man
she was born in Logya

one family: Afar
living house – own house
interviewpartner: Afar woman
she is married with an Afar man
she lives since three years in Logya
reason for moving: work

one family: Amhara
living house – rent house
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since nine years in Logya
reason for moving: marriage

meet shop
open from 7 – 10 o´clock
place is only for business
interviewpartner: Amhara man
he is married with an Oromo woman
he lives since nine years in Logya
reason for moving: work

mosque

shop with different products
with one room on the backside for living
it is his own house
interviewpartner: Amhara man
he is married with an Amhara woman
he lives since six years in Logya
reason for moving: work

more families: four flats
living house – rent house
interviewpartner: Amhara woman

more families: three flats
mixed use: Coca wholesale and living
interviewpartner: Amhara man
he live since two weeks in Logya
reason for moving: work; he works in the Coca wholesale in the compound
he rents one of the flats in the compound

one family: Amhara
mixed use: coffee and tea house and living house
it is a rent house
interview partner: Amhara woman
she is not married
she lives since one month in Logya

more families: three flats
living house – rent house
interviewpartner: Amhara woman
she is not married
she lives since five month in Logya
reason for moving: work

one family: Amhara woman
mixed use: charcoal sale and living
rent house from the government
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since 25 years in Logya
reason for moving: work

more families: three flats
living house – rent house
interviewpartner: Tigray woman
she is married with a Tirgray man
she lives since three month in Logya
reason for moving: family

two families: Amhara
living house – one is a rent house
interviewpartner: Amhara woman
she lives since two years in Logya

electronic shop
only for business – rent house
interviewpartner: Argobba man
he is married with an Afar woman
he lives since four years in Logya
reason for moving: work

two housing units
interviewpartner: Argobba woman
she is married with an Amhara man
she is the owner of the house
the housing unit is only for living
interviewpartner: Amhara
housing unit is for business: metal and wood factory

more families: Amhara
two housing units
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since six years in Logya
reason for moving: work
living house
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since two years in Logya
reason for moving: work
mixed use – she has charcoal for sale in front of the house

one family: Amhara
living house – rent house
interviewpartner: Amhara woman
she is not married
she lives since three years in Logya
reason for moving: work

small shop – metal house
only for business – rent house
interviewpartner: Afar man
he is married with an Afar woman
he lives since four years in Logya
reason for moving: political

place in front of a shop
the place is for free
interviewpartner: Amhara man
he is married with an Amhara woman
he lives since twenty years in Logya
reason for moving: work
he sells spices and small things
he works every day and he sells his
products always at the same place

one family: Oromo/ Afar
living house – rent house
interviewpartner: Oromo woman
she is married with an Afar man
she lives since thirteen years in Logya
reason for moving: work

more families: two flats
interviewpartner: Afar woman
she is not married
she was born in Logya
the house is her own house and it is
only for living; she rents one flat
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since one year in Logya
reason for moving: work

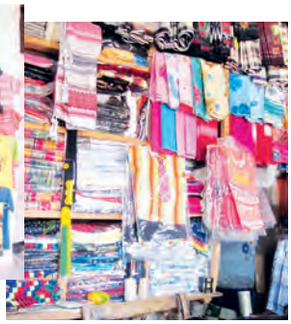
one family: Afar
living house – own house
interviewpartner: Afar woman
she lives since twenty years in Logya; reason: work
interviewpartner: Afar man
he is married with an Afar woman
he lives since four month in Logya,
reason: treatment; he lives with his relatives

one family: Afar
living house – rent house
interviewpartner: Afar woman
she is married with
an Afar man
she lives since three
years in Logya
reason for moving: work

shop with fabric and clothes
business house for rent
the shop has everyday open
interviewpartner: Afar woman
she is married with an Afar man
she lives since ten years in Logya
reason for moving: work

two families: Amhara
living house – rent house
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since three years in Logya
reason for moving: family

shop with fabric and clothes
with one room on the backside for living
it is a rent house
the shop has everyday open
interviewpartner: Amhara man
he is married with an Amhara woman
he lives since ten years in Logya
reason for moving: work



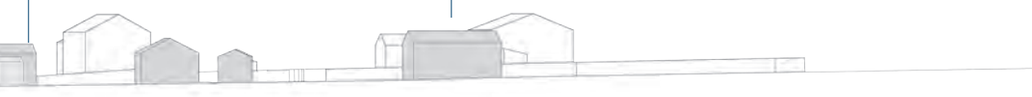
one family: Afar
living house – own house
interviewpartner: Afar woman
she is not married
she was born in Logya

two families: Afar
interviewpartner: Afar man
he is married with an Afar woman
he was born in Logya
mixed use: it is a living house and
he sells cold drinks
they rent one flat to an Afar family

one family: Afar
living house – rent house
interviewpartner: Afar woman
she is not married
she lives since six years in Logya
reason for moving: family

one family: Amhara
mixed use: living house and they sell cold drinks

one family: Afar
living house – own house
interviewpartner: Afar woman
she is married with an Afar man
she lives since six years in Logya
reason for moving: marriage



two families: Amhara
living house – rent house
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since one year in Logya
reason for moving: marriage

no data available

two families: Amhara
living house
interviewpartner: Amhara man
he is not married
he lives since two years in Logya
reason for moving: work
the house belongs to his relatives
interviewpartner: Amhara woman
she is married with an Amhara man
she lives since seven years in Logya
reason for moving: work
whe rents the flats

CHIKKA TECHNIQUE

The *chikka* technique is one of the predominate building techniques used in the highlands of Ethiopia. With the founding of settlements in the Afar Region and the increase in movement from the highlands to the lowlands, this building technique was used more and more in certain areas of the Afar Region, including Logya.

The Afar people traditionally lived in *depoitas* which were adapted to their lifestyle. Small settlements of Afar exist which are not moving anymore and they use *depoitas* as permanent houses. In bigger towns the *chikka* technique has become the most used building technique, especially in the areas close to the highlands.

In Logya almost all houses are built in the *chikka* technique. I interviewed one man from Tigray who has lived for 30 years in Logya and runs a building company there. I got a lot of information from him about this technique.[19]

The houses always have a rectangular floor plan and are covered with a pent or gabled roof. Almost all houses are one storied, with only a few two storied houses in the entire city.

CONSTRUCTION OF A CHIKKA HOUSE

The substructure of this building technique is made of wood. Straight wooden poles are used and if these pieces are not straight they have to be adjusted and the twisted pieces from branches are cut off. Shorter pieces are joined together to create longer, more useful poles. (Fig. 122) The wooden poles are dug one next to the other into the ground, with a few other poles mounted horizontally through the entire wall and by the window and door openings. (Fig. 123) (Fig. 125) In this technique there are also no support poles to help the structure against vertical forces such as wind.

After the wood construction is done the plaster for the walls is prepared. The plastering clay is mixed with straw and this mixture is soaked in water for about one week. (Fig. 124) The material is than mixed from time to time. One person stamps through the clay and straw mixture until the plaster gets the right consistency. When the plaster is ready the wooden poles get covered with this material, as well as the space between the poles. (Fig. 127) The inside and the outside of the house are plastered.

The plaster used inside the house must also be prepared inside. The surfaces of the walls inside the house are made relatively smooth and they are often painted colorfully. The outside walls are fitted with notches which are pressed into the soft plaster with a stick. These notches serve as a plaster base for the last layer, the cement plaster. Sometimes plaster grid metal meshes are used to increase the durability of the plaster, but these are often omitted to reduce costs. (Fig. 129) The last layer does not have an important function and it serves only to create a nice looking facade. (Fig. 131) Due to the high costs of house construction, many houses are made without the cement plaster or it is only cement plasterd on the visible outside.

Fig. 122 Wooden poles

Fig. 123 Substructure of a *chikka* house

Fig. 124 Clay plaster

Fig. 125 Substructure of a *chikka* house

Fig. 126 Builder

Fig. 127 Wooden poles with plaster

Fig. 128 Builder

In this technique the wooden poles are always dug into the ground without a foundation, but there are some houses with a stone wall around the house which looks like a foundation. (Fig. 130) The stonewall is constructed after the substructure is built. This kind of 'foundation' can have a height ranging from twenty to fifty centimetres above ground and goes to the depth of sixty centimetres. The function is to stabilize the walls.

There are two floor constructions found in the Afar Region. In the first technique the soil gets compacted and a plastic floor covers most of it. The second one is a cement screed which can be found without floor covering or also with a plastic floor covering. Almost all new houses have a cement screed floor.

The roofs of the older buildings are mostly covered with twigs and several layers of earth. This roof construction quickly becomes leaky and demands constant repairs, especially after the rainy season. This type of roof has been replaced more and more by corrugated iron sheets and all new houses are built this way.

The *chikka* technique was established by the highlanders and they have the construction knowledge about how to build in this way. Most of the houses are built by highlanders, no matter which ethnic group (Afar, Amhara or others) the owners of the house belong too.

Wood for the Chikka Construction[20]

There are different types of wood which are used for the *chikka* houses. *Sarganto* is one of the trees which is used for building. The poles cut from these trees have a diameter of 10 – 15cm and are 4 – 5 meters long. Another tree used is the *Dathara* and the poles from this tree have a diameter of about 10cm and a length of 4 – 5 meters. There is one forest in Glaha, near the river about thirty kilometres away from Mille, where the *Sarganto* and *Dathare* trees grow.

For cutting trees the lumberpersons have to buy the rights from the community only once and then are allowed to cut as much as they want. The most expensive costs for the wood sellers is paying for the transportation from Mille to Logya. Three of five interviewees cut the wood in Glaha and the other two bring wood from the highlands. They also sell *Dathara* trees and another type which are strong and do not have bark. This strong wood is used for the roofs.

Both the Afar and Amhara are cutting and selling wood.

The *Woyane* tree is not used for the house construction but is suitable for fences. They have a diameter of five centimetres and can be up to five meters in length.

The wood prices continue to rise because of the transportation costs of bringing wood from longer and longer distances.

Valerie Browning told me that the forests once reached the edge of Logya but with the rapid growth of the town almost all of the trees were cut down for timber. There are only a few indigenous trees left near to Logya River. Around Logya, especially close to the Awash River and Logya River, the *Woyane* tree has recently spread.

Fig. 129 Cement plaster

Fig. 130 'Foundation'

Fig. 131 *Chikka* house with cement plaster

Mr. Mikel

Logya, 13.03.2012, Interpreter: Mr. Ali

Mr. Mikel has lived for 30 years in Logya and originally comes from Tigray. He is married to an Amhara woman from Lalibella. Both of them moved to Logya in search of work and they met there. They have six children, three girls and three boys.

When he moved to Logya, Mr. Mikel bought a plot from the government and built a small *chikka* house there. At this time there were only about eighteen houses in Logya and the plots surrounding his home were empty.

He has a construction business and got his expertise from his previous jobs. If the business is thriving he builds five houses each month with a few employees. His wife takes care of the household and a small coffeehouse which is in a roadside building near their home.

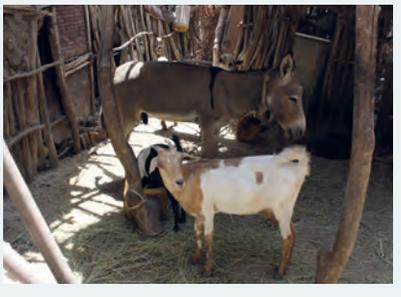
The plot is located on one of the market streets. The compound consists of three living houses and some outbuildings. Five years ago he removed the old house and built a new house, opting to build a two story house because of limited space. The two story house is the biggest building in the compound and it is located next to the market street. On the first floor there are two sleeping rooms and three shops, one of which is the coffeehouse. The other two shops are rented to other business owners. On the second floor there are seven rooms for sleeping which function as hotel rooms. The two story house is built in *chikka* technique but some parts of the bearing structure are made of concrete. The other two living houses are in the back of the compound are also built in *chikka* technique. These are two room homes where the family lives. At that time three of their children still lived with them. The other rooms are rented to other people.

The compound also had a stable with some goats and a donkey. They use the donkey for transportation.

1. Floor

2. Floor

M= 1:300



Materials of a Chikka House

Only one material for the *chikka* house comes from Logya, which is clay. The clay for the plaster is not from the plot, but comes from the riverbed of Logya River and is transported by donkeys with primitive trailers.

As already described, the timber comes from parts of the highlands and Glaha, which is close to Mille. In both cases the material has to be transported to Logya by car or truck.

All other material like straw, cement, corrugated iron sheet and others also has to be transported to Logya

COSTS OF A CHIKKA HOUSE

The price of a *chikka* house was between 35,000.– ETB (~1,400.– EUR) and 50,000.– ETB (~2,000.– EUR) in 2012. Some residents of Logya told me that the prices for these houses continue to rise and are not affordable for many people anymore. Some years before Mr. Mohamed paid 7,800.– ETB (~312.– EUR) for his house, now he would pay five times more.[21]

One reason for the rising prices is that the wood for the sub construction has become increasingly expensive. Also, the housing facilities have become more elaborate with new building materials such as the cement screed, the 'foundation' and corrugated iron roof. Many materials used in the modern construction were omitted from the older houses, and the wood used always came from the nearby forest so that it was cheaper to transport.

ADVANTAGES AND DISADVANTAGES OF A CHIKKA HOUSE

Probably the biggest benefit of a *chikka* house is the construction time, which takes on average 2–3 months. The speed with which the house is finished depends on the size of the house and also if the owner can afford to pay all the money at once. It is also easy to repair if parts of the plaster get destroyed from heavy rain or other causes. The positive aspects of using the local clay also add to the advantages of *chikka* houses. The main materials used, wood and clay, are natural and easy to recycle after the life of a house.

The high amount of wood needed is one of the most significant disadvantages of this technique from an ecological vantage.

There are also structural defects, for example, the 'foundation' which is for the stabilization of the house does not protect the plaster from water which leads to damp walls and can even result in the rotting of the sub construction. (Fig. 134) The roof overhang is often not long enough and this is also a problem for the plaster during the rainy season. The most noticeable problem with a *chikka* house is the plaster. One of the most important rules for constructing earth buildings is 'good shoes' and a 'big hat' to protect the walls from water.

One interviewee told me that she has to pay 1,000.– ETB (~40.– EUR) for repairing the plaster after every heavy rain.[22]

Due to the missing vertical bracing system, some of the houses lean to one side depending on the direction of the wind.

A *depoita* is built by Afar women, who are also the owners. The *chikka* house is mostly built by men from the highlands and the owners of the houses are often men instead of women.

19 _ Interview with Mr. Mikel, 13.03.2012

20 _ Interviews with wood sellers, 14.02.2012

21 _ Interview with Mr. Mohamed, 05.03.2012

22 _ Interview with Mrs. Fatuma, 09.03.2012

Fig. 132 Wood sellers

Fig. 133 New *chikka* house

Fig. 134 Destroyed clay plaster

Fig. 135 Old *chikka* house

THE DEVELOPMENT PLAN OF LOGYA TOWN

GENERAL INFORMATION

At the beginning of my stay in Logya I became aware of the sign 'X' marked on several buildings. I asked my translator if he had an idea what this sign means and he told me the sign is from the *Development Plan of Logya Town*. One friend of his worked in the Urban Development Department in Semera and he gave me his contact details. After one week I had an interview with members of the department.

Near the end of my research time I had another interview in the office for 'Urban Planning, Sanitation and Beautification Core-Process.' After a morning of visiting different offices, I had a meeting with the head of the Urban Planning Office. I had already heard about the Master Plan for Logya and Semera, and at the end of the interview I received the plans, some other files with descriptions of the plans from both cities and some statistical data. Neither of the cities have the current status of the plan and I have taken this into consideration.

In Logya, there are several subject areas to consider. One aspect to consider is how the existing built-up area should be further structured. While the other aspects are how and for whom the new proposed expansion area should be built for.

The *Development Plan of Logya Town* was prepared in August 2009 by NUPI (National Urban Planning Institute in Addis Ababa).[23]

In 2007 a group of specialists analysed the city (data collection: demographic, economic, physical, historical, geological, drainage and land use spatial aspects of the town) and devised different points about how the city should be changed between 2008 and 2018 (Concept Plan 2009).

'The new development plan is the result of various sectoral studies and the analysis carried out by a multi-disciplinary team. The team members of Logya Development Plan Project were composed of different specialists' (Concept Plan 2009: VI).

Fig. 136 Sign X

CONCEPT PLAN

The following are the enumerated and summarized points from the document, *Concept Plan*:

- Well-Structured Roads:
maintain and develop the roads; for a healthy intra-urban mobility; providing better connection between the different parts of the town by upgrading the existing road network; introducing a ring road to integrate the northern and south-western parts of the town; promoting linkages via a hierarchically arranged road network between the existing built-up area and the future expansion area

- Urban Functions and Services:
improvement of the distribution; promoting local economic development; strengthening the town main centre that has already developed in the existing built-up area; strengthening the urban character of the town; developing a system of centre and sub-centre for an equitable distribution of infrastructure and services; establishing an appropriate zoning system

- Urban Environment:
providing waste management system; develop appropriate drainage network, creating a green framework

- Future Expansion of the Town:
selecting suitable areas; the future expansion should be a compact urban form; to envisage a sub-centre; consideration of the geological hazard especially as groundwater and slope stability along river courses

- Existing and Envisaged Settlement:
well structured between them

(Concept Plan 2009)

New Axis

One important point is to upgrade the roads in the existing built-up area. Logya, as well as the existing road network, were developed without any plan except for the main road. There currently exists no axis and the *Development Plan of Logya Town* has provided a solution.[24] For the establishment of this axis some of the existing roads should be widened and straightened. These newly constructed roads are marked in the plan with the existing buildings. (Fig. 140) There are also high-density areas were the axis roads are foreseen.[25] The width of the Addis Ababa Djibouti Highway (paved) varies from 30 to 50 meters. All other roads (unpaved) have the same width for the entire length. The width of these roads varies based on their usage and importance, but the minimum is 5 meters and the maximum is 20 meters wide. For example, if one road is foreseen at 6 meters, there are no changes in the width and there are no curves allowed in the road. This procedure leads to major changes in the existing city structure. The following four plans (Fig. 139) – (Fig. 142) show this process.

The 'X' -House

All buildings that cross the future boundaries for the road have to be removed. The buildings that are marked with the sign 'X' are supposed to be destroyed. Other buildings have a sign that resembles an arrow with a number (e.g. -0.9), this sign means that the house must be reset about this distance. Implementation of the plan has already started and this is visible in these markers. This was the current standing at the end of my research time (end of April 2012).

Legal or Illegal Buildings

Most of the houses in Logya are legal buildings.[26] The city already existed before building regulations and all buildings which were built before any provisions, are legal. For many years (I did not find out the exact date) the people who wanted to build a house had to buy the plot from the government. It is not possible to choose the positioning of the plot; it is simply assigned to an individual. Due to the fact that almost all of the buildings are legal, the government has to identify the owners of the 'X' – houses.

'X' – House _ The Replacement

The first step of the *Development Plan of Logya Town* was to mark the buildings that have to be destroyed. (Fig. 137) In the near future, within the area where the first axis is to be built, the owners of the 'X' – houses must be informed about the future steps. The information will be communicated to the home owners by phone. After these calls the owners will receive new plots in the future expansion area.

The plan foresees a special sector for residential areas. (Fig. 144) Displaced home owners get compensation in the form of financial support (the estimated price of the old house). The payment of money should be enough to cover the building costs of the new house.[27] The owners of these houses have nine month to build a new house on the new plot and to move out. The 'X'- houses will then be destroyed by the government.[23] [24]

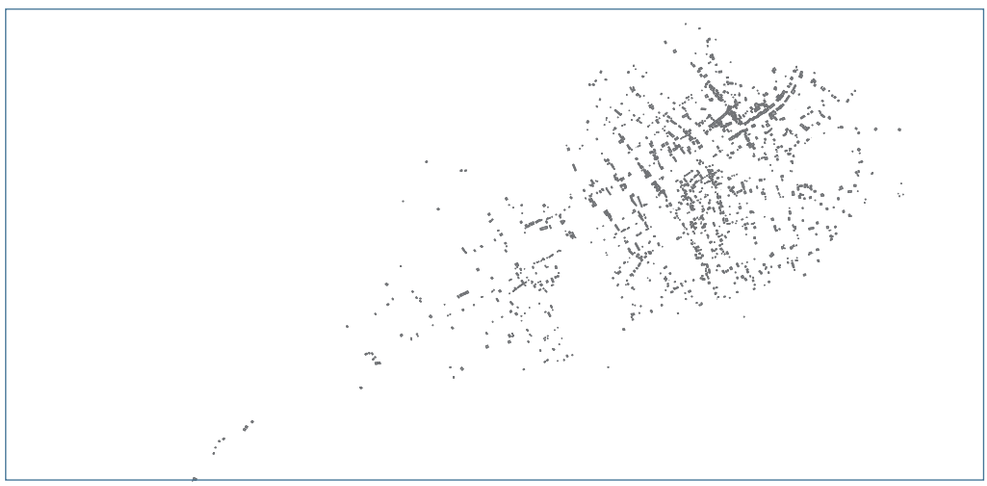


Fig. 137 Buildings which should be destroyed in the next years

Building Restrictions

There are no existing building restrictions in Logya and no foreseeable building restrictions in the future expansion area either. After residents buy the plot they can build whatever they want. The positioning of the different buildings (main buildings and outbuildings) is the choice of the resident, as well as the kind of building materials and the type of the house. It is possible to build a *chikka* house, a traditional *depoita* or any other type of house. There are also no existing requirements about density and people are allowed to construct upon the entire plot. Some of the building materials (wood, palm mattes, ...) that are used are not fire proof but there are also no fire restrictions. The only restriction that exists is the function of the plot. If it is a plot for living purposes, no other function is allowed.[23] [24]

Fig. 138 House with the sign X

23 _ Interview in the Office for Urban Planning, Sanitation and Beautification Core-Process, 23.03.2012

24 _ Interview in the Semera Logya City Administration, 15.02.2012

25 _ The *Development Plan of Logya Town* was drawn in August 2009, but the town structure already existed long before. The existing issue should be adjusted to the new plan by eliminating the houses that do not match the plan.[24]

26 _ Chapter: Population _ Housing units in Logya; p. 30

27 _ I am unsure about this statement because of the dramatically increased prices of the materials in the last few years.

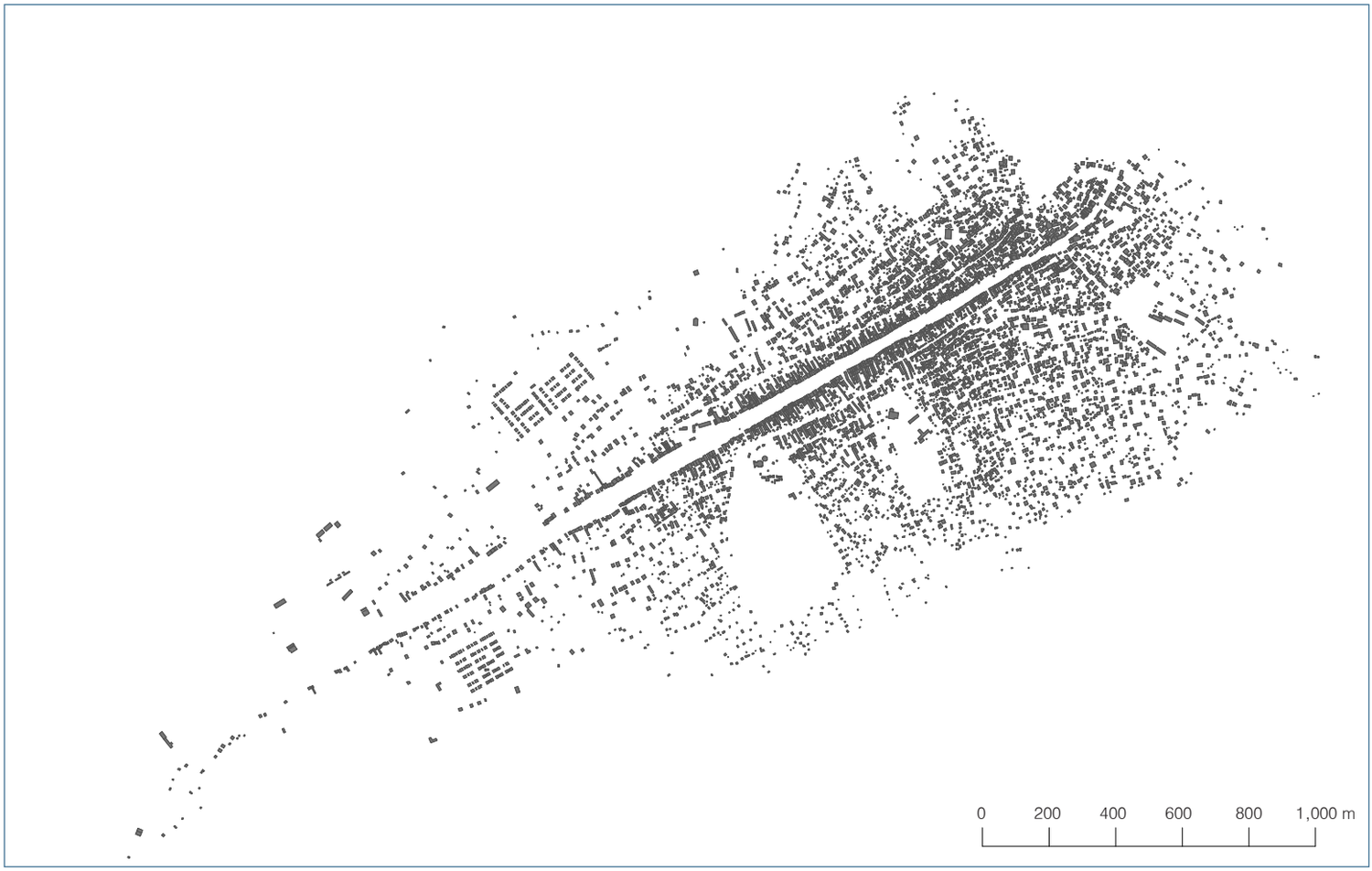


Fig. 139 City structure M= 1:20,000 July 2012

Fig. 140 New road network M= 1:20,000

Fig. 141 Buildings which should be destroyed M= 1:20,000

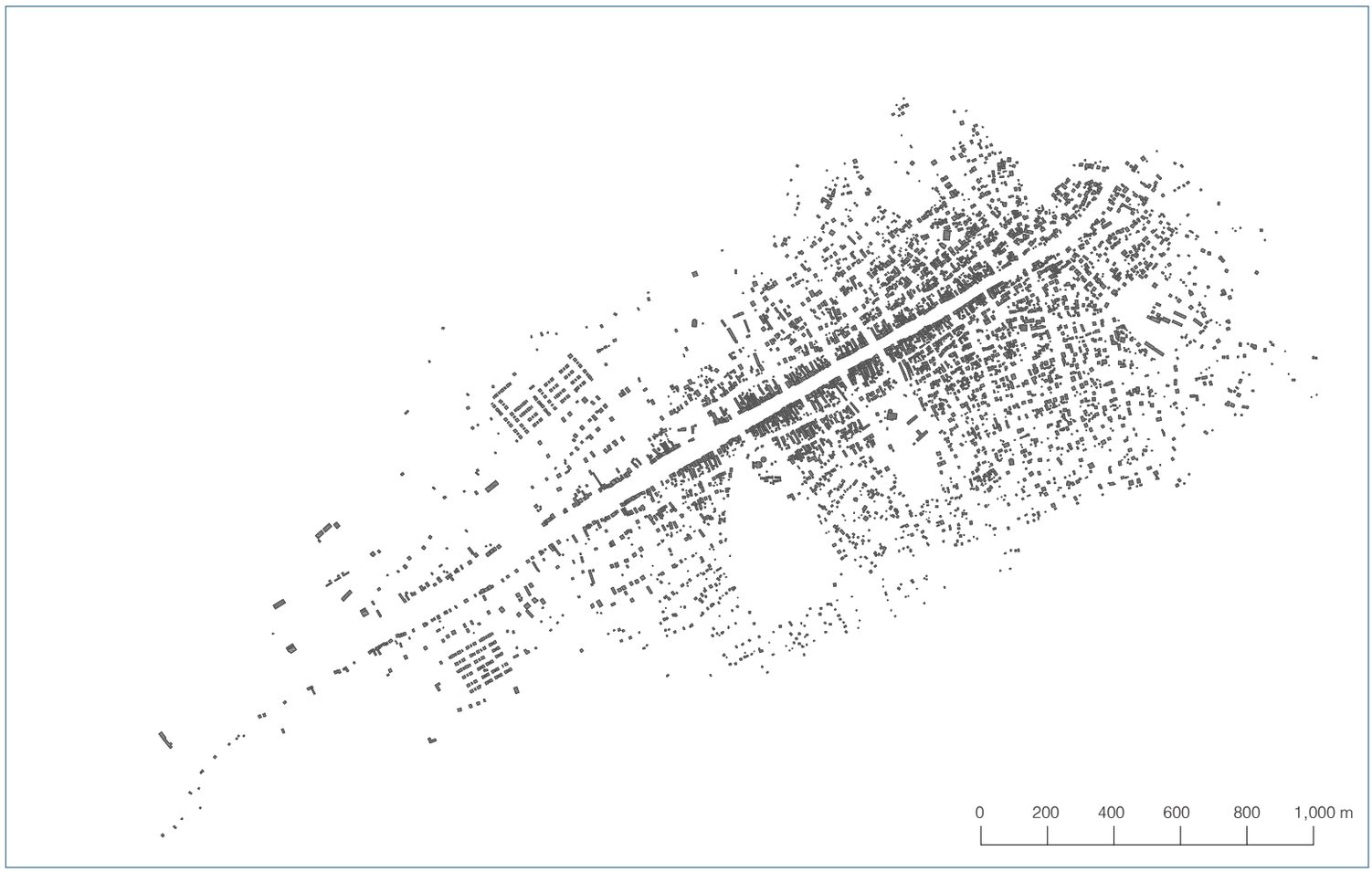


Fig. 142 New city structure M= 1:20,000

Fig. 143 New city structure M= 1:10,000


0
100
200
300
400
500 m

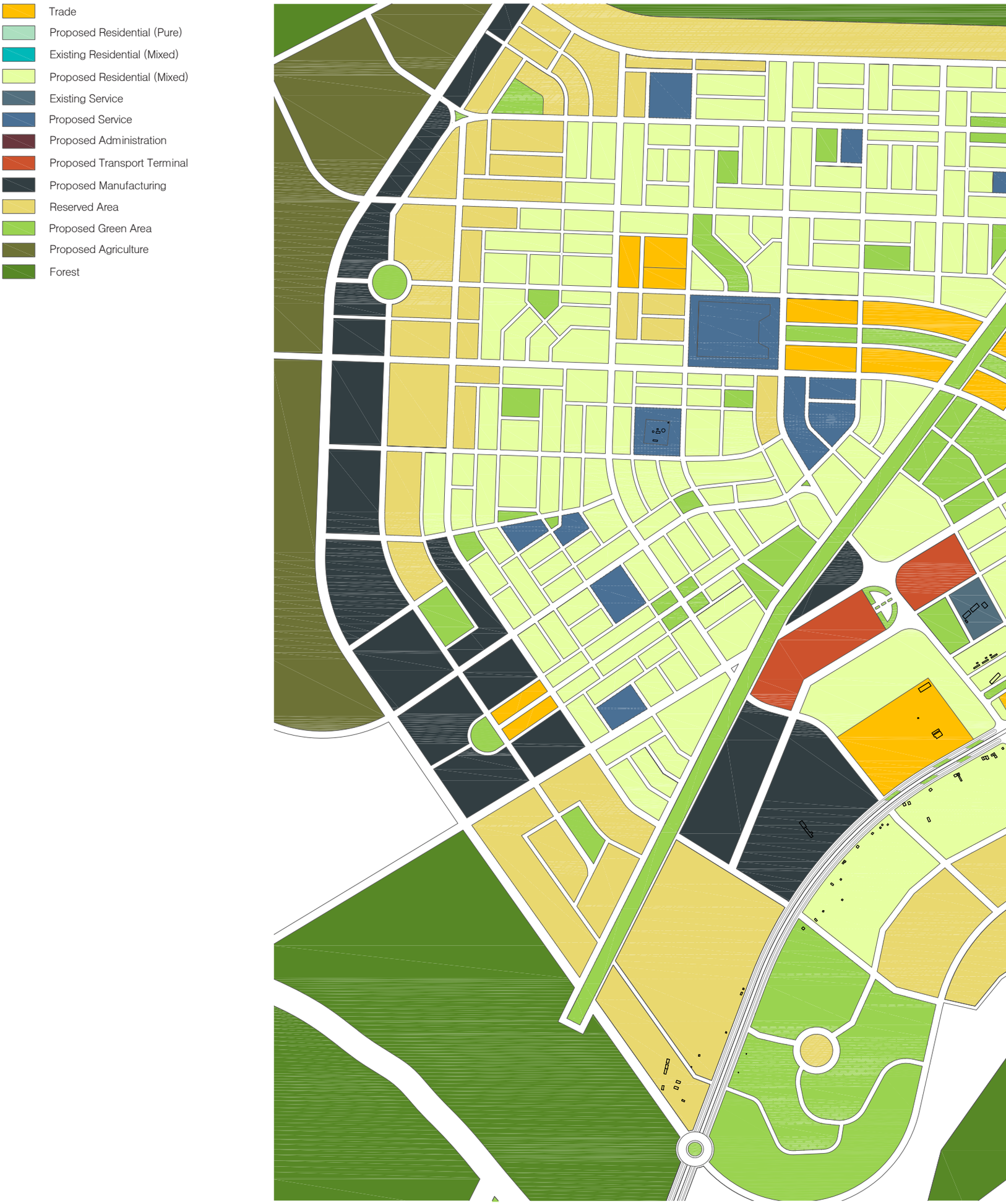
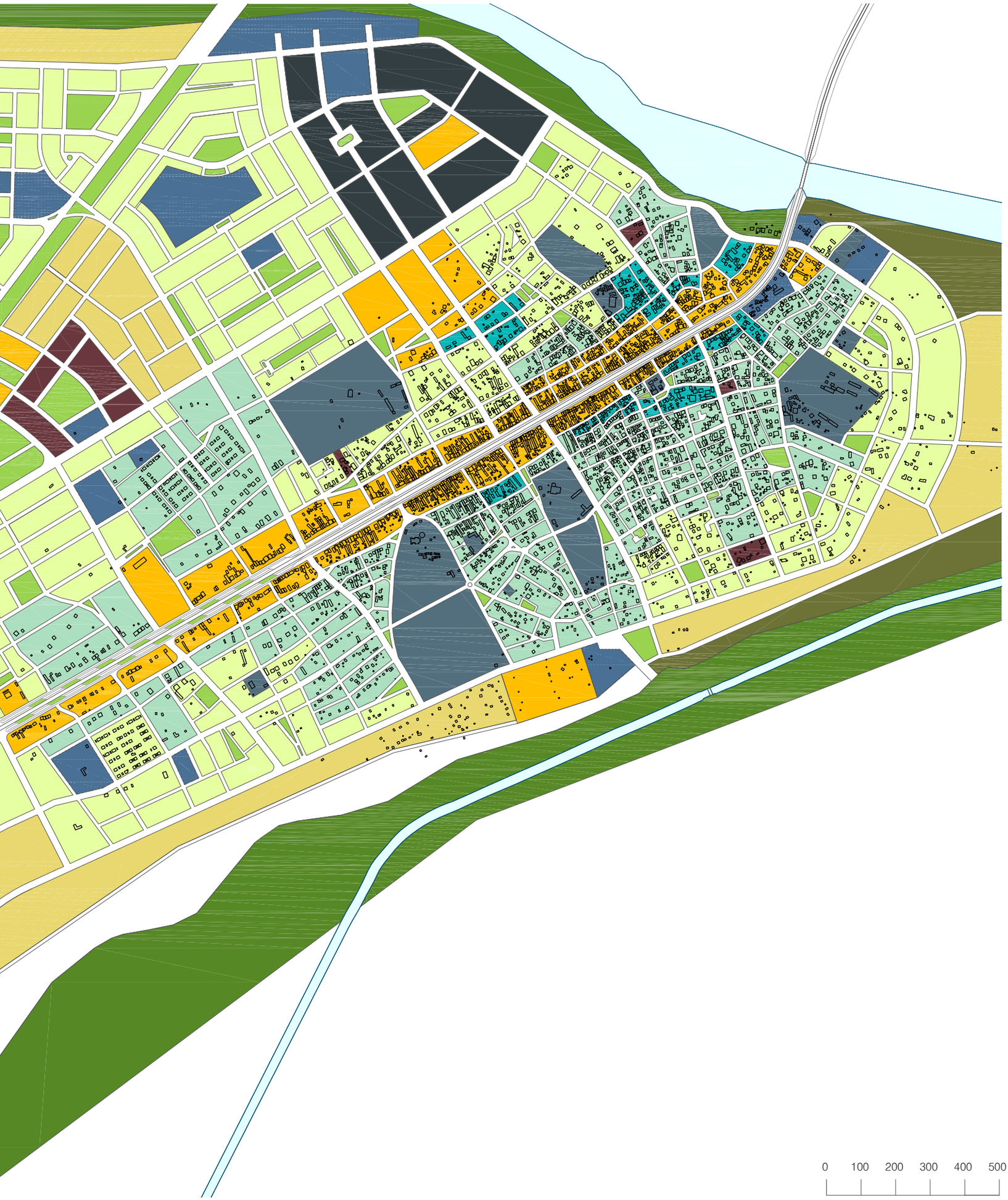


Fig. 144 Development Plan of Logya Town with future expansion area M= 1:13,000


0
100
200
300
400
500 m

Zoning System

A differentiation into functional zones should also lead to changes in the city. Before the *Development Plan of Logya Town*, there was no specific function foreseen for the plots, and residents were allowed to build whatever they wanted. Now there should be areas developed for different functions in the existing city structure and in the future expansion area. (Fig. 144) If a plot has a selected function it is not allowed to change that function. On a plot which is for living purposes, it is not allowed to run any business. M.H from the Semera Logya City Administration told me that certainly functions will still be mixed and due to this, inspections will be carried out.[28]

Main Street

The Addis Ababa Djibouti Highway should also undergo changes. The street will be widened and on the right and left side parking areas are foreseen. Houses which are too close to the road should also be removed or set back. Fig. 145 shows the street before and after the planned realization of the *Development Plan of Logya Town*. Also, there is no indication in the plan or document of a future pedestrian crossing to make the street safer and easier to cross.

Urban Environment

Providing Waste Management System

Due to the increasing consumer society, the topic of waste disposal becomes more and more important. The following are some points which address this problem:

–Utilization of pits for burying or burning wastes
–Introducing a well organized waste management system

There should be a block collection system introduced on primary and secondary roads. For this project, a tractor with trailer should be purchased. Apart from this equipment, drums of different sizes should also be part of the plan. In the mean time donkeys can carrying the waste to the dump sites.

–Reserved sites for authorized waste disposal
–Enhancing public awareness
(Concept Plan 2009)

Develop Appropriate Drainage Network

The *Development Plan of Logya Town* has the intention of creating canals which are linked with the irrigation canal and Logya River. After a rain the water can be diverted faster to prevent it from reaching flooded areas. Also, next to the main streets a drainage system should be built.

Creating a Green Framework

There are no recreational areas, green areas or parks in Logya. In the document, *Concept Plan*, there is mentioned that there will be a small project for streetside tree plantings. If this project works more and more trees should be planted. (Concept Plan 2009)

Future Expansion of the Town

The area that was selected for the future expansion area is very logical. The city cannot expand to the east or the south because of the Logya River and the irrigation canal. Logya has already expanded into the west along the highway during the last few years. This leads to long distances and the growth of infrastructure becomes more difficult. With the future expansion area the city will become more of a circle instead of a linear structure.

28 _ Interview in the Semera Logya City Administration, 15.02.2012

CONSIDERATIONS REGARDING THE DEVELOPMENT PLAN OF LOGYA TOWN

Many of the points which describe the considerations for the *Development Plan of Logya Town* are understandable and well explained. However, between the written document and the drawn plan exists less conformity. I would like to describe some of these disagreements between the written and drawn documents and give my own impressions and considerations.

Well-Structured Roads

Addis Ababa Djibouti Highway

The width of the Addis Ababa Djibouti Highway should have a minimum of 30 meters and a maximum of 50 meters. The sections (Fig. 146) show the newly designed street profile. In the areas were the street is 50 meters wide, parking areas for trucks, trees, and a sidewalk are foreseeable. This idea is easy to implement because the area is over 50 meters wide.

The question is however, is it important to use most of these areas as parking spaces. The reason for this design is perspicuous because of the highly frequented road and its use by truck drivers who are taking breaks.

One alternative could be specially provided areas for parking. These should be close to the highway, clearly visible and easily accessible. Along the highway are lots of restaurants and shops where the truck drivers can have their

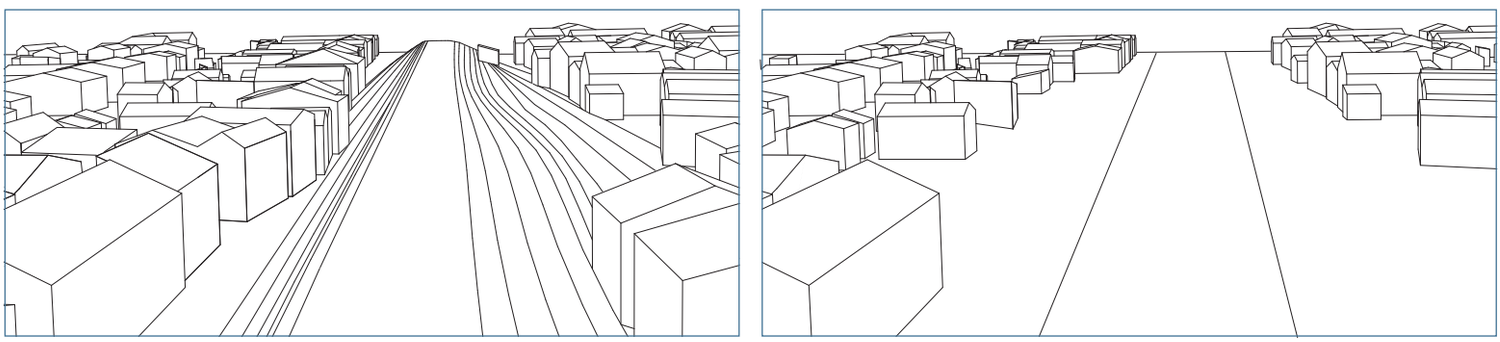


Fig. 145 Addis Ababa Djibouti Hightway – before and after the Development Plan of Logya Town

meals or buy provisions. Also, the areas in front of the restaurants can be developed further.

In the old part of Logya the highway has a minimum width of ~16 meters. The *Development Plan of Logya Town* has foreseen a minimum size of 30 meters. The detail from the plan shows this situation (Fig. 152). At these place the oldest mosque in the city is located and also a well-kept restaurant and supermarket. All these buildings should be removed. There are many other buildings that cross the line of the newly designed road and all of them are affected by the development of the area. The figure (Fig. 147) shows the design for the 30 meter wide road and there should also be built a central reservation, drainage and sidewalk. Only the pavement has a width of 15 meters.

This road is processed in the *Development Plan of Logya Town* only as a traffic zone. It is much more complex than this and I described it earlier in the chapter Streets and Traffic.[29] The road is very busy and it is necessary to incorporate the diversity of the area into the design.

Central Reservation

One aspect to be considered is the central reservation, which should be two meters wide. This area cannot really be used and it works like a barrier. One impact this structure would make for example, now the *Bajaj* drivers can turn or cross the road at any point and this would not be possible anymore.

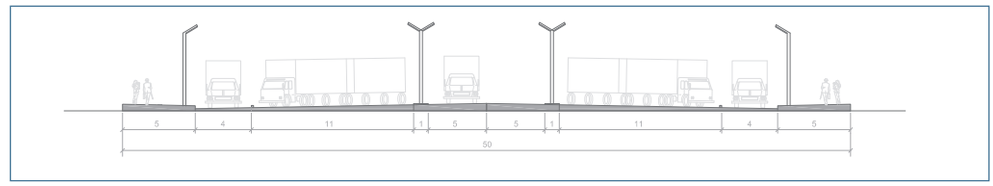


Fig. 146 Addis Ababa Djibouti Highway 50 meters

Sidewalk

Currently the place beside the highway is used in different ways. It is a sidewalk, a meeting place, a stop for *Bajajs* or mini buses, a shop area and more. These functions were not planned for this place and have evolved during the past. The hustle and bustle is a characteristic of this road and it would be great to use it as planning basis. One idea would be to widen the sidewalk in some places into small areas which can be used in diverse ways.

Oldest Mosque

The widening of the road is very structural and does not take into account the circumstances of the city. The road will be equally widened on both sides no matter what is located there. The oldest mosque is one of the oldest buildings in Logya and it is an important place. The highway is narrowest in this part of the city and a widening would be extremely meaningful. Now there is rarely space for pedestrians and the pavement is also very small. Maintaining the oldest mosque however, should still be a priority of the city designers. An alternative to removal or recession could be the widening of only the other side of the road. It would also be sufficient if the road had only ~20 meters instead of 30 meters.

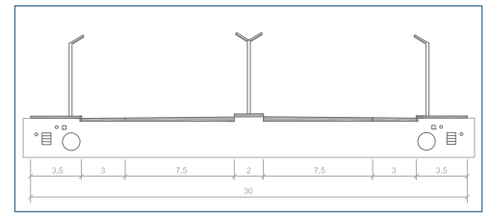


Fig. 147 Addis Ababa Djibouti Highway 30 meters

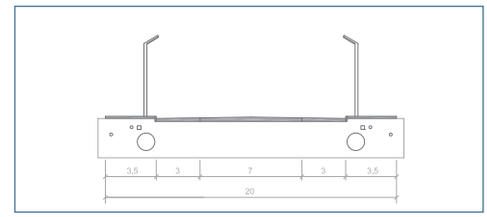


Fig. 148 Side road 20 meters

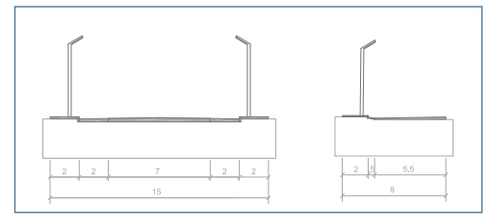


Fig. 149 Side road 15 meters and 8 meters

29 _ Chapter: Streets and Traffic _ Main existing roads; p. 42

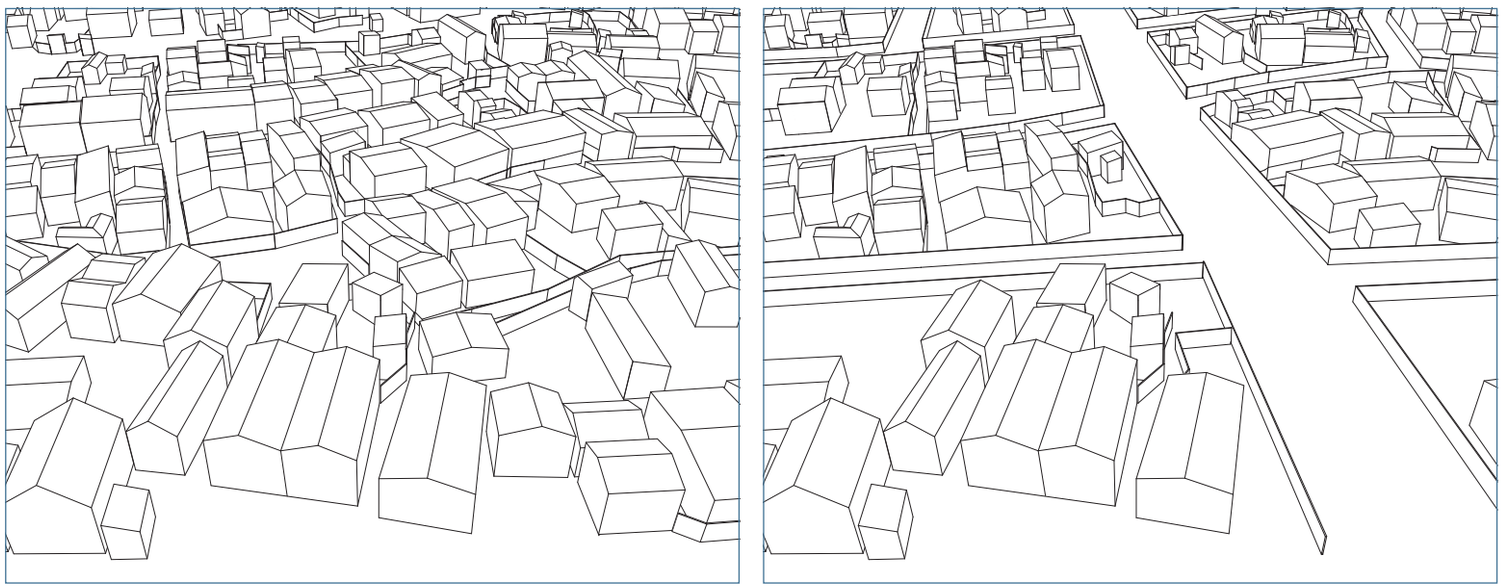


Fig. 150 Side roads – before and after the Development Plan of Logya Town

Mrs. Zahara

Logya, 22.03.2012, Interpreter: Mr. Ali

Mrs. Zahara is an Amhara woman, she was married but her husband passed away. She is seventy years old and when she was twelve she came to Logya in search of work as a housekeeper. Mrs. Zahara has 5 children, the youngest of whom is eighteen. Four of her children stay with her in the house but during the day they work and then come home to sleep.

The house is located next to the Addis Ababa Djibouti Highway. Due to the steep slope in this area the house has two floors. The first floor is about 2.5 meters below the street level and is for living. The second floor is the same level as the street and functions as a shop and storage room. The house has two separate entrances.

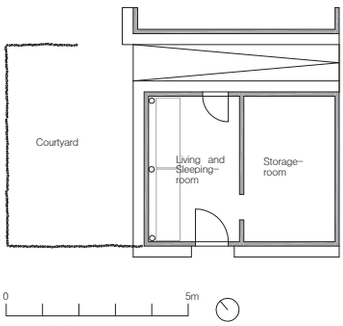
The house belongs to Mrs. Zahara and she lives in the first floor. She has one room for living and the second room is for storage. There is a small corridor between her and the neighboring building and she uses this area for doing household chores and we also sat there during the interview. At the back of the building is a fenced courtyard which she uses to do the laundry.

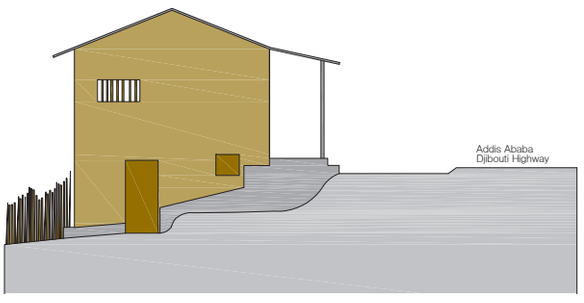
Mr. Zahara rents the second floor from which she generates a small income. From time to time she takes small jobs to get extra money.

They have no water pipe or toilette in the house and must use the neighbor's facilities. For this service she pays 5.– ETB (~0.2.– EUR) per 200 liters of water.

The house is built in the *chikka* technique and was constructed eleven years ago. Specialist built the house and relatives helped the family with other parts of the construction work. They received the plot from the government.

For the past year she has had an X on the door of her house. She did not receive any information about this X. Initially she was somewhat afraid of me and was hesitant about doing the interview. After she knew that I was not from the government she let us into her house and was very friendly and welcoming.





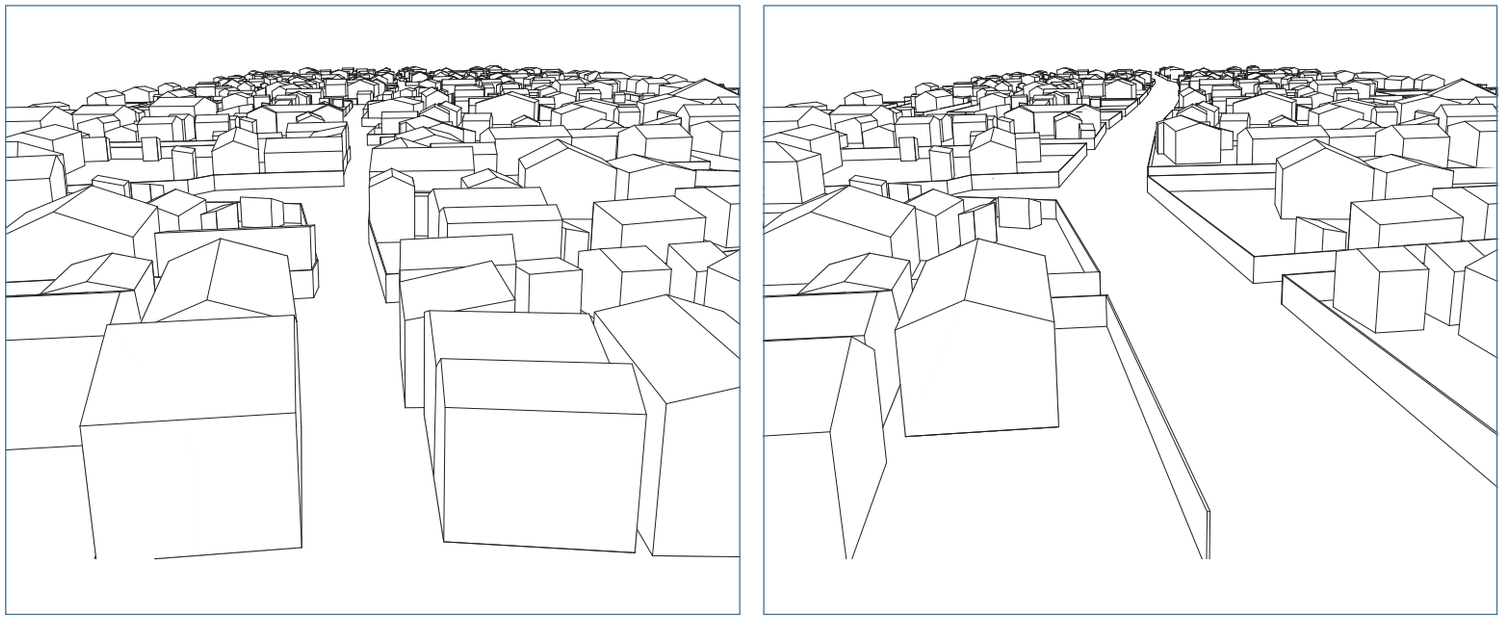


Fig. 151 Side roads – before and after the Development Plan of Logya Town

Crossing

Due to the high frequency of traffic it is not easy or safe to cross the highway. There is no pedestrian crossing along the entire street and there is nothing provided in the *Development Plan of Logya Town*. It is crucial to construct a pedestrian crossings or a pedestrian bridges to make the road safer.

Unpaved Roads

One of the most massive intrusions is the widening of the unpaved roads. Based on these plans a lot of buildings should be destroyed in the future. The sections (Fig. 148) (Fig. 149) for these roads show the new design and they are structured in pavement, drainage system and sidewalk. It appears that almost all of the existing unpaved roads should be paved. At the moment, most of the traffic is located on the Addis Ababa Djibouti Highway. The question is if it is useful to widen and straighten all these roads as well, as the traffic is less frequent.

Urban Functions and Services

Another point in the document, *Concept Plan* is: 'strengthening the town main centre that has already developed in the existing built–up area'. This would be a good approach but it is not visible in the drawn plan.

The drawn plan actually shows the opposite. The existing city structure will significantly change after the modification of the roads. Both images show this transformation quite well. (Fig. 150) (Fig. 151) Especially the old part of the city is affected by these changes. The oldest mosque, well developed shops, coffee houses and restaurants will be abrupt due to the new road network.

Oldest Mosque

The old part of the city is especially affected by these changes. The oldest mosque, well developed shops, coffee houses and restaurants will be disrupted due to the new road network. The plan also does not take the *Piassa* into consideration. After the change it is not a square anymore, but will instead be a road crossing. (Fig. 152)

A conversion of the *Piassa* in corporation with the oldest mosque, shops and restaurants could also be a possibility. One section that could be improved is the area in front of the oldest mosque. There is no washing place available and the people wash themselves on the road before they enter the mosque. People bring their own water bottle to the mosque, because there is no water supply. A bordered forecourt with a sheltered washing place could be one

Fig. 152 *Piassa* – before and after the Development Plan of Logya Town

Fig. 153 Before and after the Development Plan of Logya Town

possibility. Reducing traffic around the *Piassa* would also strengthen the area as a meeting point. There can be defined sitting areas, sales areas (fruits, meals,...) and also service areas (shoe repair, wash, ...). All these functions exist already at the *Piassa* and this should be integrated into the planning of the space.

Zoning System

Another point is to establish an appropriate zoning system. Zoning can be quite useful, especially when the city grows so fast. However, it should be considerate of the residents needs. The areas in the existing built up area in Logya are now for mixed use. Most of these areas should be changed into areas for residential use only. After the change it will not be allowed to run a business in these areas any longer. Mixed use means working and living in one house or in one compound. Women run the household, look after the children and sometimes also have a small business (sales or service). This is possible because it is integrated into the compound. When this business is not allowed anymore many jobs will be lost along with the income they provide.

Urban Environment

Providing Waste Management System

It is very important to envisage a waste system in the near future. This topic is a problem in Logya and the government has already started a program. The waste will be collected by donkeys and brought to the dump site. The waste is only collected there and is not processed further. At the moment, the waste is brought out of the city but problems still exist. Plans should be taken a step further and there should be planning for the future processing of the waste.

Creating a Green Framework

There are only a few trees found in public areas at the moment. The plants have to be fenced in because of the free–range animals, especially goats. More greenery would enrich the city. One area to improve is the greenery along the streets. During the daytime the sun is very strong and along the Addis Ababa Djibouti Highway there are no shady areas. Trees along this road could produce more shadow and walking around would be more comfortable. Also, in public places the greenery could serve as a natural shade dispenser.

Fig. 154 'X'–House

Fig. 155 House with ← sign

Fig. 156 'X'–House

Fig. 157 'X'–House

SEMERA _ COMPARISON WITH LOGYA

Semera is the capital of the Afar Region and is a relatively new city. This chapter describes the foundation and the development of this planned city and the relationship it has with the neighbouring city of Logya. There are only 5 kilometres separating these two cities and this chapter focuses on the connections and the differences that emerge between Semera, as a planned city, and Logya, as a naturally grown city.

SEMERA

FOUNDATION

Semera is the capital of the Afar Region and was founded in 2003–2004. It is one of the youngest cities in the Afar Region. Previously, the capital was Asayita, but in 1997 the Afar National Regional State decided to move it. The new capital needed to be in a location that was easily accessible from all parts of the region. This is one of the reasons why Semera was founded almost exactly in the middle of the Afar Region along the Addis Ababa Djibouti Highway. (Mahmued 2008) Another reason is the short distance between Logya and Semera, which should be connected in the next few years.[30] Also, the distance between Semera and Logya is only approximately five kilometres.

Before 2003 there were no urban settlement activities in this area. The city was planned from the very beginning and in 1998 the National Urban Planning Institute (NUPI) prepared a Development Plan. In the future, Semera plans to become the city for large economic, political, social and administrative activities. New regional offices, along with health, education and public housing facilities are planned for construction in order to perform these functions. (Mahmued 2008, UGDP 2010)

LOCATION, TOPOGRAPHY AND CLIMATE

Semera is located in Zone 1 and the exact geographic coordinates are 41°0.31 East Longitude and 11°47.32 North Latitude (Google Earth 2013). The city was founded on a flat plateau and lies approximately 440 meters above sea level (UGDP 2010). This plateau rises around 20 – 30 meters from the flat desert and seismic problems have been reported in the area (Mahmued 2008). The climate and vegetation of Semera is very similar to Logya.[31]

POPULATION

Population Size and Growth Rate of Semera

In 2012, 3,687 people lived in Semera. (Tab. 16) The census in 2007 reported 2,625 people living in Semera. The growth rate was ~40% during these five years (Tab. 16), which was exactly the same as in Logya during this time period. The government created a table predicting how the city should grow from 1997 until 2011. The number of people in 2011 was expected to be 5,486 but this objective was not reached. (Tab. 17) There are different reasons why the city is growing so slowly and they will be described later.

Housing Units in Semera

During the census in 2007 there were 578 houses in Semera. Of these, 322 were conventional houses, 184 improvised houses and 72 mobile houses (Census 2007). In 2012 the housing units in Semera grew to around 819. This number comes from my linear extrapolation based on the population size in 2012. (Tab. 18) The average number of persons per housing unit is 4.5, which is almost equal to the average number of persons per housing unit number in Ethiopia, which is 4.6 (Ethiopia Demographic and Health Survey 2011 2012). (Tab. 18)

The conventional houses are publicly owned

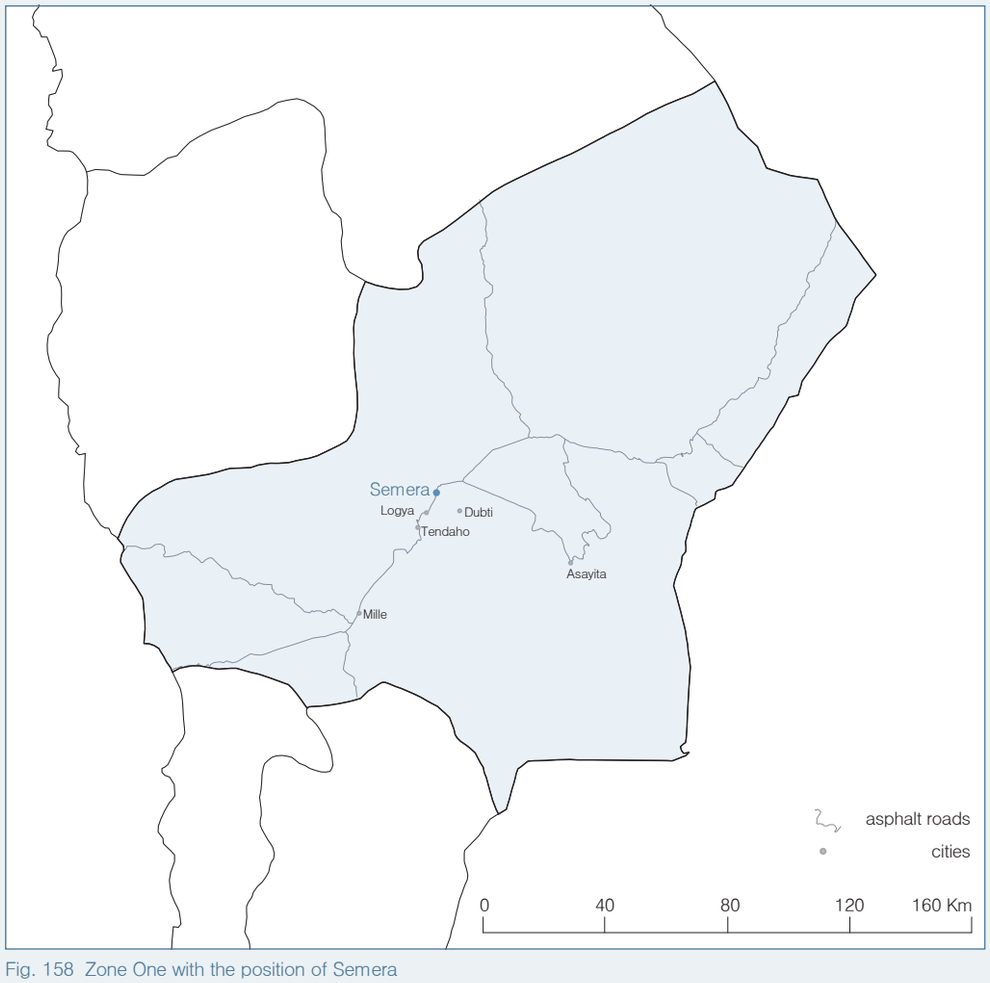


Fig. 158 Zone One with the position of Semera

Population Size of Dubti Woreda			
10,656	10,014	20,670	Dubti Town
10,410	9,309	19,719	Logya Town
1,163	1,031	2,194	Date Bahri Town
1,857	1,830	3,687	Semera Town
Male	Female	Total	

Tab. 15 Population Size of Towns, CSA July 2012

Semera Town Growth Rate			
1.322	1,303	2,625	Semera 2007
1,857	1,830	3,687	Semera 2012
Male	Female	Total	
growth rate 2007–2012: ~40%			
growth rate each year: ~8%			

Tab. 16 Semera Town, growth rate, CSA 2007, CSA 2012

Projected Population size of Semera	
1999	2500
2001	2850
2003	3249
2005	3703
2007	4222
2009	4812
2011	5486
Year	Projected Population size

Tab. 17 Projected Population size of Semera

Housing Unit – Semera Town			
2,625	578	4.5	Semera 2007
3,687*	819	4.5*	Semera 2012
Population	All Housing Units	Average Number of Persons per Housing Unit	
*linear extrapolation			

Tab. 18 Housing Unit, Semera Town, CSA 2007, 2012

Type of Housing Unit – Rural Area in %			
90%	3%	7%	Afar Region
90%	2%	8%	Zone 1
95%	3%	2%	Dubti Woreda
97%	1%	2%	Logya Town
56%	32%	12%	Semera Town
Conventional	Improvised	Mobile	

Tab. 19 Type of Housing Unit, CSA 2007

villas or apartment houses which have facilities like toilette, kitchen and tap water. Of these houses, 93.4% are rented from Bureau of Works & Urban Development and are foreseen as the homes for civil servants and office managers. The improvised houses (Fig. 162) are made out of local construction material called *satera* and have no access to basic housing facilities. (Mahmued, 2008)

CITY STRUCTURE

Description

It is not easy to describe the structure of Semera because the development started only a few years ago. Before 2003 only a few nomads with their mobile houses had settled there.

After the master plan of the city was prepared, they started to construct the necessary buildings. Specific areas are reserved for default functions. (Fig. 166) Due to the fact that Semera is the new main city of the Afar Region the entire administration had to move from Asayita. Most of the existing buildings are administration buildings (Fig. 163) and only a few are for living. Because of the diverse functions of the buildings, there are at the moment large undeveloped areas between the buildings. They will be filled with buildings in the future.

The plan foresees a radial development of the city, but it does not have a real center. The center of the city is a crossroads and there are no unused spaces or meeting places planned, only a market place where people can gather.[32]

Almost all living houses are reserved for the people who are working for the government. There are areas for living foreseen, but there are several reasons why nobody has started to build anything. The areas are currently not developed and there exists no infrastructure or facilities, like water supply or access to an electrical power connection. Furthermore, it is only allowed to build with concrete and the people must hire a specialist, which are uncommon. Most of the house specialists know how to build the *chikka* technique but this type of houses is not allowed. Many people have decided to live in Logya because there are no building restrictions and it also has a much better infrastructure.

During my stay in Semera most of the existing buildings were offices. In one area there were a few multi-level houses with basic facilities for living. Also, they had already finished buildings one hotel, one petrol station with a restaurant and a small shop, some schools, a military station and a few other buildings. In addition to the planned buildings, there exist improvised buildings which are mostly for living. A few of the residents run small businesses, such as shops or restaurants in these improvised buildings as well.

Proposed Land Use

In the *Capacity Assessment Report for the City of Semera–Logya* the proposed land use for Semera is calculated. (Tab. 20) The proposed area for the city is 719 ha. Most of the space is reserved but still is without a defined purpose. On the second position are services including education, health service, utility service, municipal service, cemetery and civic, culture and social welfare. The area for residents lies in the third position but only a small amount existed until 2012. On the other side most of

Fig. 159 Unpaved main road in Semera

Fig. 160 Addis Ababa Djibouti Highway in Semera

Proposed Land Use for Semera		
161.40	22.45	Reserved
120.60	16.77	Service
112.40	15.63	Residential
82.60	11.49	Transportation
61.10	8.50	Forest
55.90	7.77	Administration
52.80	7.34	Manufacturing
51.60	7.18	Commerce
20.60	2.87	Recreation& Culture
719	100%	Total existing area
Area ha	%	

Tab. 20 Proposed Land Use for Semera

the administration buildings that were proposed exist already.

At this point, it is clear that the most important sector for the new city is administration and almost all other needs come after. In the education sector a lot of buildings were built until 2012.

Streets and Traffic

Streets

The main road, the Addis Ababa Djibouti Highway, is the only paved street in Semera. This road continues through the middle of the city and at most places is elevated. (Fig. 160) There are only a few unpaved main roads and the profile is quite big. (Fig. 159) It looks as if they are preparing for a four–lane highway, but during my visit there was almost no traffic to be found. The third type of road in Semera is the temporary undesigned roads which were naturally created since the city was founded. They run were no streets were provided until now.

Traffic

Most of the traffic in Semera is found on the Addis Ababa Djibouti Highway. Many trucks pass through the city because they transport goods between Ethiopia and Djibouti. Public transportation is also a big part of the traffic. There are mini and midi buses which are driving to different cities, most of which drive between Semera and Logya. During my stay in 2012 there existed two *Bajaj* and they drove between the highway and the university. There was space for almost 10 people to ride in a single *Bajaj*.

Education

In the *Development Plan* there are proposed areas for education and a few of them have already been finished. The types of education range between primary school, secondary school, high school, training school, specialized school, research center and university. The largest education area in Semera is the university, which was almost finished in 2012. (Fig. 161) It is located on the northern outskirts and operates like an independent city. On the campus there are residence halls and in comparison to the rest of the city there is a lot of hustle and bustle. I was informed that 3,800 students are registered in 2012 and most of them live on campus. Most of the teachers live in Logya and they drive daily between the two cities.[33] Close to the entrance of the university there are a few improvised restaurants and shops.

Infrastructure

Until 2012 the infrastructure was not very developed in Semera. Only a few households had access to water or electricity. Most of the areas which are proposed for living are still not developed and it is very expensive to become connected to the water system or to the electricity. Also, in the commercial sector a lack of shops and restaurants was noticeable. The shops with licenses were found along the main road in the new concrete buildings, but there were also a few improvised shops and restaurants in the *satera* houses. The city administration is aware of these shops and restaurant but because of the lack of commerce, no action is taken against them.

30 _ Interview in the Office for Urban Pl–anning, Sanitation and Beautification Core–Process, 23.03.2012

31 _ Chapter: Logya _ Location, Area and Topography; p. 27 – 28

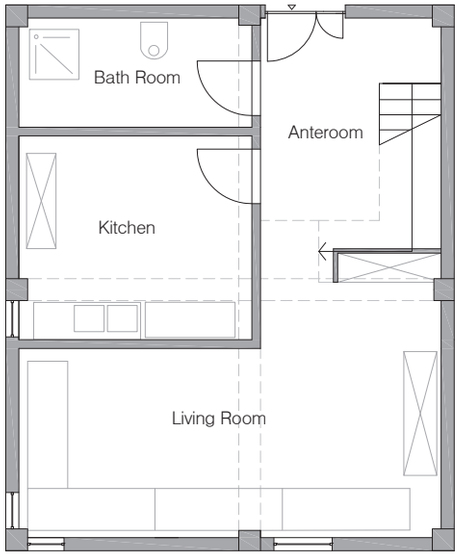
32 _ Interview in the Semera Logya City Administration, 15.02.2012

33 _ Interview in the University in Semera, 20.03.2012

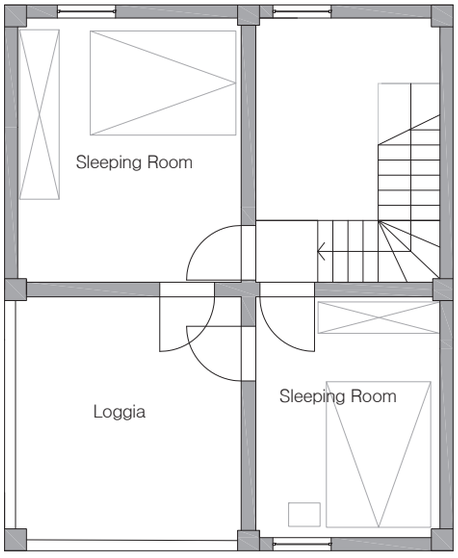
Fig. 162 Improvised *satera* house in Semera

Fig. 161 University in Semera

Fig. 163 Administration building in Semera



1. Floor



2. Floor

0 2.5m

M= 1:100

Mrs. Ambia

Semera, 21.03.2012, Interpreter: Mr. Youssef

Mrs. Ambia is an Afar woman, she and her parents come from Dallo, which is located near the Eritrean boarder. She is married to an Afar man and both are working in Semera. She works security at the college and he works in an Afar language office. They have three children, one girl and two boys.

Before she moved to Semera seven years ago, Mrs. Ambia was a soldier in the Afar military that was fighting against the government. The Afar were not free and they fought for their independence. During this time she lived under trees and also in *depoitas*.

The family lives in one of the multi-level houses in Semera, which are provided by the government. She gets the flat from the government because of her time as a soldier. The rent for this flat is only 200.- ETB ((8.- EUR) which is comparatively cheap.

They have an Amhara servant who cooks for the family and takes care of the household. Mrs. Ambia told us that Afar never work as servants, they just help each other. She sees the Amhara woman who works for them as part of the family, the women lives with them, sleep in the same house and even eats meals with them. The only difference is that they give her some money.

The flat has two levels. On the first floor are an anteroom, living room, kitchen and bathroom with toilette. The second floor consists of two sleeping rooms and one loggia. During the hot periods the family sleeps outside on the loggia. I asked her if she likes living in this house and she told me that she is very happy with her lifestyle: '...I am very happy to live in this situation, because I was fighting because of this; to get like this independence. To open our eyes, Afar eyes, because you know, at that time there wasn't any education and all the governments were killing us, fighting with us, attacking us. ...' '... Nobody can like the life in a village. Everybody would like to live like this. Development. Everybody: no any woman, I mean, no woman can like to live in that *deboita*. ...'

During the hot period the flat gets too hot and she moves with her children to the highlands or Dessie. This is possible because Mrs. Ambia and her children are on holiday during the hot period.

I asked if she would change anything if she could (based on the house): '...so I still need more for my house. But this house is good for me. But my dream, every human being can dream, so that is: I dream more if I get. ...'
'...nothing, I have nothing here. I have nothing, it is just house, you see, there is nothing there. I need more. Just I believe in one thing, there are some people, who live with less than I have. I need some more, but when I turn and I see that they have less ... I want a car, for rubbish and when I go to the government and to establish something, I am going by bus. So I would need my own car, for the husband, for the children...'
'...I would put an air condition in everywhere...'

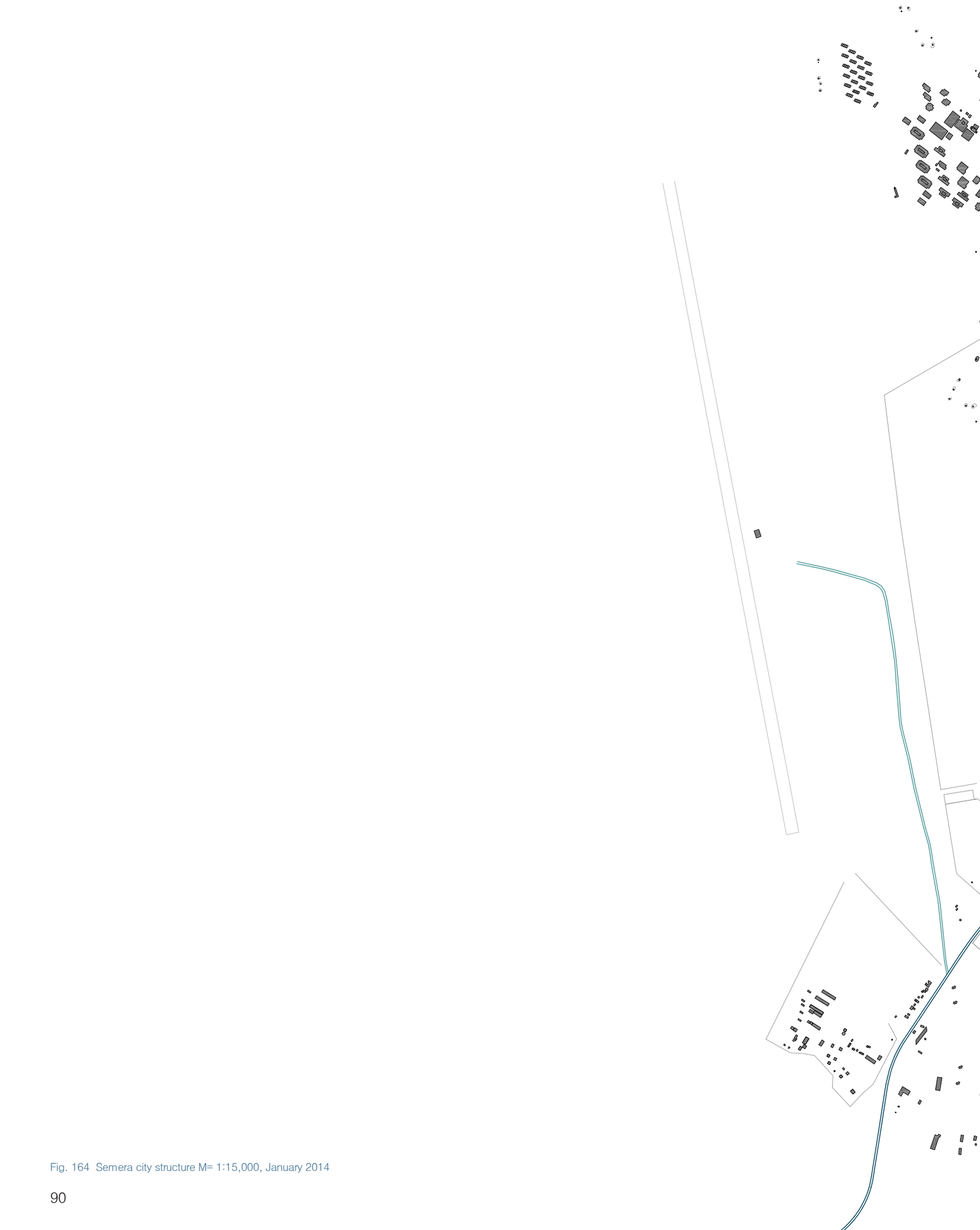


Fig. 164 Semera city structure M= 1:15,000, January 2014


0
200
400
600
800
1.000 m

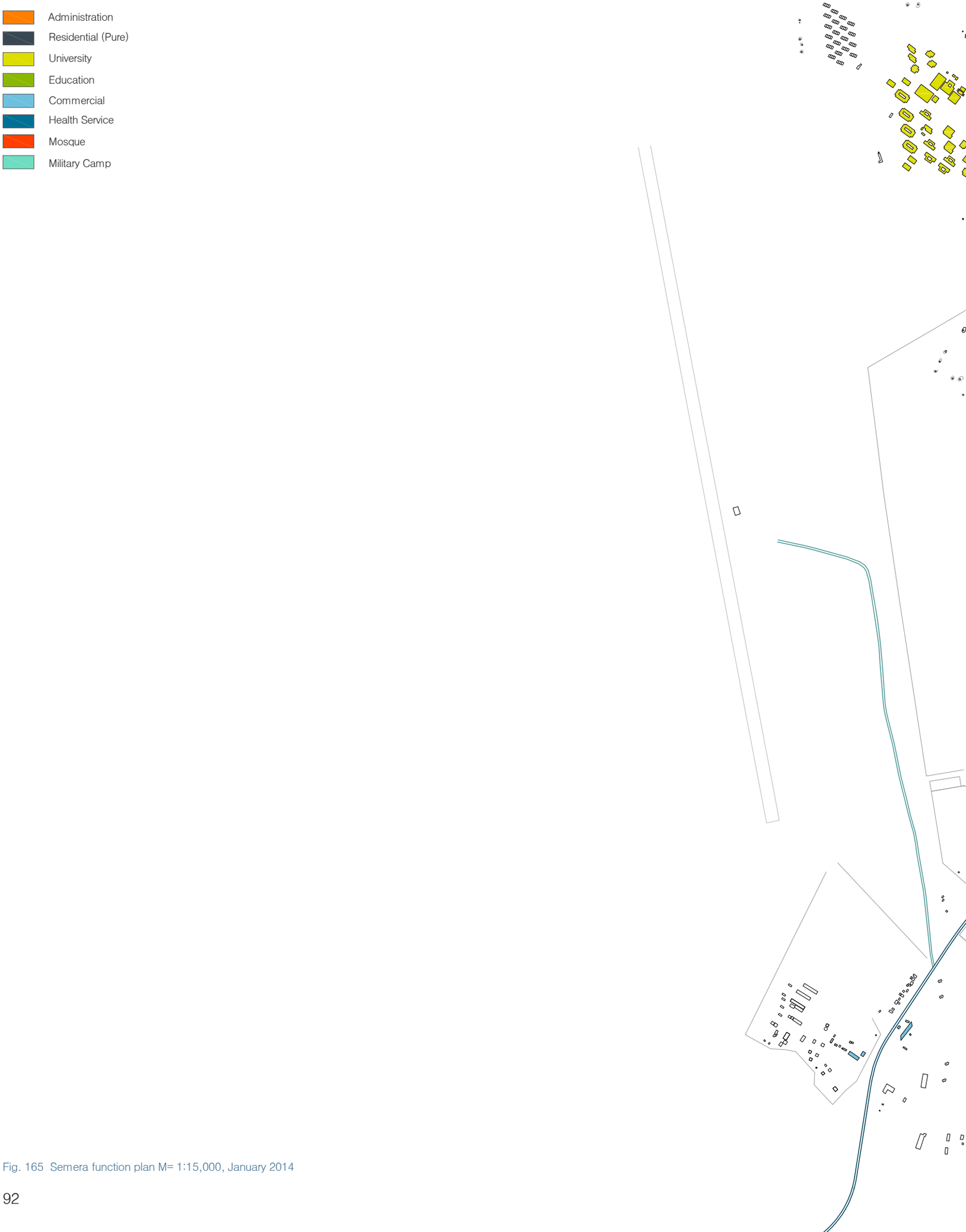


Fig. 165 Semera function plan M= 1:15,000, January 2014


0
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400
600
800
1.000 m

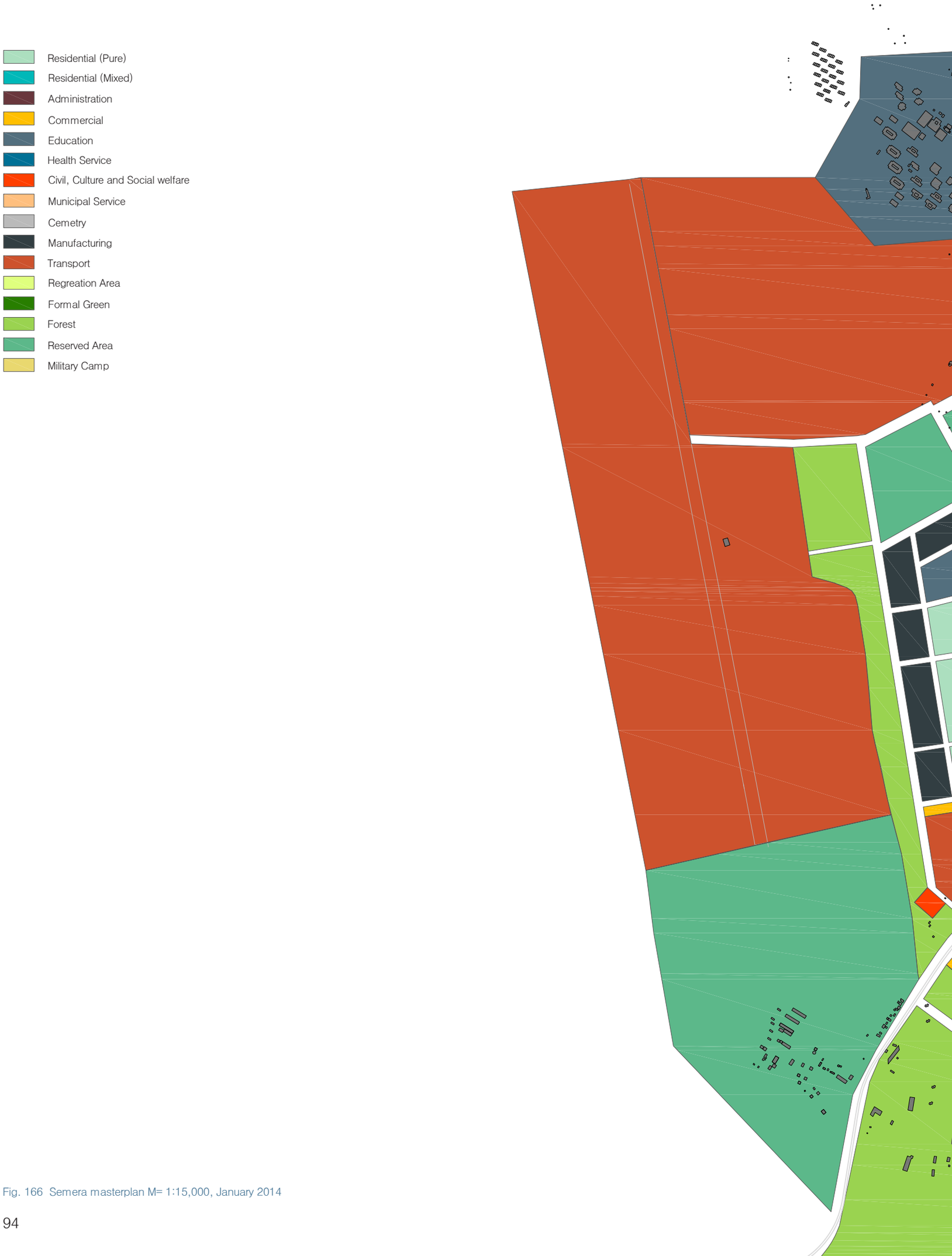

Fig. 166 Semera masterplan M= 1:15,000, January 2014


0
200
400
600
800
1.000 m

LOGYA IN COMPARISON WITH SEMERA

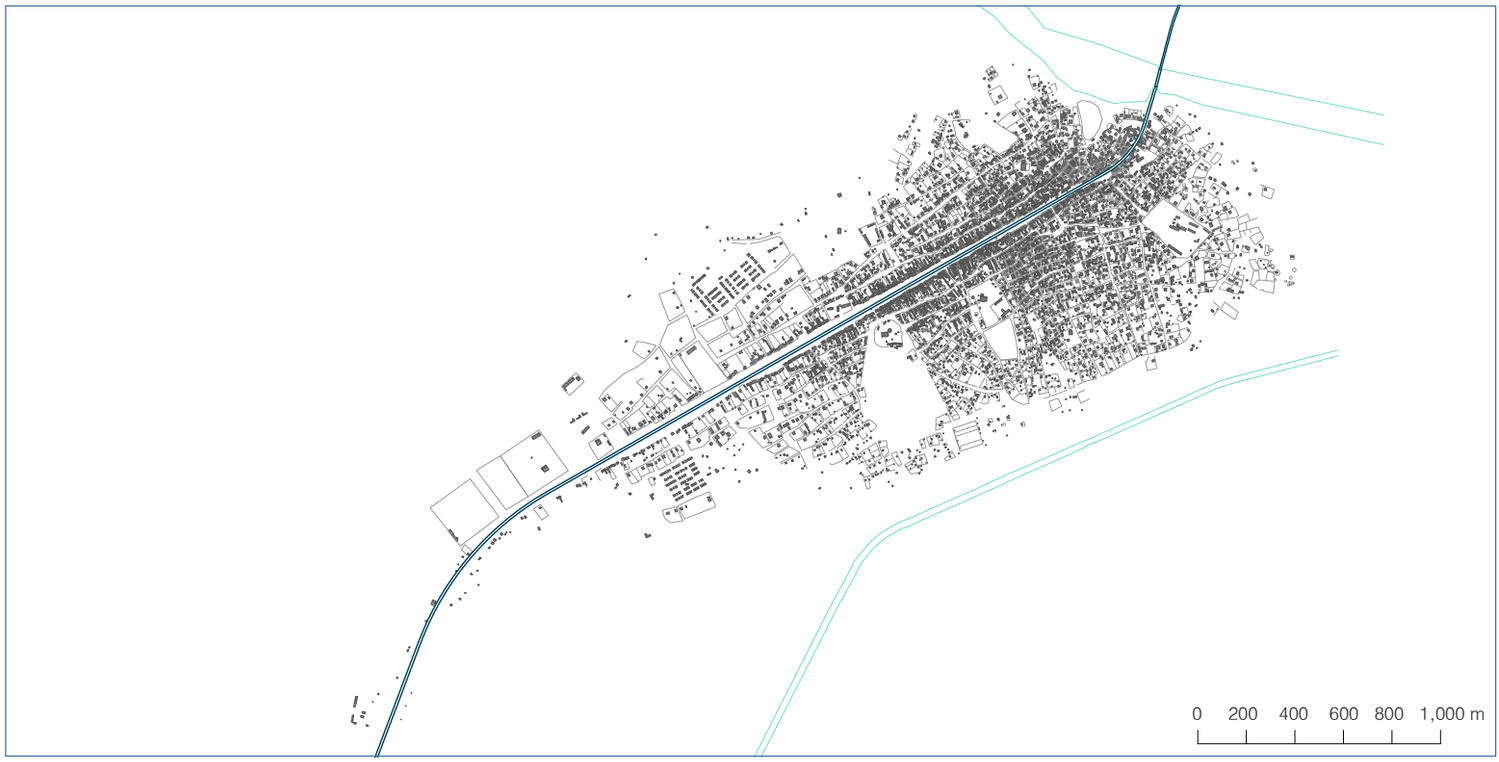

Fig. 167 Logya M= 1:30,000, July 2012

Fig. 168 Semera M= 1:30,000, January 2014

DISTANCE BETWEEN LOGYA AND SEMERA

The distance between Logya and Semera is only five kilometres. (Fig. 169) It takes only a few minutes by car or with the mini– or midi buses. When the sky is clear it is possible to see the other city. (Fig. 170) In this picture it is possible to see that Semera lies a little bit higher than Logya. Both cities have a very flat landscape and only a few slopes. Semera is located on a plateau and the last distance up to Semera the Addis Ababa Djibouti Highway is very steep. (Fig. 171)

CONNECTION BETWEEN THE TWO CITIES

The differences in the two cities are obvious. Logya and Semera look and function completely different, but they are also linked. It could be said that the cities have a symbiotic relationship.

Before Semera was founded Logya had its own administration offices, but now all of these offices have been moved to Semera. For almost all administration concerns the residents from Logya have to go to Semera. On the other hand, with the founding of Semera many new jobs and education possibilities were created for the residents of Logya.

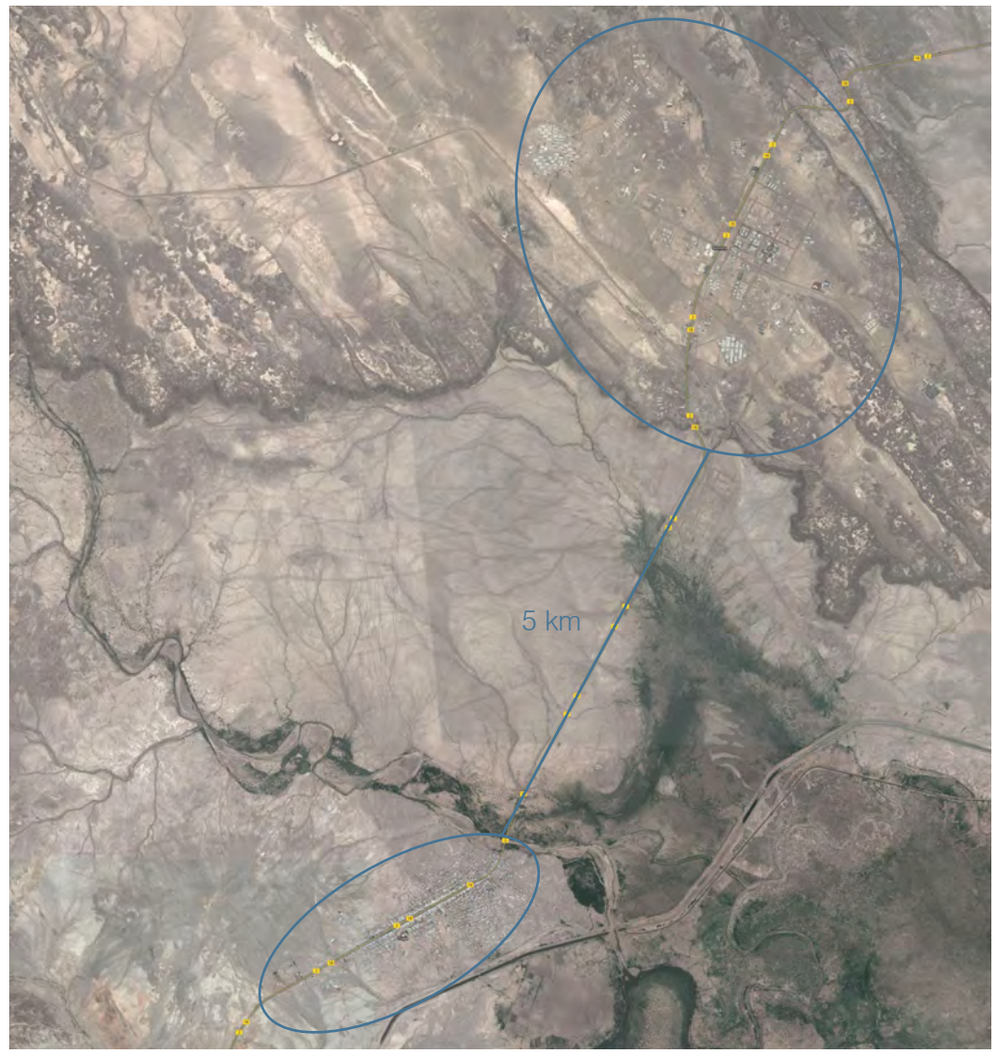

Fig. 169 Distance between Logya and Semera

Fig. 170 View from Logya to Semera

At the moment, Semera can be described as an administration and education district of Logya. Most of the buildings in Semera are dedicated to administration or for education. This circumstance leads to the consequence that most of the people who are working in Semera live in Logya. Even the residents of Semera visit Logya because of the better infrastructure. There are many more shops and restaurants to find and the variety of the products is much better.[34]

Because of the short distance and the good connecting transportation, it is very easy to move between the two cities.

CITY STRUCTURE OF BOTH CITIES

Structure

The structure of both cities is vastly different.

In Logya the buildings are very tight along the Addis Ababa Djibouti Highway and the city becomes less and less dense moving toward the outskirts. Areas with special functions (mosques, churches, cemeteries, schools, clinics, ...) distinguish themselves from the relatively regular structures.

The Addis Ababa Djibouti Highway plays a much smaller role in Semera than in Logya. This is clearly visible in the structure of the city. Semera is designed as an administration city and this is the focus. Compared to Logya, where the structure is almost regular, the structure in Semera is extremely specialized. Every building has a special function and needs special attention and between the buildings is a lot of free space.

Streets

Straight through both cities crosses the Addis Ababa Djibouti Highway, which acts in both Logya and in Semera as a barrier.

There are differences however, with the unpaved main roads in both cities. The profile from the main unpaved roads in Logya has an average size of five meters. In Semera some of the main unpaved roads can be as wide as twenty meters across.

Buildings and Building Restriction

In Logya almost all buildings are one-storied. There are only a few two-storied buildings. The most commonly used building technique is the *chikka* technique which uses wood and clay. There exists no building restriction in Logya, which means that every technique and every material can be used. (Fig. 172) The percentage of conventional houses in Logya is very high, about 98% in 2007 (CSA 2007).

The number of conventional houses in Semera is much lower and was only 56% in 2007 (CSA 2007). There is a building restriction which says that every building must be built with concrete or a similar material. (Fig. 173) In Logya, houses built in the *chikka* technique or in *satera* technique are conventional houses but not in Semera. In Semera conventional houses are improvised houses and the residents receive no refund if the government decided to use the area on which they live. (Fig. 174) Most of the buildings which are built with concrete are multi-storey buildings. The designs of these houses differ greatly and there are no considerations in the construction amongst them. These buildings can be everywhere and are not specially designed for a provided plot. The conventional living houses in Semera range between large multi-storey houses with several apartments to one-storey detached houses.

34 _ In one copy shop in Logya I met a student from the Semera University. He is living at the University Campus and almost every day he goes to Logya, to meet friends and visit restaurants. On the day I met him he had to copy something and this was also a reason for him to visit Logya.

Fig. 171 Addis Ababa Djibouti Hightway

Fig. 172 Conventional house in Logya

Fig. 173 Conventional house in Semera

Fig. 174 Conventional, improvised and mobile houses in Semera

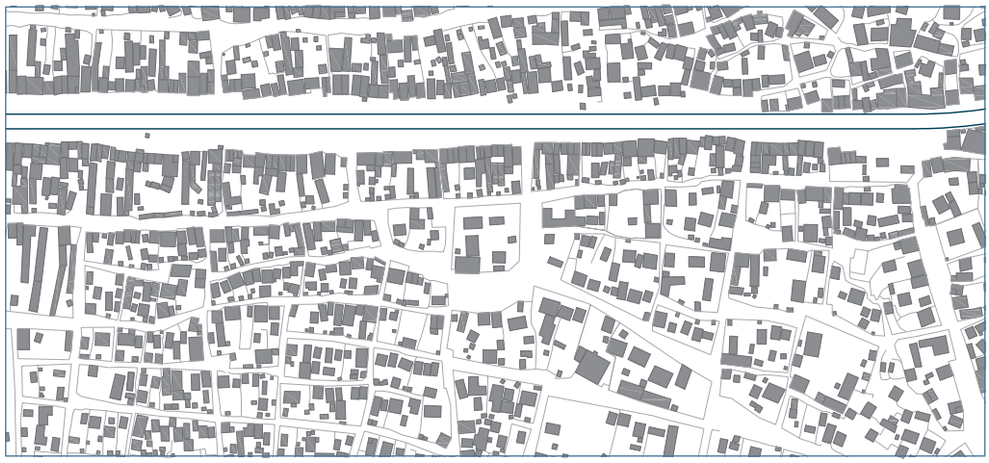

Fig. 175 Logya city structure

Fig. 176 Logya city structure

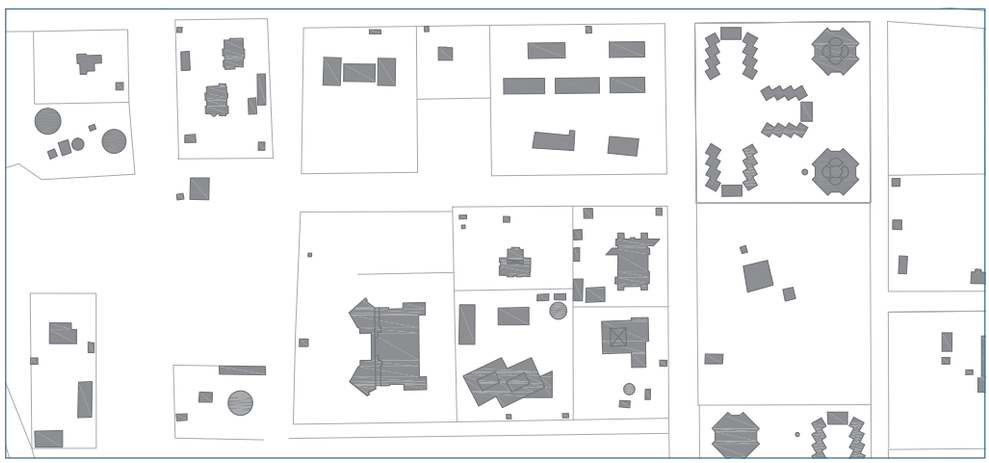

Fig. 177 Semera city structure

Fig. 178 Semera city structure

SELF GROWN CITY _ PLANNED CITY

Logya _ Self Grown City

Logya is one of the oldest cities in the Afar Region and until now has grown without any planning. The structure of Logya is quite logical and it is obvious that the development is very good. The structure of the houses and the fences transitions smoothly and it seems like a puzzle in which every piece fits in place. (Fig. 175) (Fig. 176) The old part of the city, which is along the highway, is very dense and the structures become much less dense at the outskirts of the city. Only one street in Logya was planned and this is the Addis Ababa Djibouti Highway. All other roads are simply spaces between the fences and houses and have just emerged over the course of time. It seems like every resident contributed a piece to the city structure. All the residents are designers of Logya.

Semera _ Planned City

The city structure is completely different in Semera than in Logya. The design of this city was planned from the beginning and the *Development Plan* was prepared from the National Urban Planning Institute.[35] Every plot has a designed form and an intended function. The streets between these plots are also planned and for every street there exists a plan. The plan (Fig. 166) shows the planned structure of Semera. In the middle of the city there is a crossroads were the two biggest roads converge. Most of the plots are rectangular and the streets between are also linear. (Fig. 177) The plots already have their final form and function without any possibilities for changes. At the moment the structure is very dissipate because only a few building exist already. (Fig. 178) There are lot of spaces between the buildings because the buildings were built on the space for which they were prepared. The master plan is pretend and the city grows in accordance with the plan. Also, the buildings are designed but there is no consideration to the neighbouring house and it seems like a sequence of random houses.

35 _ Interview in the Office for Urban Planning, Sanitation and Beautification Core-Process, 23.03.2012

OTHER CITIES IN THE AFAR REGION

This chapter includes descriptions of other cities in the Afar Region. It consists of an overview of the different city structures and also the building materials used. The city of Dubti is comparable to Logya but the other described cities differ greatly from each other. In this chapter the 'Tendaho Project' is also briefly discussed. This project affects a huge area in the Afar Region and brings changes with it. Three of the described cities are in some way connected with it; Logya, Dubti and Asayita.

DUBTI

GENERAL INFORMATION

Close to the cities Logya and Semera is the town Dubti. The town was founded in 1960 with the establishment of the Tendaho Agro– Industry Enterprise (IDP 2007). It is located in the Zone 1 and the exact geographic coordinates are 42°05 East Longitude and 11°46 North Latitude (IDP 2007). The name Dubti comes from Afari and means 'water area for animals'.[36] There are two rivers located in this area, the Awash River and the Logya River.

The center of Dubti is called *Piassa* and it is where the early settlement was established. Most of the settlers were workers for the new Agro – Industrial Enterprise (IDP 2007). Now there are lots of shops, bars and coffee houses found here. Over time the town extended to the North, the South and to the West (IDP 2007). In the East there are big fields for agriculture and this is the reason why the town did not spread in this direction.

POPULATION

The Census in 2012 reported 20,670 residents in Dubti, which is slightly more than in Logya. (Tab. 21) Most of the residents are from Afar but there are also lots of Amhara. Most of the people from Amhara moved to Dubti because of work and run most of the shops.[36]

CITY STRUCTURE AND INFRASTRUCTURE

The city structure of Dubti (Fig. 180) is comparable with the city structure of Logya. Beside the main road the houses are also very dense with narrow frontages. This denseness gets less at the outskirts of the city. Most of the buildings are built in the *chikka* technique and the fences are made out of wood. Dubti has developed without any plan and is a self growing city like Logya. If you see only a small part from both cities it is not possible to distinguish them from each other. (Fig. 181) (Fig. 182)

In Dubti there are no paved roads. The Addis Ababa Djibouti Highway is approximately ten kilometres away which is also the distance between Dubti and Semera.

Because of the Tendaho Project the infrastructure of Dubi is very good. Since 1983 the city has a portable water supply and before there were public water wells. The Dubti area has a relatively low potential for groundwater and thus had water pipes drilled along the Awash River and Logya. The supply of electricity started in 1986. (IDP 2007)

The first school, an elementary school, was founded in 1964. In 2006 there was one kindergarten, two primary schools, a senior secondary school and a technical school in Dubti. (IDP 2007)

The Tendaho Agro Industry Enterprise built their own clinic for their workers and this healthcare service facility is as old as the town itself. In 1992 the government upgraded this clinic into a hospital. (IDP 2007)

36 _ Interview in Dubti Town, 12.04.2012

Dubti Town Population Size			
–	–	8,995	Dubti 1984
–	–	10,534	Dubti 1996
7,586	7,129	14,715	Dubti 2007
10,656	10,014	20,670	Dubti 2012
Male	Female	Total	

Tab. 21 Population Size in Dubti Town

Fig. 179 Dubti Town

Fig. 180 Dubti Town – city structure

Fig. 181 City structure – Dubti

Fig. 182 City structure – Logya

TENDAHO PROJECT

Dubti has a size of about 1,200 hectare. Of this, 45% of the area is used for the Tendaho Agriculture Project. This project started in 1960 as a cotton plantation. (IDP 2007)

The Tendaho Sugar Development Project started in 2006. (Fig. 184) This project encompasses some areas of Mille–, Dubti–, Asayita– and Affambo– *Woredas*, all together it is the biggest factory in Ethiopia with a total plantation area of 50,000 hectare.[37]

For this project huge areas are used to supply water for the irrigation of the fields. The Tendaho Dam and Irrigation Project (TDIP) was launched under the auspices of the Ministry of Water Resources and is located in Dubti. They constructed the Tendaho Dam, spillway, diversion tunnel, and main canals. (IDP 2007) (Fig. 183) (Fig. 185) The projects are operated by the Water Works Construction Enterprise (WWCE).[38]

The director of the Tendaho Dam and Irrigation Development Project is Abrham Berhie. During an interview with ENA, he said that this project had already brought desirable changes to the lives of the Afar people. The project creates job opportunities for the local people and changes the working–habits of the Afar people for the better. Most of the Afar serves as machine operators, security guards or day labourers. Along with the immense national economic advantages and the job opportunities this project creates, it also is curbing overflow from the Awash River and enhancing fishery development. He also stated that many Ethiopian professionals work on this project and it also serves as a 'practical training ground' for young Ethiopian professionals.[38]

Before the city and the Tendaho Project were founded, there was barren grassland which served as a seasonal grazing land for the Afar pastoralists. This area was not only used as pasture however, because it was also blessed with ample water resources. Since 1960 the environment has been changed because of the agriculture project. The Afar pastoralists were forced to move to other places. (IDP 2007)

A huge area in Zone 1 of the Afar Region is affected from this project. Not only the plantation areas were grazing land once existed were changed, it also affected the area were the Tendaho Dam was built. A huge area is flooded now and the water will be regulated by the government. The irrigation canal starts near the Tendaho Dam past the city of Logya and goes to the plantation areas of Dubti and Asayita. Before the irrigation canal was built the people used the water from the Awash River in different capacities. It served as a water source for the pastoralists and also as a drinking area for their animals. Also, the people from Logya used the water. Now this is no longer possible. Some of the other drawbacks include the riverbank is quite steep now and the animals can not drink from it any longer, it is more difficult to scoop water out of the irrigation canal and people are not allowed to live close to the irrigation canal and some of the Afar pastoralist were forced to move.

There are always two sides in an argument. On the one hand there were many jobs created for the Afar people and due to the project the infrastructure (health, education, ...) will improve. On the other hand a huge amount of pastoralist land was lost.

Fig. 183 Irrigation canal in Dubti

Fig. 184 Sugar cane plantage in Dubti

37 _ http://www.etsugar.gov.et

38 _ http://www.newsdire.com/news/631-tendaho-dam-and-irrigation-development-project-bearing-fruits-chief.html

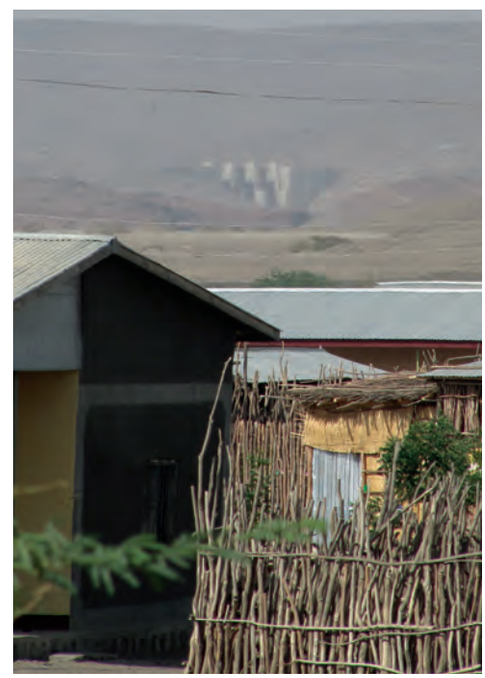

Fig. 185 Tendaho Dam in the back

Fig. 186 Asayita city structure

Fig. 187 Main road in Asayita

Fig. 188 Awash River in Asayita

ASAYITA

GENERAL INFORMATION

Asayita is one of the oldest cities in the Afar Region.[39] It is very close to the Djibouti border, only approximately 25 kilometres away. The city is located in Zone 1 and the exact geographic coordinates are 41°26 East Longitude and 11°34 North Latitude. (Google Earth 2014)

Until 2004 Asayita was the capital of the Afar Region which has now been moved to Semera.[40]

POPULATION

In 2012 the total population of Asayita was 22,548. (Tab. 22) Some of the people who are working for the government have moved to Semera or Logya. Although Asayita is not the capital of the Afar Region any longer, the city continues to grow at a rapid past. Along the main road in the northeast part of the city, there have been many new multi-storeyed living houses built for the people who are working in the sugar factory. The sugar cane plantation extends from Dubti to Asayita and the sugar factory is located in Asayita. This is likely the reason why the city has continued to grow.

CITY STRUCTURE AND INFRASTRUCTURE

The main road in Asayita is paved and this road diverts from the Addis Ababa Djibouti Highway close to Semera. (Fig. 187) The road goes through the city and at the end in the southwest of the city it transforms into an unpaved road. The old part of the city has a similar structure as Logya, but the houses are built in a different way.

These houses are one or two-storeyed buildings with walls that are made of stones. Most of them have a colored face. They are similar to the Arabic style and the fences are also made with stone. (Fig. 189)

Asayita Town Population Size			
8,184	7,868	16,052	Asayita 2007
11,496	11,052	22,548	Asayita 2012
Male	Female	Total	

Tab. 22 Population Size in Asayita Town

One really distinctive building in the old part of the city is an old mosque. The style of this mosque looks quite different then the mosques I saw in the Afar Region. It is similar to an old lighthouse. (Fig. 190)

In the northeast part of the city are the higher–storied houses for the workers from the sugar factory.[39] All of these houses have the same look and they are all facing the same direction. Between these houses and the old part of Asayita one finds some offices and also a few one–storied residential homes.

The offices are from the time when Asayita was the capital of the Afar Region. Now some of these offices are closed and a few of them are used for regional administration.[39]

There are two market streets in the city. One is along the paved street and the other is along an unpaved street. Beside these roads most of the shops and restaurants from Asayita are located. (Fig. 191)

In the southeast outskirts of the city is the Awash River, where some farmers use the bank as fields. (Fig. 188) Only the areas close to the river are green. The area where Asayita is located is a sand desert.

39 _ Interview in Asayita, 15.04.2012

40 _ Chapter: Semera _ Foundation; p. 85

Fig. 189 Old part from Asayita with stone houses

Fig. 190 Mosque in Asayita

Fig. 191 Shop in Asayita

AFDERA

GENERAL INFORMATION

Afdera is located next to the Afdera Lake, which is one of the biggest salt lake in the region. The founding of this town is related to this lake and the associated production of salt. Since the Haile Sellasse Regime the lake has been used to make salt. The founding year of Afdera is not known, but since 1995 it has served as the capital of Afdera *Woreda*. It is located in Zone 2 and the exact geographic coordinates are 37°17 East Longitude and 11°28 North Latitude. The town is located in the Danakil Depression and the average elevation is 110 meters below sea level. (Concept Plan Afdera Town 2009)

Fig. 192 Afdera city structure, salt fields and Afdera lake

The temperatures in this region are much higher than in other parts of the Afar Region.[41]

POPULATION

Afdera is very small in comparison to the other cities I have described. The population during the census in 2012 was 5,026. (Tab. 23) In accordance with the trend of people in the Afar Region moving into cities, Afdera will likely also grow.

Afdera Population Size			
2,191	1,387	3,578	Afdera 2007
3,078	1,948	5,026	Afdera 2012
Male	Female	Total	

Tab. 23 Population Size in Afdera

CITY STRUCTURE AND INFRASTRUCTURE

Streets and Traffic

The main road of Afdera is the Serdo Afdera Road. (Fig. 193) This paved road divides the town in two halves. The Serdo Afdera road connects the towns of Afdera and Serdo and the distance between them is 200 kilometres. This road is connected to the Addis Ababa Djibouti Highway where the town Serdo is located. Approximately 41 kilometres from Serdo is the city of Semera and a few kilometres further is Logya. This road is used for transporting all goods to the town and also the salt is transported through this road to national and regional markets. (Concept Plan Afdera Town 2009)

There exists no public transport in Afdera. Trucks are serving as means of transportation for the residents. (Concept Plan Afdera Town 2009) Surprisingly, there are many bicycles and also a bicycle rental station.

Water and Electricity

A point of interest is the water supply in Afdera. There is no well for drinking water and the residents get their water from Logya. In comparison to other cities, Logya has a huge amount of groundwater and there are water trucks which transport drinking water to regions which have almost no water. One of these cities is Afdera, which is 246 kilometres away.[42]

There is one diesel generator in the town and it works six hours a day (Concept Plan Afdera Town 2009). The electricity works only in the evening and at this time the city comes alive. This is the only time when the residents can watch television or listen to music.

41 _ During my visit (17. – 19. 04. 2012) we had approximately 40 – 45° C during the day.

42 _ During my stay in Afdera I slept two nights in a hotel. During the shower I recog-nised that the water is salt water – which is available in huge amount.

Fig. 193 Serdo–Afdera road

Fig. 194 Unpaved road with coffee houses

Fig. 195 Salt fields in Afdera

Fig. 196 Afdera

City Structure

There are two main roads in Afdera. One is the paved Serdo Afdera Road and the other is an unpaved road. Along these two roads most of the buildings are located. Also the shops, restaurants and coffee houses are found here. (Fig. 194) The structure is very dense in these areas. (Fig. 198) A little further there are some administrative buildings, one elementary school and one health post. The town is growing to the west and the buildings there are loosely arranged.

On the east side of Afdera is the salt lake and in between are big fields where the salt is desalinated. (Fig. 195)

Buildings

Most of the houses for living in Afdera have no defined plot. The building materials used are wood for the construction and corrugated iron sheets or palm mats for the walls. (Fig. 197) For roof material corrugated iron sheets or thatch is used. Almost all houses have no foundation and the floor is simply the existing ground (Concept Plan Afdera 2009).

The housing conditions in several areas of Afdera are substandard. One area of concern is the temperature in the homes, in this region the temperatures are very high and the houses are not properly insulated. Another point is the facilities such as kitchen and sanitation, which are non–existent. The residents use the available open spaces as cooking places. In Afdera there is one public toilette complex but some of the residents still use the field. (Concept Plan Afdera 2009)

The administration buildings are made out of concrete with corrugates iron sheets.

Fig. 197 Residential house in Afdera

Fig. 198 Afdera city structure

Fig. 199 Afar village close to Yalo

Fig. 200 Yalo city structure

Fig. 201 Yalo Town

Fig. 202 Main road in Yalo

Fig. 203 Residential house with shop

Fig. 204 *Tuluk* and Afar *guest house*

YALO

Yalo is a small town located in Zone 4 of the Afar Region. The only mentioned city in the censuses from 2007 and 2012 in Yalo *Woreda* is Gebdora (CSA 2007; CSA 2012). In 2012 this town had 1,109 residents. (Tab. 24) In the census from 1995 the city Dibina was mentioned, which is the major town in Yalo *Woreda* (CSA 1995).

Yalo is located close to the boarder of the Amhara Region and the exact geographic coordinates are 39°55 East Longitude and 12°52 North Latitude (Google Earth 2014).

There is one main unpaved road through the town and there are only a few buildings found there. (Fig. 202) In the other cities which are mentioned the high density areas of the buildings are along the main streets. What is interesting in Yalo is the mixture of the different types of houses. There are a few buildings made out of concrete and most of the houses are built in *chikka* technique, but there are also *depoitas* and *tukuls* found here. Almost all buildings in Yalo are relatively new which suggests that this town is also relatively new.

There also exists one mosque, a few shops and restaurants and a few administration buildings. (Fig. 203)

In this region I saw *depoitas* and *tukuls* mixed in one compound where Afar nomads live. (Fig. 204) The building traditions from the Amhara highlands were adopted from the Afar.

In this region I also visited a water project where a water dam was built. Close to the dam is a small village where Afar people live. All buildings in this village are *depoitas*. These Afar people are sedentary. (Fig. 199)

Gebdora Town Population Size			
436	354	790	Gebdora 2007
612	497	1,109	Gebdora 2012
Male	Female	Total	

Tab. 24 Population Size in Gebdora Town

CONCLUSION

The switch from mobile structures towards permanent settlements is just beginning to happen in the Afar Region. Many Afar give up their nomadic way of life and move to the cities. Due to ecological, economical and political reasons the nomadic lifestyle has become increasingly difficult. Most of the sedentary Afar I interviewed gave up their nomadic lifestyle to find work and for a more comfortable life. They preferred to live in a 'modern' *chikka* house instead of the traditional *depoita*.

The founding and development of the cities in the Afar Region continually draws other ethnic groups into the region. Especially the Amhara people are giving up their lives in the highlands and move into the cities of the Afar Region in search of work.

The cities in the Afar Region are constantly growing and the urbanization process is still continuing. This process will go on and ideas should be generated to contribute to sustainable development for the cities. There are different ecological, economic, and social problems which emerge with urbanization that need to be addressed and planned for.

In my thesis I focused on the ecological problems in Logya, which are sanitation, garbage disposal and deforestation. Due to the high inflow of people to the cities the number of buildings has increased. Currently, almost all residential buildings are built in *chikka* technique. As described previously, this construction technique has led to huge deforestations in the Afar Region.

One opportunity to limit the deforestation is to establish more ecological building techniques, like solid earth construction. During my research period I took clay samples together with my colleague, Emilia Chocian. When analyzing the clay samples in the University laboratory they turned out to be of surprisingly good quality for building purposes. The clay around Logya is perfect for constructing earth buildings.

Generally there are three main techniques to built with earth: rammed earth, cob or clay bricks. Rammed earth or cob are not so suited for the Afar region, due to several reasons: For rammed earth a formwork is needed which is often made out of wood. Also, it is a complicated and time consuming construction method. To create the formwork certain tools are needed which are not available in Logya. For the cob one important admixture is straw which has to be imported from the highlands. Therefore the production of clay bricks making seems to be the most logical answer when it comes to develop sustainable building technologies. Bricks can be made by hand with the help of brick moulds or the can be compressed with the help of a brick press.

To me the use of brick moulds is the most favourable technique. It is easy to handle and it is much cheaper than a brick press. Normally, the clay from the building site is used and the clay bricks are also made there. Due to the easy to use design of the brick mould more than one can be used at the building site, which leads to faster production. For the handmade bricks lot of water is needed which is available in huge amount in Logya. In other regions in the Afar Region where the water resources are low the brick press whould be better. Less water is needed for brick production with a brick press.

Earth buildings can have several advantages for cities and their residents. The most used material for this buildings is earth, which is local and does not need to be transported. Earth has very good thermal properties (especially in dry and arid regions with rather cool night and very hot day temperatures) and creates a significantly more comfortable climate in buildings. Of course, the temperatures during the hot period can also get very high in an earth building but a concrete building is much worse. The buildings need a good foundation which should protect the walls from possible water damage. Also the roof overhang has to be sufficiently so that the walls do not get wet. If these two rules 'good shoes' and 'big hat' are maintained, earth buildings are stable and durable. After the life span of a house has expired the clay can be reused for new buildings or mixed back into the soil. The wood consumption for an earth house is far less than for *chikka* houses and it would reduce the deforestation, which leads to a positive effect on the environment.

Now almost all buildings are built by highlanders. The Afar do not have the knowledge of how to build a *chikka* house. An accompanying factor to establishing earthen houses, would be a new economic sector for the Afar. Myself and a fellow student are currently working with the organization APDA to develop a program for earth construction.

In a lot of areas of the world clay is seen as a building material for the poor but this is not so in the Afar Region. Clay is sometimes used in other building techniques and is happily accepted by the residents. From time to time I asked residents from Logya how they felt about clay and I always got a positive response. I am confident that establishing clay bricks in Logya would be widely accepted.

Other factors besides the *chikka* technique have led to ecological problems. Also, the human waste and garbage disposal systems have had negative effects. Nearly every household has its own toilette and for this deep pits are dug into the soil which functions as a cesspool. They are not linied with any material to protect the soil from contamination. Currently Logya has very good water quality but it is necessary to do something to prevent the waste from contaminating the water supply. Dry toilettes or compost toilettes can be a sustainable solution. A controlled waste collection and waste separation plan should also be established in the cities of the Afar Region.

The cities of the Afar Region have no positive effects on the lives of the pastoralists. Due to the good location along the Awash River, several cities were founded there. The Awash Valley was a very important grazing area for the pastoralists which is now no longer available. This situation is occurring more and more often, especially in areas with valuable water resources.

Due to the high amounts of buildings in the cities deforestations of indigenous trees have occurred, which are very important for the Afar pastoralists and for the environment. Also, the bigger cities have created more environmental pollution because of the increased consumption and lack of appropriate waste disposals.

The lives of the pastoralists should have the same significance as the lives of the people living in cities. The Afar lifestyle is closely linked with the environment and changes can have dramatic effects on their lives. To sustain the pastoralistic way of living its of essential importance to be aware of the possible environmental impact cities have on pastoralistic livelihood.

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REFERENCES

Alemu, Berehe; Adamu, Endale, 2012: Assessment the role of urban rural linkage in promoting the provision of socio–economic services in pastoralist area of Afar region, The case study of Samara–Logia city Administration, Samara University

Bedasa, Techan Tefera, 2011: Ethnic Conflicts and their Impacts on Livelihood System, Along The Border Areas of Amhara and Afar Regions of Ethiopia, LAP Lambert Academic Publishing GmbH & Co.KG, Saarbrücken, Germany

Bovin, Mette; Manger, Leif, 1990: Adaptive Strategies in African Arid Lands, Uppsala, Schweden

Breidenstein, Georg; Hirschauer, Stefan; Kalthoff, Herbert; Nieswand, Boris, 2013: Ethnografie, Die Praxis der Feldforschung, UVG Verlagsgesellschaft mbH, Konstanz und München, Germany

Briggs, Philip, 2009: Ethiopia, Bradt, 5th edition

Brocklesby, Mary Ann; Hobley, Mary; Scott-Villiers, Patta, 2009: Raising Voice – Securing a Livelihood, the role of diverse voices in developing secure livelihoods in pastoralist areas in Ethiopia, UK

Concept Plan, 2009: Project: Preparation of integrated development Plan of Logya, TH Consulting, Addis Ababa, Ethiopia

Concept Plan Afdera Town, 2009: Concept Plan for the preparation of integrated development plan of Afdera Town, ARPEDS Consult, Ethiopia

Eriksen, Siri H.; Marin, Andrei, 2011: Pastoral pathways; Climate changes adaptation lessons from Ethiopia

Ethnie in Äthiopien, 2011: Books LLC, Wiki Series, Memphis, USA

Fischer, Hans, 1985: Feldforschungen, Berichte zur Einführung in Probleme und Methoden, Dietrich Reimer Verlag, Berlin, Germany

Getachew, Kassa Negussie, 2001: Among the Pastoral Afar in Ethiopia, Tradition, Continuity and Socio–Economic Change, International Books, Utrecht, Netherlands

Girtler, Roland, 2001: Methoden der Feldforschung, [4th edition], Böhler Verlag Gesellschaft m.b.H. und Co.KG, Wien – Köln – Weimar, Austria – Germany

Hildemann, Katrin; Fitzreiter, Martin, 2011 [1999]: Äthiopien, Handbuch für individuelles entdecken, Reise know–How Verlag, Bielefeld, Germany

Hussein, Abdi Abdullahi , 2006: On the move, Understanding Pastoralism in Ethiopia, Addis Ababa, Ethiopia

IDP, 2007: Report on the Integrated Development Plan (IDP) of Dubti Town, Ministry of Works and Urban Development, Federal Urban Planning Institute, Addis Ababa, Ethiopia

Kelemework, Tafere Reda, 2011: Social organization and cultural institutions of the Afar of Northern Ethiopia, Mekelle, Ethiopia

Mahmued, Jaffer, 2008: The Problem of Residential Housing in Semera Town: Challenges and Prospects, Master Thesis, Ethiopian Civil Service College, Addis Ababa, Ethiopia

Malone, Barry; Bredin, Miles; Tanner, Ruth; Stackpool-Moore, Lucy; Guider, Ian; O´Malley, Carl; Moszynski, Peter, 2006: Peace, Trade and Unity, Reporting from the Horn of Africa Regional Pastoralist Gathering, Qarsaa Dembii, Yabello, Ethiopia

Markakis, John, 2011: Ethiopia, The last two frontiers, Boydell & Brewer Ltd, Suffolk, UK

Musa, Muhammad Omar, 2010: Herrschaft und Armut in "Äthiopien", "Äthiopien": "Supermacht" am Horn von Afrika. Untersuchung zur Dominanz von Stämmen, Herrschaft, Unterdrückung, Diskriminierung und Armut, wvb Wissenschaftlicher Verlag Berlin, Germany

Olds, Margaret, 2008: Geologica, Millennium House Pty Ltd 2007, Elanora Heights NSW, Australia

Parker, Enid, 2006: English–Afar Dictionary, Dunwoody Press, Springfield, USA

Rettberg, Simone, 2009: Das Risiko der Afar, Existenzsicherung äthiopischer Nomaden im Kontext von Hungerkrisen, Konflikten und Entwicklungsinterventionen, Saarbrücken, Germany

Tezera, Getahun; Daniel, T.; Wendessen, G., 2009: Pastoralist Perspectives of Poverty Reduction Strategy Program, Experiences and Lessons from Afar Region of Ethiopia, Addis Ababa, Ethiopia

UGDP, 2010: Urban Governance and Decentralisation Programme (UGDP), Capacity Assessment Report for the City of Semera–Logia, Ethiopia

Internet

African Election Database, 2010: 23 May 2010 Regional State Council Elections in Ethiopia, www.africanelections.tripod.com/et_2010state.html, September 2014

ANRS, 2010: Afar National Regional State, Programme of Plan on Adaptation to Climate Change www.epa.gov.et/, September 2014

CSA 1994: Central Statistical Agency of Ethiopia (CSA): The 1994 Population and housing census of Ethiopia, Results for Affar Region, Volume II Analytical Report, May 1999, Addis Ababa, www.csa.gov.et/index.php/2013-02-20-14-51-51/2013-04-01-11-53-00/census-1994, October 2012

CSA, 2007: Central Statistical Agency of Ethiopia (CSA): National Statistics: Population 2007, www.csa.gov.et, October 2012

CSA 2011: Central Statistical Agency of Ethiopia (CSA): National Statistics: Population 2011, www.csa.gov.et, October 2012

Ethiopia ALF, 2001: Ethiopia: Afar Liberation Front (ALF); role played within the Ethiopian government; number of current members of parliament; treatment of members and members' family by authorities, Immigration and Refugee Board, Canada, www.refworld.org/cgi-bin/texis/vtx/rwmain?docid=3f7d4d92e September 2014

Ethiopia Demographic and Health Survey 2011, 2012: Central Statistical Agency Addis Ababa, Ethiopia, ICF International Calverton, Maryland, USA, March 2012; www.usaid.gov, February 2014

Google Earth: www.google.com/earth September 2013, February 2014

Schröder Günter, 2005: www.vision-jk.de/resources/ecics_133.pdf, Februar 2013
www.bajajauto.com, February 2013

www.etsugar.gov.et

www.evolution-mensch.de/thema/funde/aafa_al288-1.php, September 2014

www.newsdire.com/news/631-tendaho-dam-and-irrigation-development-project-bearing-fruits-chief.html

Films

Lamprecht, Gundi, 2011: Die Wüstennomaden von Afar, 2011, Produziert vom ORF, Österreich. Erstausstrahlung am 05.07.2011 auf Bayern Alpha: http://vimeo.com/28503417, September 2014

FIGURES AND TABLES

All photos were taken by Chocian Emilia and Eigner Alice during the excursion in 2011 and during the field study in 2012.

Figures

Tables