Central Statistical Agency Ethiopia's Rural Facilities and Services ATLAS 2011









ATLAS OF THE Elevation ETHIOPIAN RURAL FACILITIES AND SERVICES Elevation is an important determinant of climate, having a strong influence on temperature and rainfall. As such, elevation is a fundamental dimension of the Tigray geographical context for agriculture and other rural activities. The most basic understanding of Ethiopian land use and agricultural practices is defined by distinction between highlands and lowlands, traditionally defined at 1.500 meters above sea level (m.a.s.l) Afar Elevation ranges from -236 meters below sea level in the Danakil Depression to 4517 m.a.s.l. at Ethiopia's highest mountain, Ras Dashen. Addis Ababa is approximately 2,300 m.a.s.l. TBD= Census designation to be determined Special EA Benishangul Gumuz **Dire Dawa** Harari Gambella SOMALIE Elevation(m.a.s.l) High: 4517 Oromia Low: -236 Census Desig.TBD Region Lakes 165 330 660 km 0 Source: Calculated from Shuttle Radar Topography Mission (SRTM 90m) Elevation Data, NASA

Contents

Forewords and Acknowledgements	
Chapter 1: Introduction	
Introduction	
Chapter 2: Census Divisions and Physical Features	
The Federal Democratic Republic of Ethiopia, the Regional States Census Divisions: Dire Dawa City Administration	
Dire Dawa City Administration Census Divisions by Kebele	
Dire Dawa City Administration Physical Features Elevation	
Dire Dawa City Administration Physical Features: Hydrography	
Chapter 3: Population and settlement patterns	
Total population of Dire Dawa City Administration by Kebele	
Sex Ratio of Dire Dawa City Administration by kebele.	
Population Density of Dire Dawa City Administration by Kebele	
Rural Localities of Dire Dawa City Administration by Kebele	
Chapter 4: Rural Educational Facilities	
Dire Dawa City Administration Rural Educational Facilities by kebele	
Chapter 5: Rural Health Facilities	
Dire Dawa City Administration Rural Health Facilities by Kebele	
Chapter 6: Rural Water Facilities	
Dire Dawa City Administration Rural Water Facilities by Kebele	
7.1: Rural Public Services	
Dire Dawa City Administration Services by Kebele	
Dire Dawa City Administration Services by Rebele	
Chapter 7.2: Rural Commercial Services	
Dire Dawa City Administration Rural Commercial Services by Kebele	
Chapter 7.3: Rural Infrastructure and Services	
Dire Dawa City Administration Rural Infrastructure and Services by Kebele	
Chapter 7.4: Agricultural Services	
Dire Dawa City Administration Agricultural Development Centers by Kebele	
Glossary	
References	

FOREWORD

The Atlas of Ethiopian Rural Facilities and Services is the first of its type which is able to provide woreda level information on rural facilities and services for the country. It is expected that this atlas can be used as baseline information for improvement of the facilities and services in rural parts of Ethiopia. The production of this atlas was realized through the implementation of all GPS based data collected during the preparatory activities of the 2007 Population and Housing Census.

Every volume of the atlas consists of seven chapters organized in three parts: introducing the atlas and the region (chapters 1, 2 and 3), the three main types of rural facilities, namely education, health and water (chapter 4, 5 and 6) and selected rural services and infrastructures (chapter 7 subdivided into 4 subchapters). This volume is dedicated to Dire Dawa City Administration and is composed of 15 pages where the maps depicting various data collected on Rural Facilities and Services of the City Administration.

The first chapter provides a brief introduction to the atlas and its objectives, source of data and organization. The second chapter supplies readers with maps of the administrative organization of Dire Dawa and an introduction to its physical features. It starts with a country map locating Dire Dawa City Administration; followed by one map presenting Dire Dawa City Administration's Census Division by rural kebeles. The last pages of chapter two present physical features i.e. elevation and hydrography of Dire Dawa City Administration.

The third chapter deals with the basic demographic characteristics of Dire Dawa based on the 2007 Population & Housing Census. Accordingly, an attempt was made to present the sex ratio, population density, as well as settlement patterns in Dire Dawa City Administration. Before mapping any kind of facility, it is important for readers to have a clear picture of the most recent pattern of the City Administrative settlements.

The rural educational facilities in the rural kebeles of Dire Dawa City Administration are presented in chapter four. The only map in this chapter portrays the location of the educational facilities from pre-primary to higher education, in Dire Dawa City Administration.

Similarly, the health facilities in the rural kebeles of Dire Dawa City Administration are provided in chapter five. The only map in this chapter shows the location of the health facilities (health centers/tena tabia, clinics and health post) in the City Administration.

Chapter six presents water facilities in the rural kebeles of Dire Dawa City Administration. The only map in this chapter providing information on the location of public taps (bono), springs, and bonds in Dire Dawa City Administration.

The seventh and last chapter is divided into 4 subchapters dedicated to rural services and infrastructures. The objective here is to show their availability and accessibility to rural population.

- 1. Chapter 7.1 contains the available rural public services in Dire Dawa City Administration. The map in this subchapter represents the location of public services (administrative offices and police Stations) in the City Administration.
- 2. Chapter 7.2 presents the location of market places, flour mills and gas stations available to rural communities. The map in this subchapter representing the location of market places, flour mills and gas stations in Dire Dawa City Administration.
- 3. Chapter 7.3 shows the available basic infrastructural services in rural area of Dire Dawa City. The map in this subchapter representing the location of bridges, dams and telecommunication centers in Dire Dawa.
- 4. Chapter 7.4 portrays Information on agricultural development centers in Dire Dawa City Administration. The map in this subchapter representing the location of development agency offices, farming training centers, cooperatives, animal husbandries and nurseries.

The CSA believes that this Atlas will have a paramount importance in providing a bench marking data on the status of the basic rural facilities and services in the City Administration. The City Administration as well as development partners can use this information to further improve these faculties & Services for betterment of people's life in the Dire Dawa City Administration.

Samia Zekaria

Director General

Central Statistical Agency

Acknowledgements

Producing this atlas could not be realized without the financial and technical assistance obtained from the UNFPA, Department for International Development (DFID), and International Food Policy Research Institute (IFPRI). Therefore, the CSA would like to extend its appreciation to UNFPA, DFID and IFPRI for all the assistance provided through-out the 2007 Population and Housing Census in general and for the realization of this atlas in particular. The extraordinary effort made by the consultant, Dr. Bezunesh Tamru and the GIS team members of the CSA, namely, Atreshiwal Girma, Meron Mebratu, Legesse Hadish, Asfaw Kelbessa and Seifu Bekele has to be appreciated by all users of this important atlas. Given that the atlas was a large undertaking with a vast amount of data collection and evaluation, the involvement of experts from various directorates of the CSA was instrumental in the successful completion of this atlas, Moreover, the leading role played by Samia Zekaria (Director General), Yakob Mudesir (Deputy Director General), and Sisay Guta (Directorate of Geographic Information Systems and Cartography) in coordinating the atlas productions was critical for successfully producing this atlas

INTRODUCTION

The Atlas of Ethiopian Rural Facilities and Services provides an extensive set of maps on woreda level depicting the accesses to basic facilities for millions of Ethiopian rural households. As such the choice was made to give priority to location and simple spatial information of rural facilities and services by producing separate volumes for each Regional State. Every regional atlas is composed of maps showing census divisions, physical features, settlement patterns of the population, rural educational facilities, rural health facilities, rural water facilities, and public, commercial, infrastructural as well as agricultural development services supplied to the rural communities. The maps should enable readers to quickly grasp the situation of basic facilities and services provided in rural Ethiopia and to design related strategies concerning their field of interest and action. Besides the main subjects, the maps show at woreda level other relevant information like roads, localities, rivers, elevation, and allow a holistic way of understanding the spatial patterns of rural facilities and services. Through this kind of visualising spatial information, the atlas objective is also to build a sustainable and simple method of informing a wide range of stakeholders, policy makers, economical actors and development practitioners regarding the facilities and services available in rural areas of the country.

Like the Ethiopian Rural Economy Atlas, and Population & Housing Census Atlas of Ethiopia 2007; published jointly by the Central Statistics Agency (CSA), Ethiopian Development Research Institute (EDRI) and International Food Policy Research Institute (IFPRI), the users of the current atlas are mainly policy makers, development practitioners involved in the implementation of the Growth and Transformation Plan (GTP), and more especially stakeholders involved in rural development. Through the chosen issues, the maps should enable better spotting and targeting areas of intervention so as to enhance the provisions of basic facilities and services for rural Ethiopia. By doing so, the atlas will be an important tool for the objective of poverty reduction in the country and for the improvement of social welfare of the people.

The Federal Democratic Republic of Ethiopia is based on a broadly decentralized system, and in recent years the woredas have reached a high level of autonomy in administrating their affairs. The atlas aims primarily to report on woreda level providing information - as accurate as possible - on the spatial pattern of basic facilities and services within the boundaries of each woreda. In this aspect, the atlas strives to be one of the tools for a better local empowerment by giving localized and basis information to concerned stakeholders. Through the use of information technologies, the atlas will have a broad diffusion through CD-ROMs and will also be accessible through CSA's official website. The hard copies are expected to be distributed to a wide range of public sector officers and in particular to the concerned Regional, Woreda and Sub City administrators.

The atlas will also be of high importance to the academic community by providing students and various researchers' adequate information on the level of services and facilities in rural parts of Ethiopia. Different areas of social science can find in these maps interesting topics to elaborate on the development level of rural parts of the country and most of all, they will be provided with a good understanding of local situations in Ethiopia's rural societies' basic infrastructure. The aim is also to bring debates and questions around these maps so as to encourage new researchers and innovative actions concerning rural social welfare and economical growth.

The Objectives of the Atlas

By disseminating these data a great number of benefits are expected so as to achieve the following objectives:

- 1. Enabling a better understanding of the availability of basic facilities and services for planning, policy making and other uses.
- 2. Becoming a source of information needed to formulate and implement policies related to the development of basic facilities and services in relation to the overall development schemes.
- 3. Guide the design process for future projects and fund allocations
- 4. Assist the development practitioners and the private sector to participate accurately in the development of rural facilities and services by presenting existing patterns.

Source of Data for the Atlas

It is important for readers to note that all the population count in this atlas refers to 2007 and that the facility features are referring to those data gathered during the preparatory activity of the 2007 Population and Housing Census: for Dire Dawa City Administration these data were collected in year 2006. It is therefore expected that some differences might appear between the mapped features and the situation of today's facilities and services in the City Administration. Other sources are also used, like the Digital Elevation Model (D.E.M) from Shuttle Radar Topographic Mission (S.R.T.M.) of 2000, and various topographic sheets of the Ethiopian Mapping Agency (E.M.A.). The minimum and maximum regional or national elevation figures in this atlas refer to the D.E.M. values given its resolution of 90 meters: - 110 meters under sea level and 4620 meters above sea level are the official minimum and maximum values of Ethiopia altitudes according to E.M.A.

Organisation of the Atlas

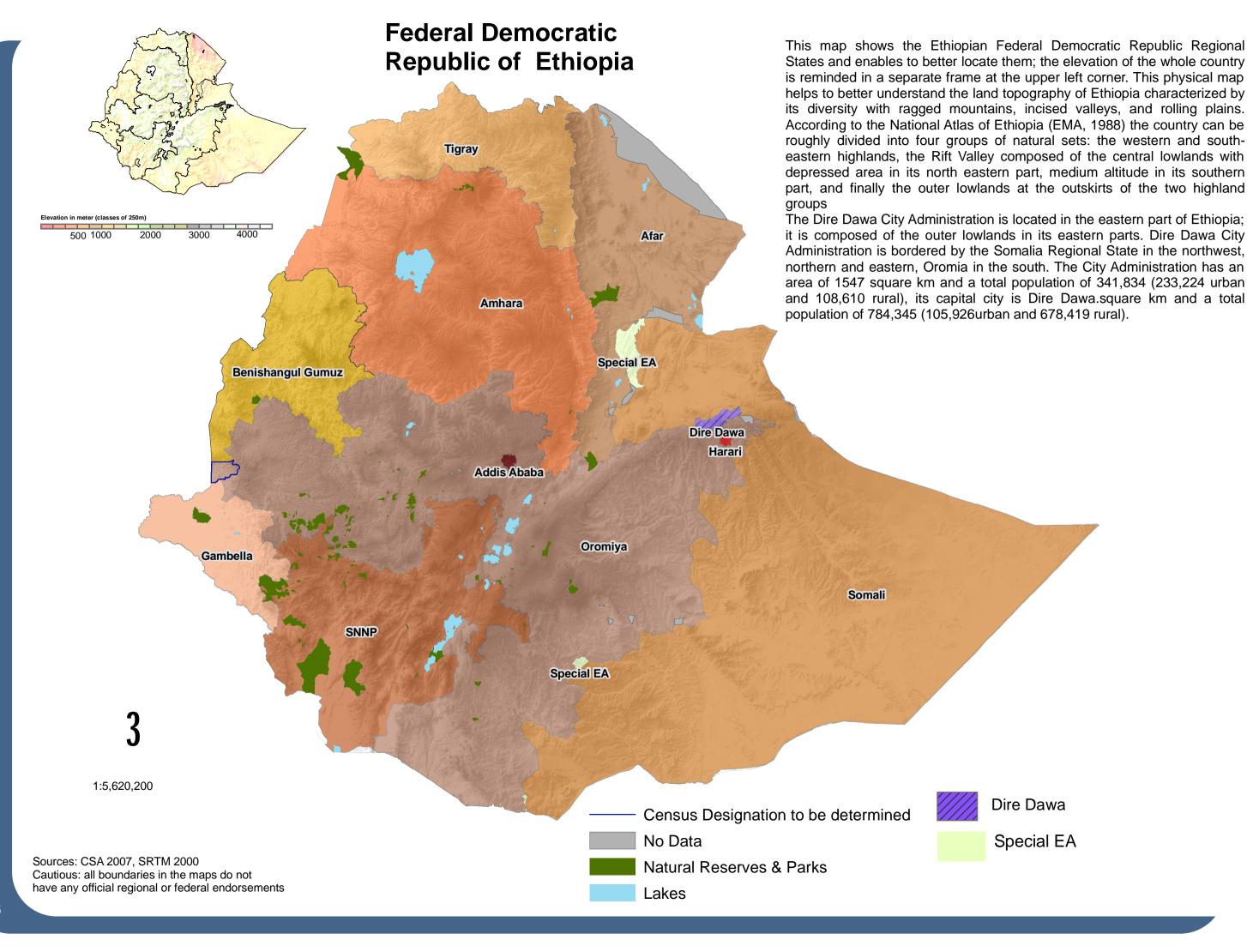
The Atlas is organised in 11 volumes representing the nine Regional States plus Addis Ababa and Dire Dawa City Administration. Although the selected types of facilities and services being mapped remain the same in all volumes, the number of pages varies according to the size of the regions. As it is common in most atlases, considerable space was given to maps compared to the brief part of text and table. In the texts it is tried to outline the general message given by the maps and tables. The number of facilities presented in each woreda/ rural kebele/ sub city are clearly stated in the table.

Maps are produced at regional and zonal levels. For the maps on zone level, priority has been given to simple location information of the features. Evocative symbols of the facilities and services were chosen based on the CSA Cartography code book; their colour and size are selected according to swift visibility. Elevation, rivers, settlement patterns of localities and roads network are reminded in each map. The whole template attempts to enable readers to understand the spatial availability of rural facilities and services. The objective here is to aid readers to understand as briefly as possible the spatial pattern of basic facilities and services for the Ethiopian rural population and help them draw their own constructive conclusions for the future.

For maps on regional level, shading colours and proportional symbols are used. They represent settlement patterns based on population obtained from the 2007 Population and Housing Census. Elevation features are also jointly represented in these maps.

The ArcGIS 9.2 and 9.3 of ESRI software were used for the geographical database and mapping duties.

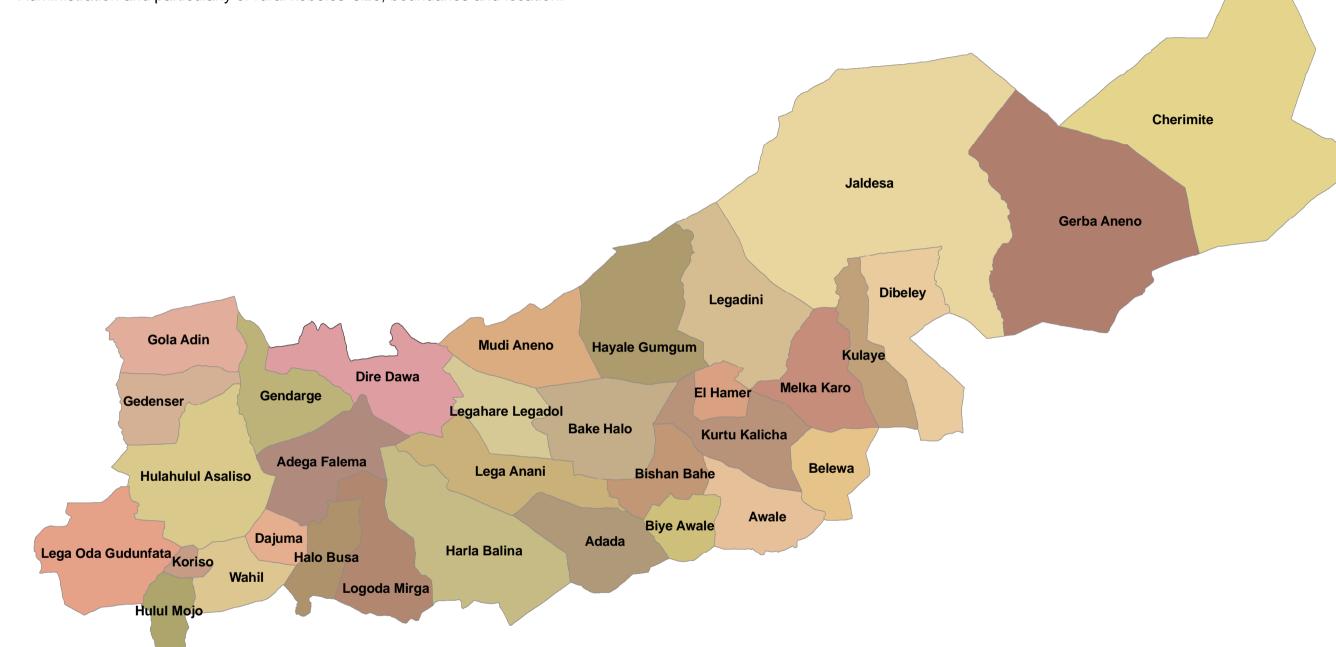
Disclaimer: The administrative boundaries used are derived from CSA last census and do not represent any official endorsement from the Federal Government of Ethiopia.



Dire Dawa City Administration Census Division

The census division of Dire Dawa City Administration is portrayed in this map. Dire Dawa is divided into 32 rural kebeles and one town namely Dire Dawa.

This map aims to give a clear picture of the census divisions of Dire Dawa City Administration and particularly of rural kebeles' size, boundaries and location.



3

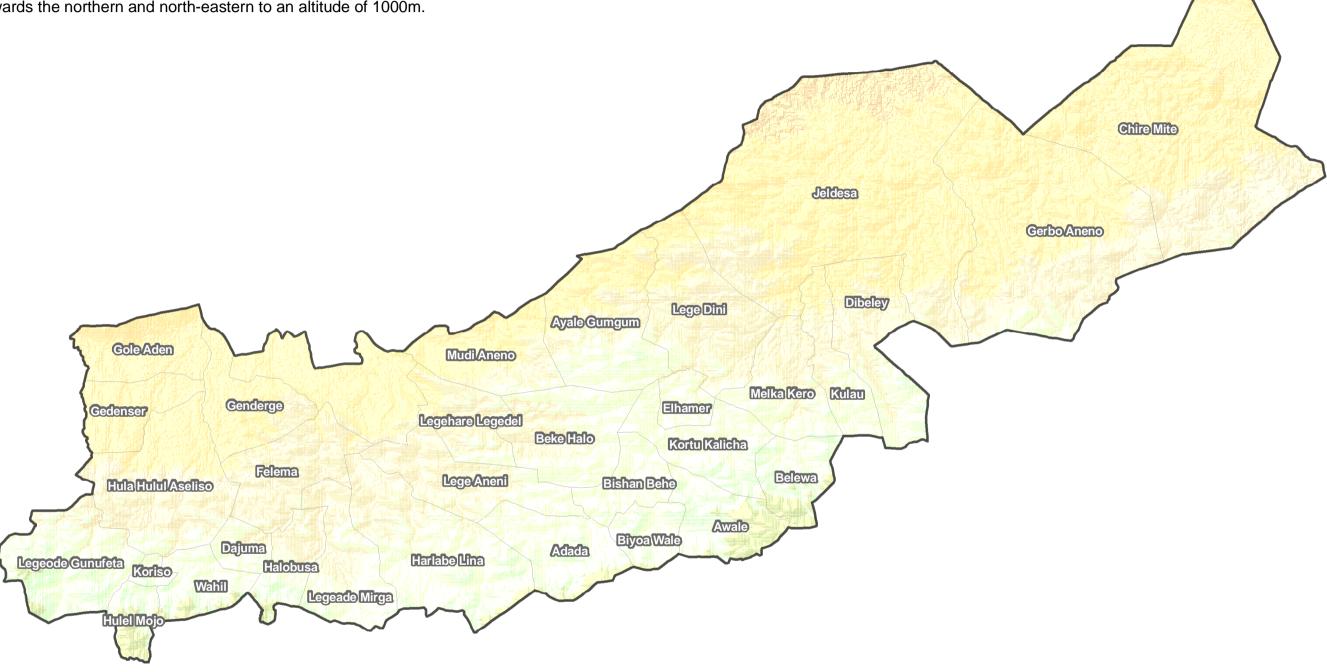
1:250,000

Sources: CSA 2007, SRTM 2000

Cautious: all boundaries in the maps do not have any official regional or federal endorsements

Dire Dawa City Administration Physical Features : Elevation

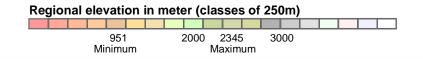
From its elevation map, we can see that Dire Dawa is characterized by a vigorous type of topography, especially in its north western, northern and eastern part. The southern and south western Kebeles have higher altitudes above 2000m. The ragged terrain slopes down towards the northern and north-eastern to an altitude of 1000m.



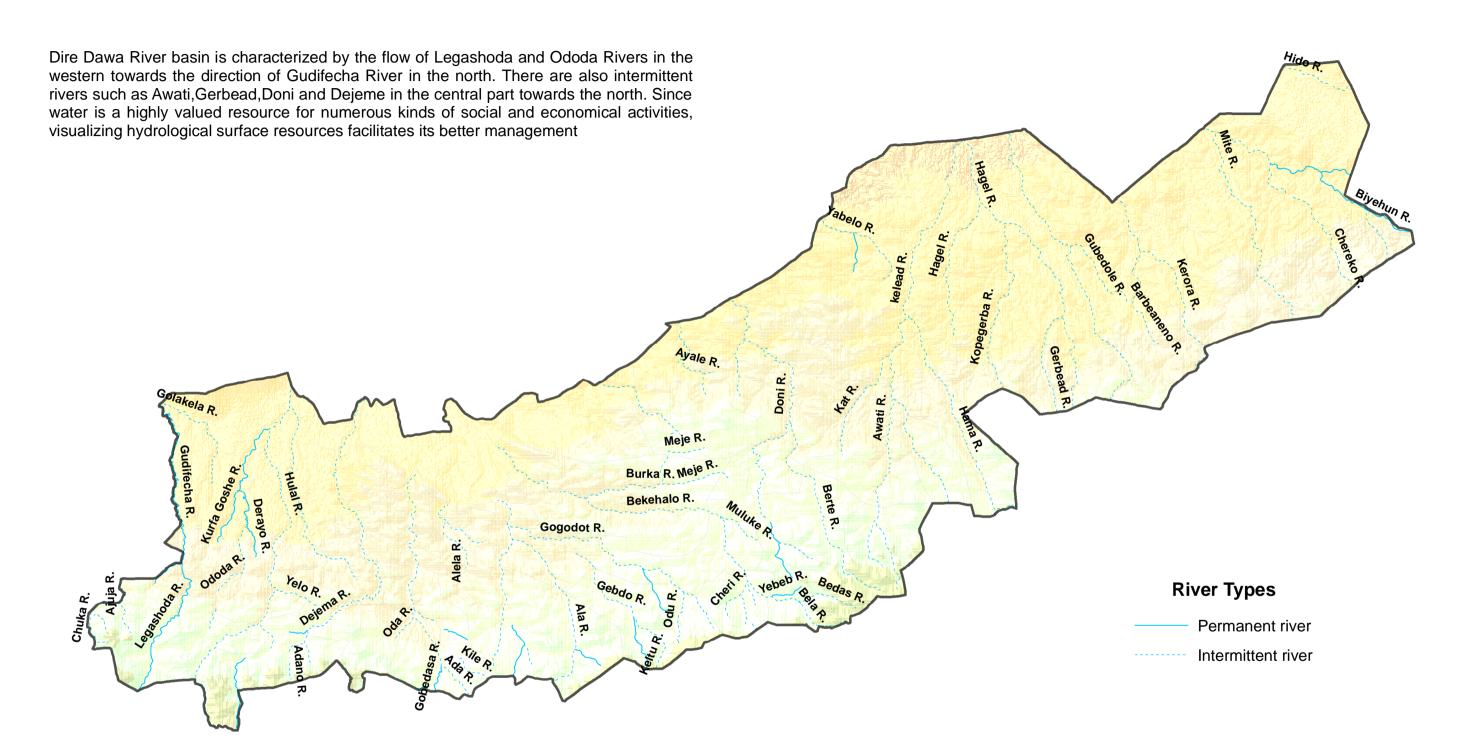
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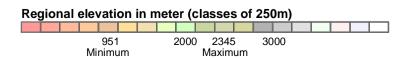
Dire Dawa City Administration Physical Features : Hydrography



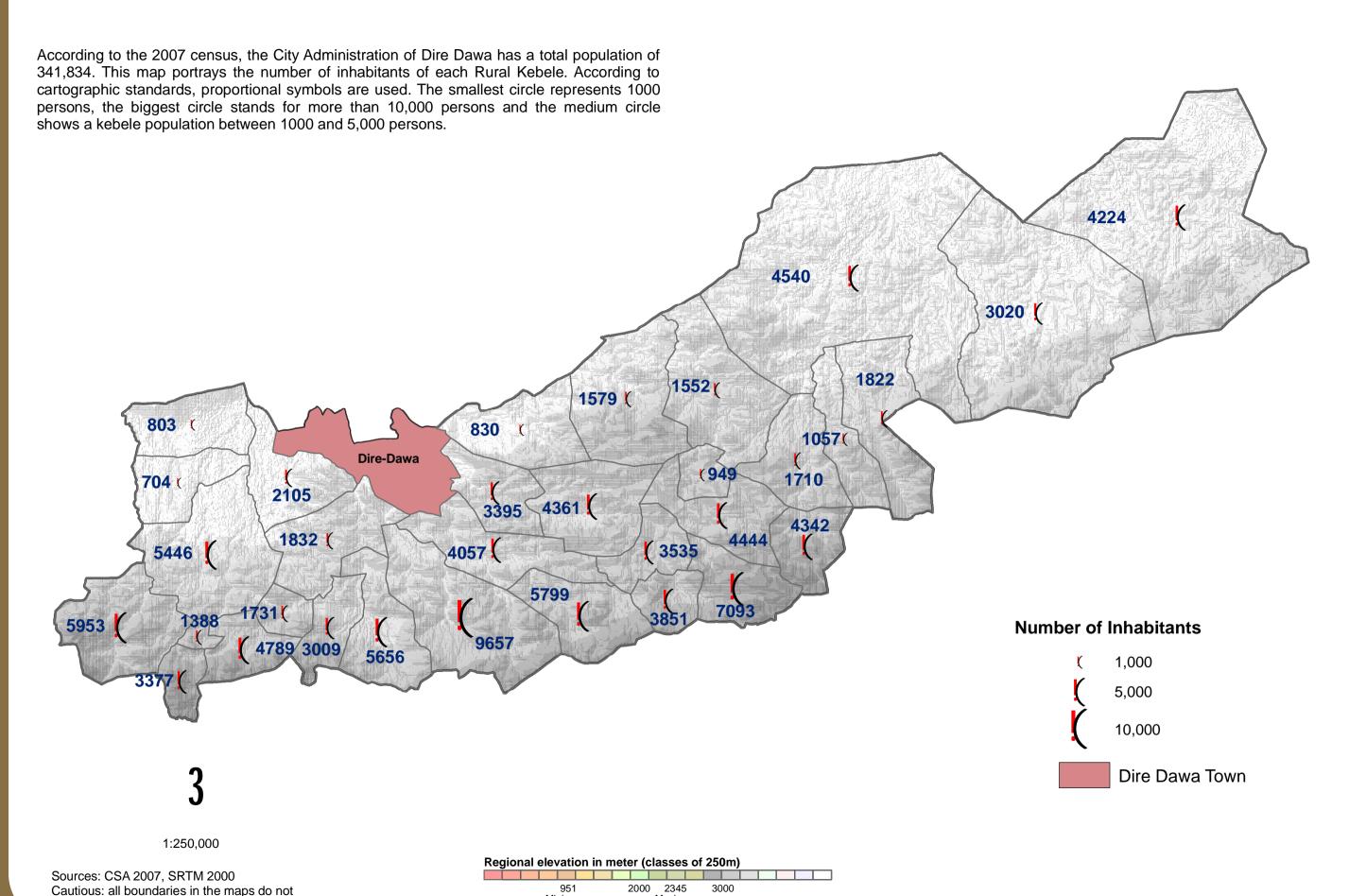
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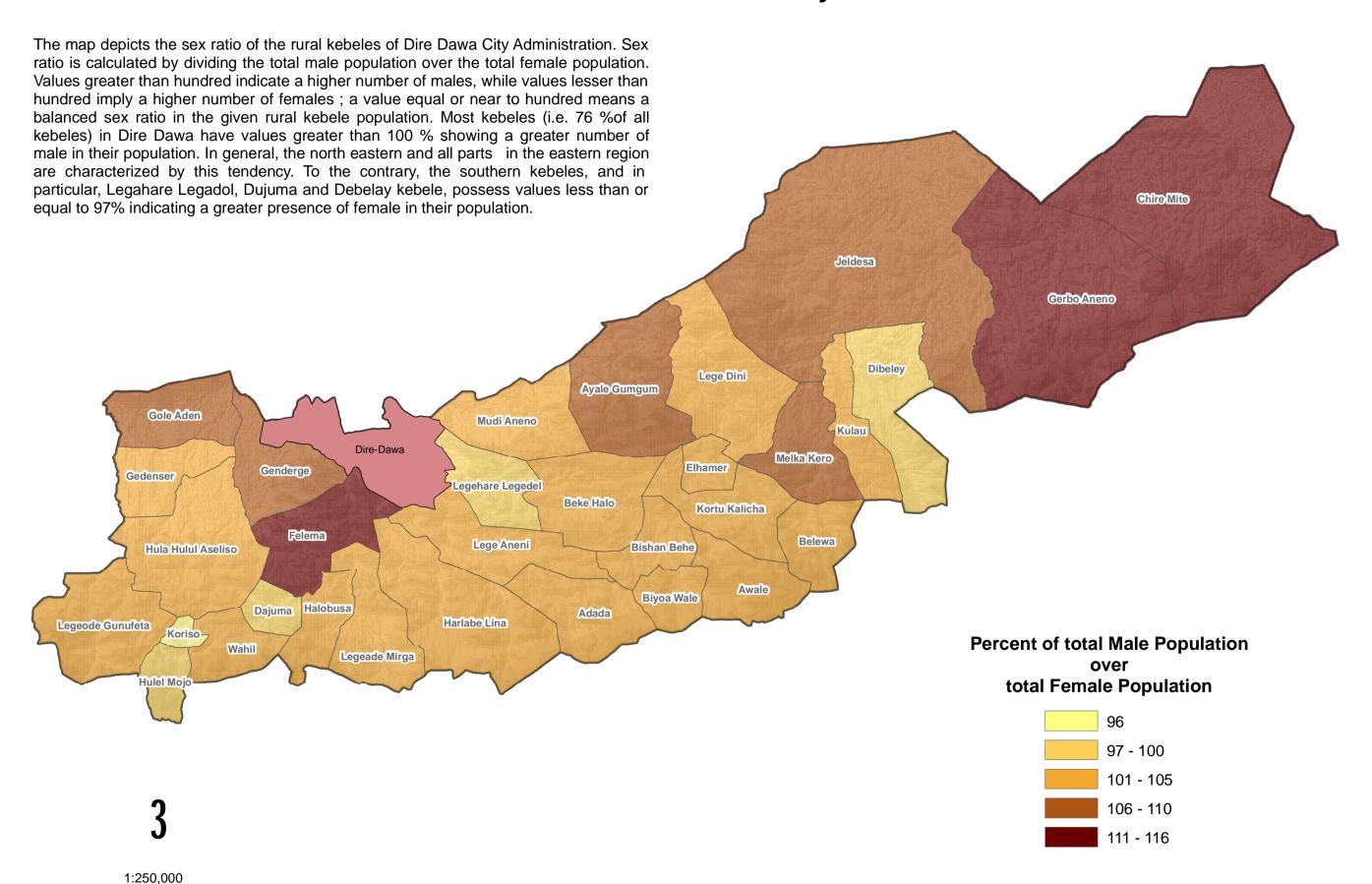


Total Population of Dire Dawa City Administration



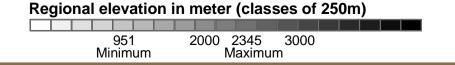
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Sex Ratio of Dire Dawa City Administration

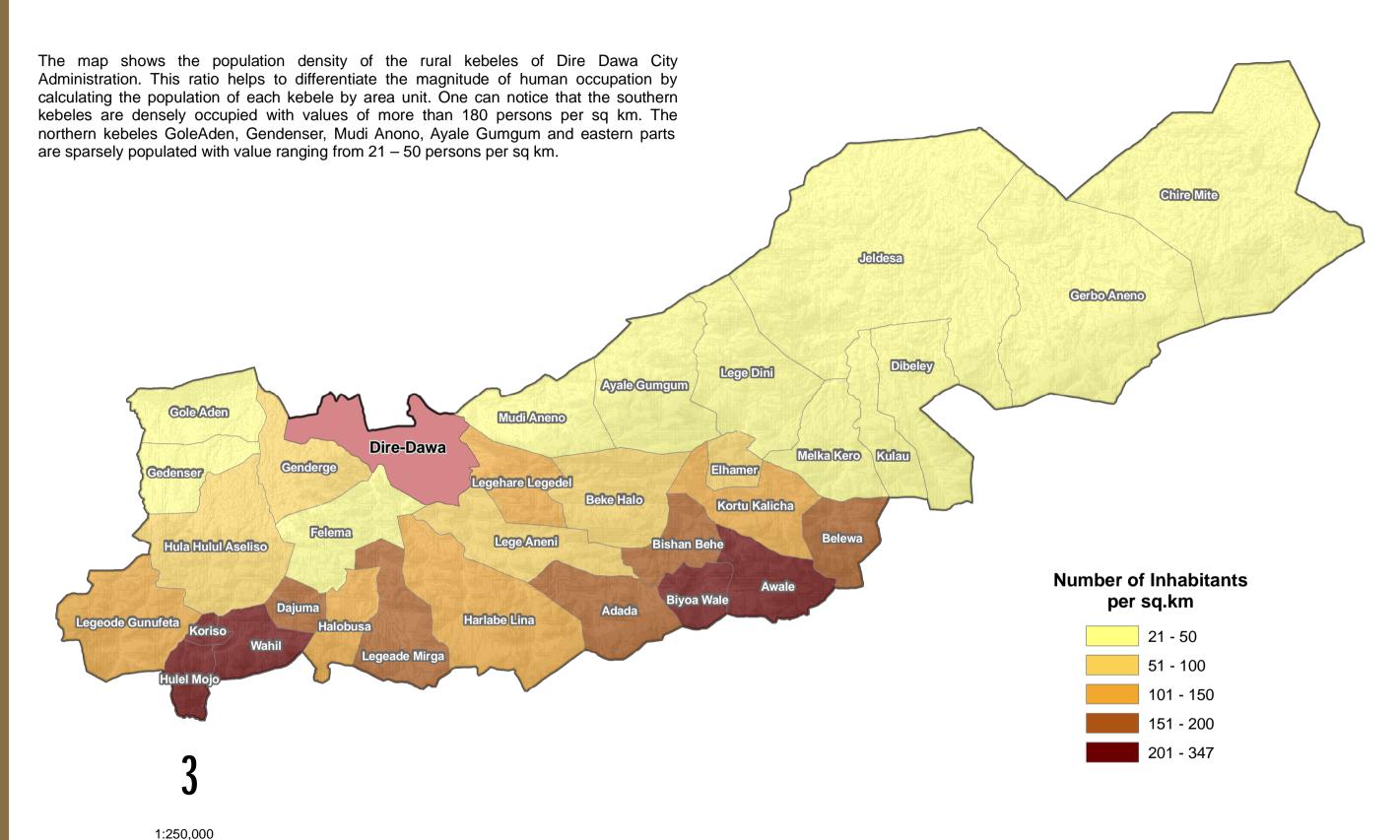


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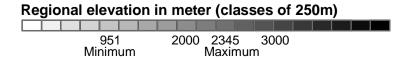


Population Density of Dire Dawa City Administration



Sources: CSA 2007, SRTM 2000

Cautious: all boundaries in the maps do not have any official regional or federal endorsements



Rural Localities in Dire Dawa City Administration

This map shows all 430 rural kebeles localities. There is no population count for the localities and their location is often an average point chosen among scattered settlements. The objective is to portray a complete picture of all settlement types in the City Administration and their spatial pattern. We notice again the high concentration of localities in the southern, though other areas also have a reasonable number of localities. Gerbo Aneno Dibeley Lege Dini Gole Aden Localities All Weather Road Dry Weather Road Trail Town 1:250,000 Regional elevation in meter (classes of 250m)

2000 2345 3000 Maximum

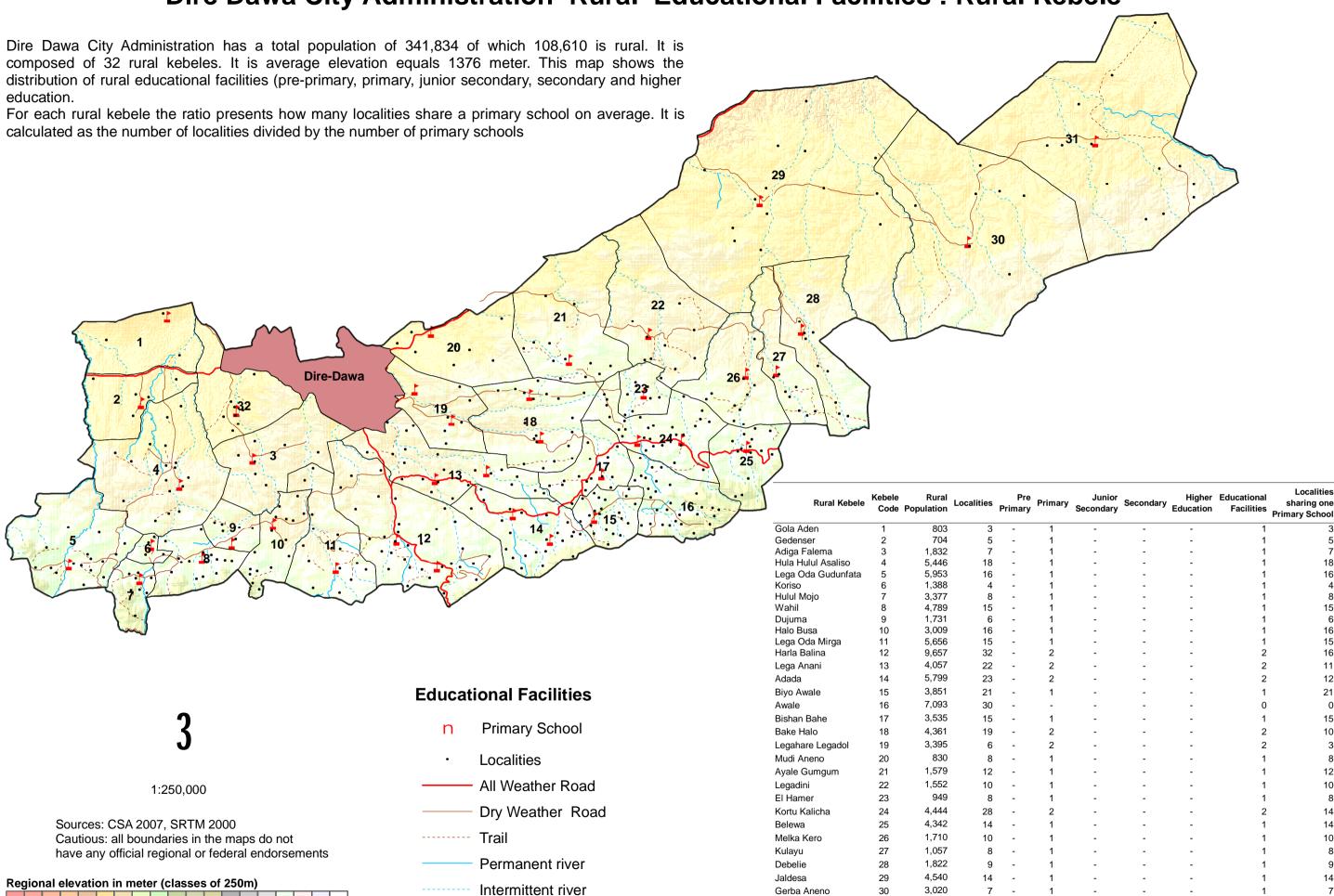
951 Minimum

Sources: CSA 2007, SRTM 2000

Cautious: all boundaries in the maps do not

have any official regional or federal endorsements

Dire Dawa City Administration Rural Educational Facilities: Rural Kebele



31

Gende Rige

4,224

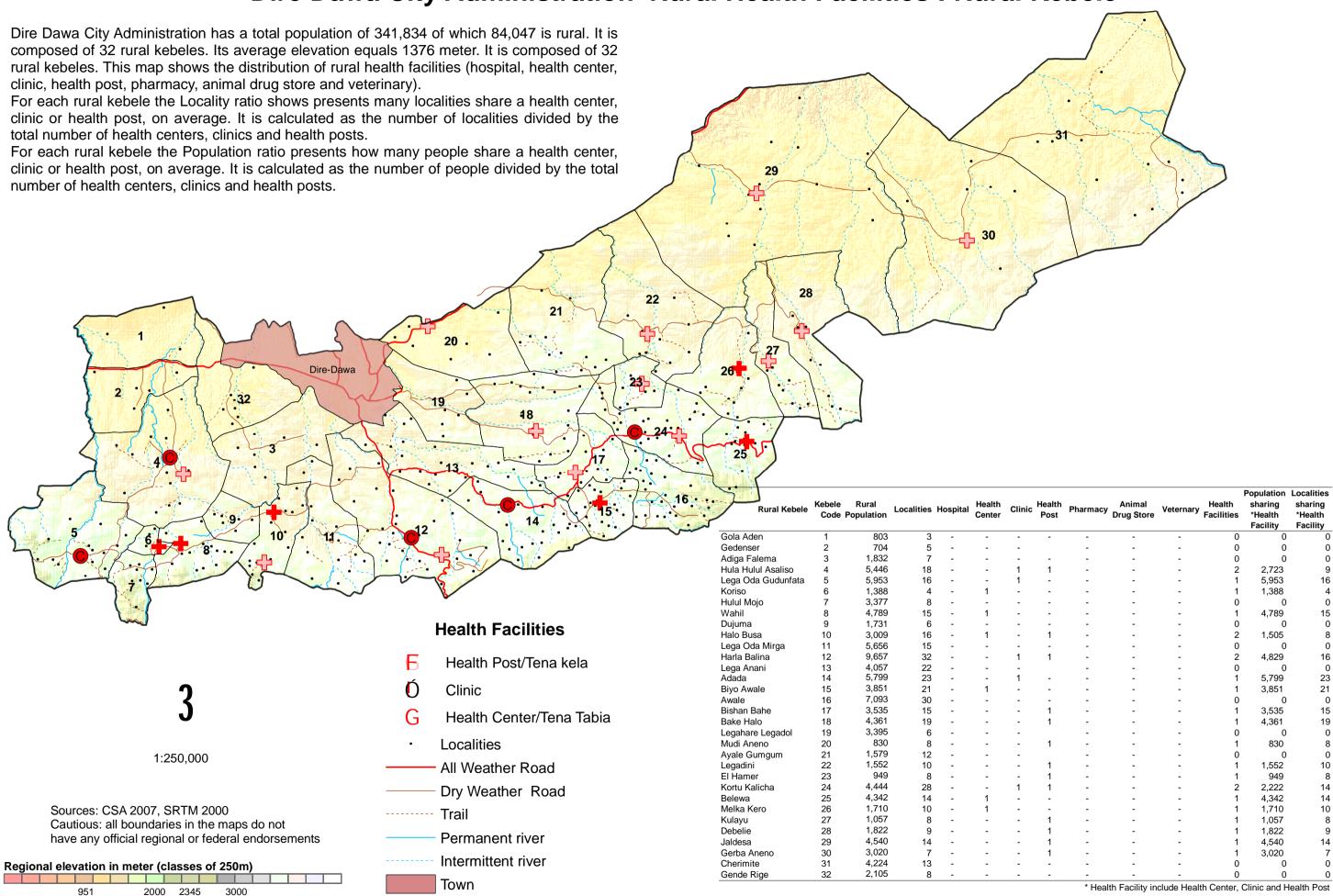
2000 2345

Maximum

3000

Town

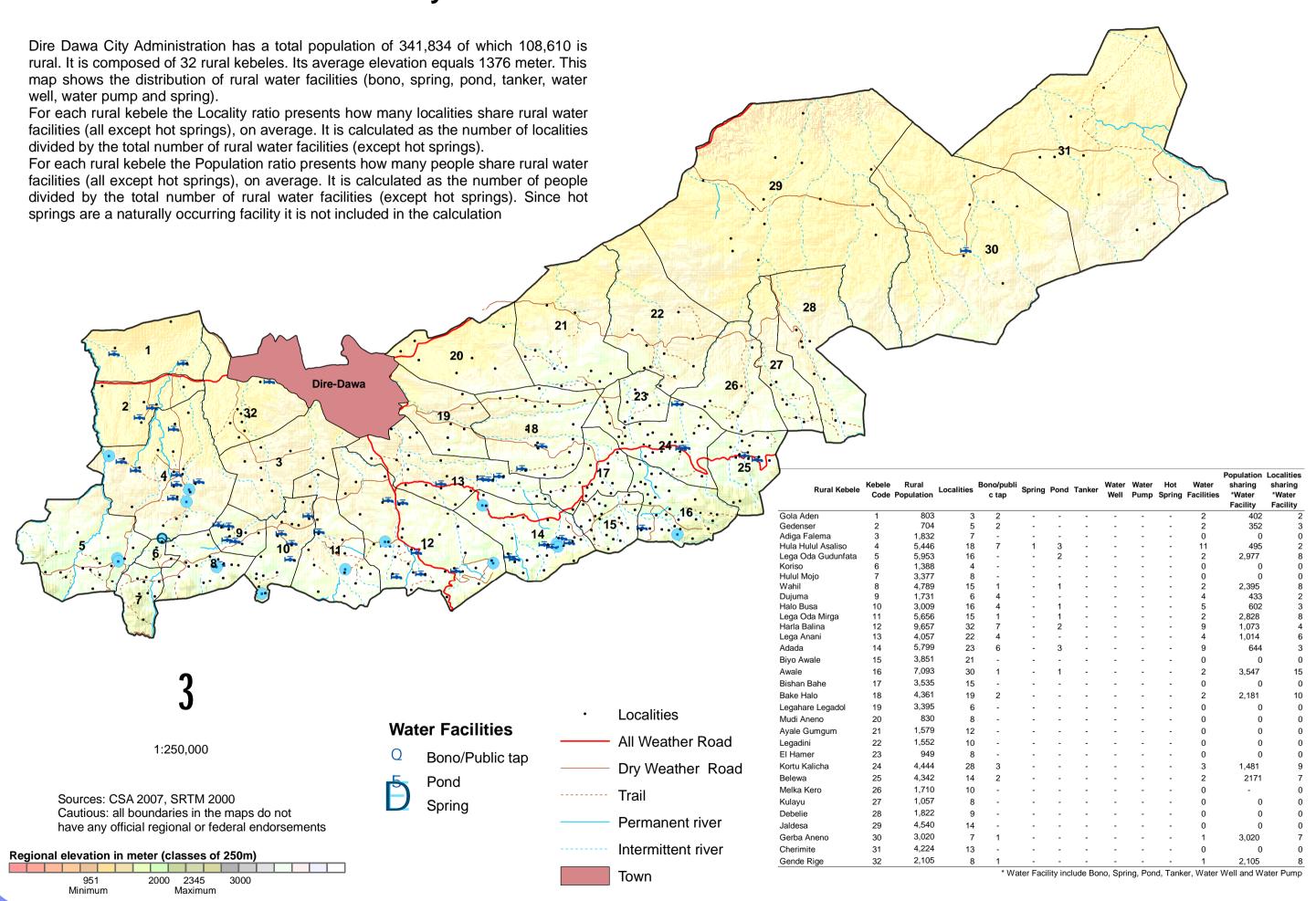
Dire Dawa City Administration Rural Health Facilities: Rural Kebele



Minimum

Maximum

Dire Dawa City Administration Rural Water Facilities: Rural Kebele



0

0

0

8

15

0

0

0

23

21

0

0

19

12

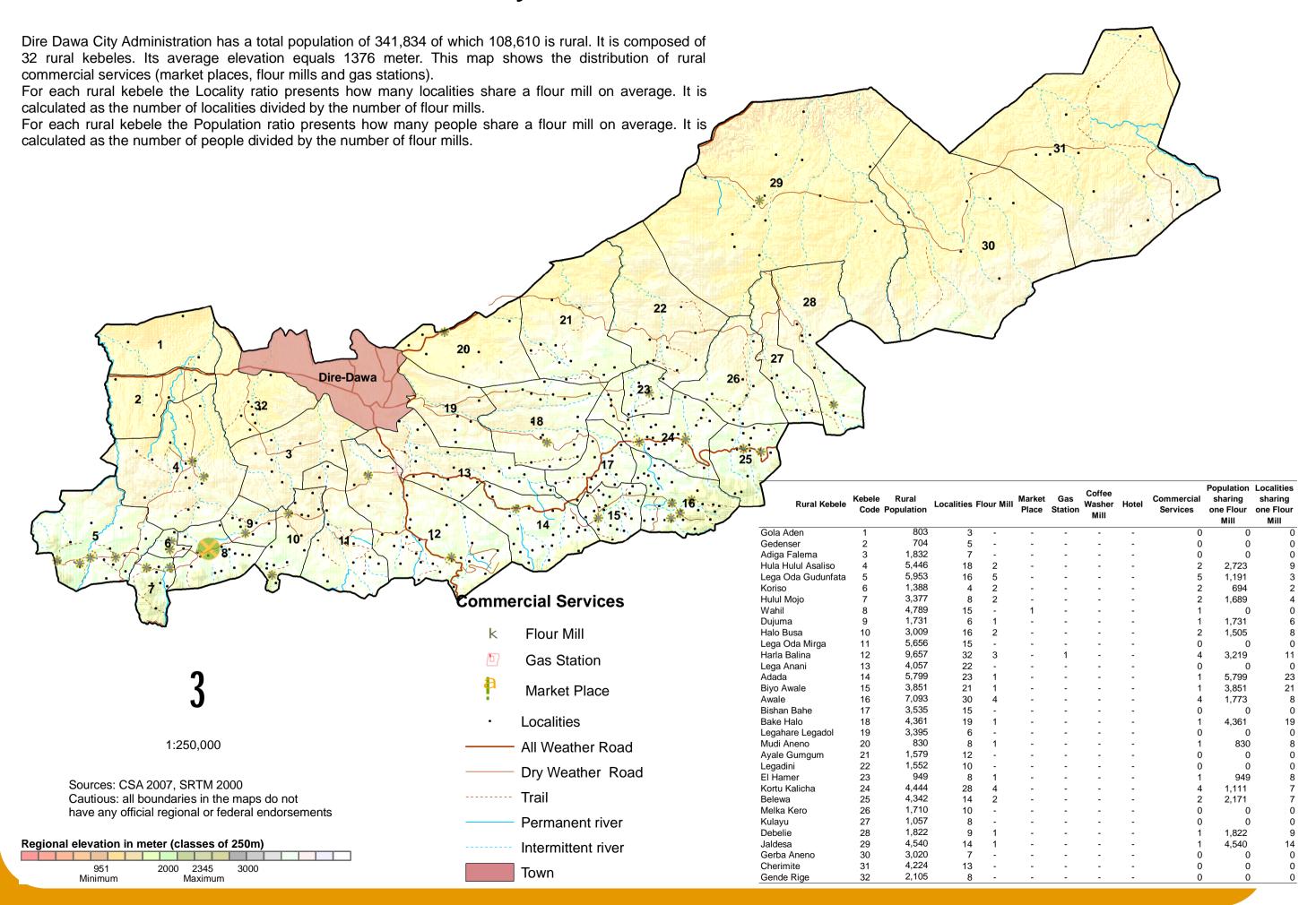
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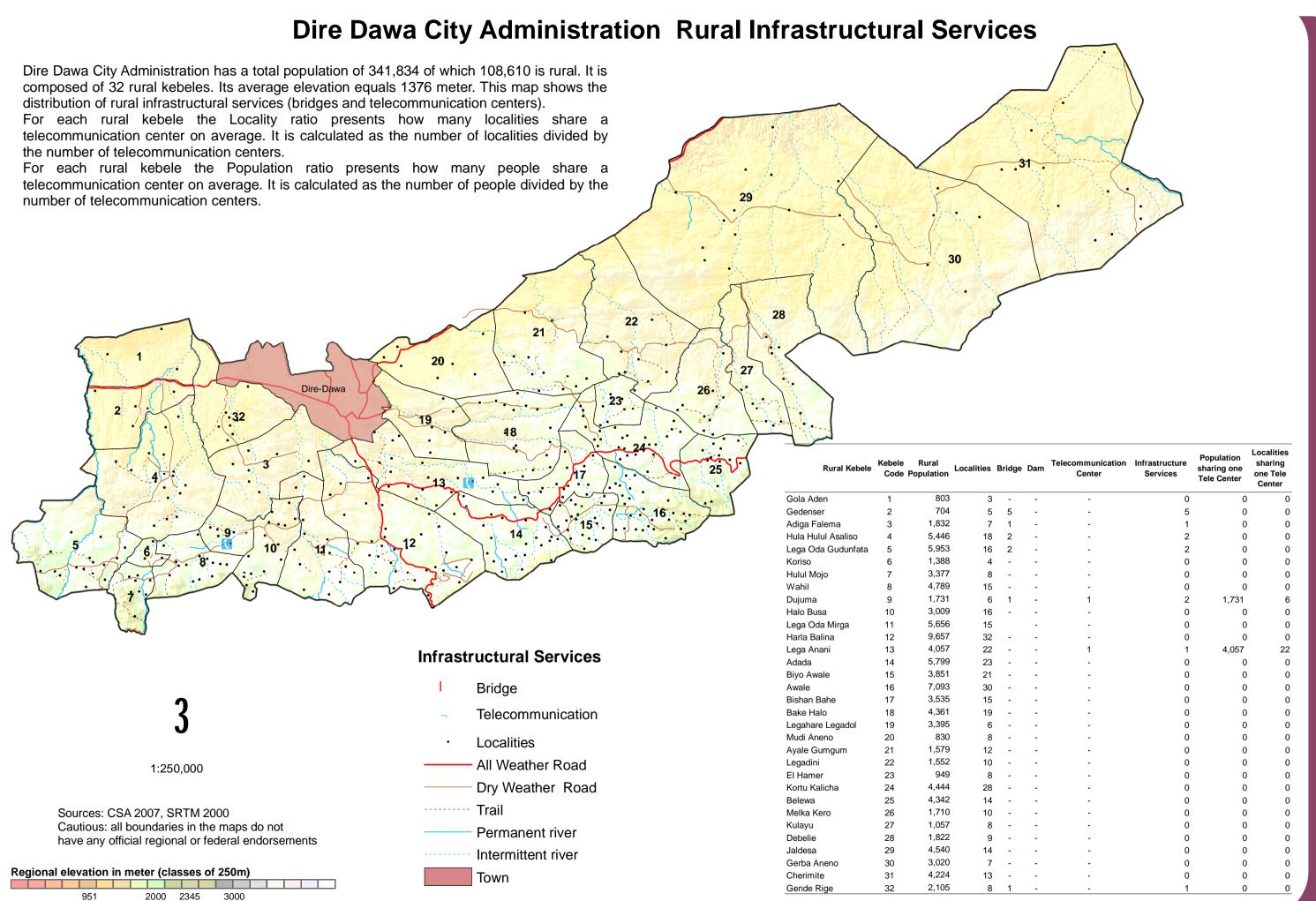
10

14

Dire Dawa City Administration Rural Public Services: Rural Kebele Dire Dawa City Administration has a total population of 341,834 of which 108,610 is rural. It is composed of 32 rural kebeles. Its average elevation equals 1376 meter. This map shows the distribution of rural public services (administration office, police station and adult training For each rural kebele the Locality ratio presents how many localities share an administration office on average. It is calculated as the number of localities divided by the number of administration offices. For each rural kebele the Population ratio presents how many people share an administration office on average. It is calculated as the number of people divided by the number of administration offices. 22 27 Dire-Dawa 26. 25 Population Adult Kebele Administration Police **Public** sharing Localities Training Rural Kebele Code Population Office Station Services one Admin Center Admin Office Office Gola Aden 704 Gedenser 1,832 Adiga Falema Hula Hulul Asaliso 5,446 Lega Oda Gudunfata 5,953 16 1,388 Koriso Hulul Mojo 3,377 3,377 Wahil 4,789 4,789 1,731 Dujuma 1,731 3,009 Halo Busa 10 16 5,656 Lega Oda Mirga 12 9.657 Harla Balina 13 4,057 Lega Anani **Public Services** 5.799 23 Adada 5,799 15 3.851 21 3,851 Biyo Awale Awale 16 7,093 Administrative Office 3,535 17 Bishan Bahe 4,361 Bake Halo 18 4,361 Police Station 3,395 Legahare Legadol 19 20 830 830 Mudi Aneno 21 1,579 Localities Ayale Gumgum 1,579 1,552 Legadini 1,552 1:250,000 All Weather Road El Hamer 23 4,444 Kortu Kalicha Dry Weather Road 4,342 25 Belewa Melka Kero 26 1,710 10 1.710 Sources: CSA 2007, SRTM 2000 Trail 27 1,057 Kulayu 1,057 Cautious: all boundaries in the maps do not 1.822 28 1,822 Debelie have any official regional or federal endorsements Permanent river 29 4,540 4.540 Jaldesa 3,020 Gerba Aneno 30 3,020 Intermittent river Regional elevation in meter (classes of 250m) 4,224 31 Cherimite 13 0 2,105 Town 2000 2345

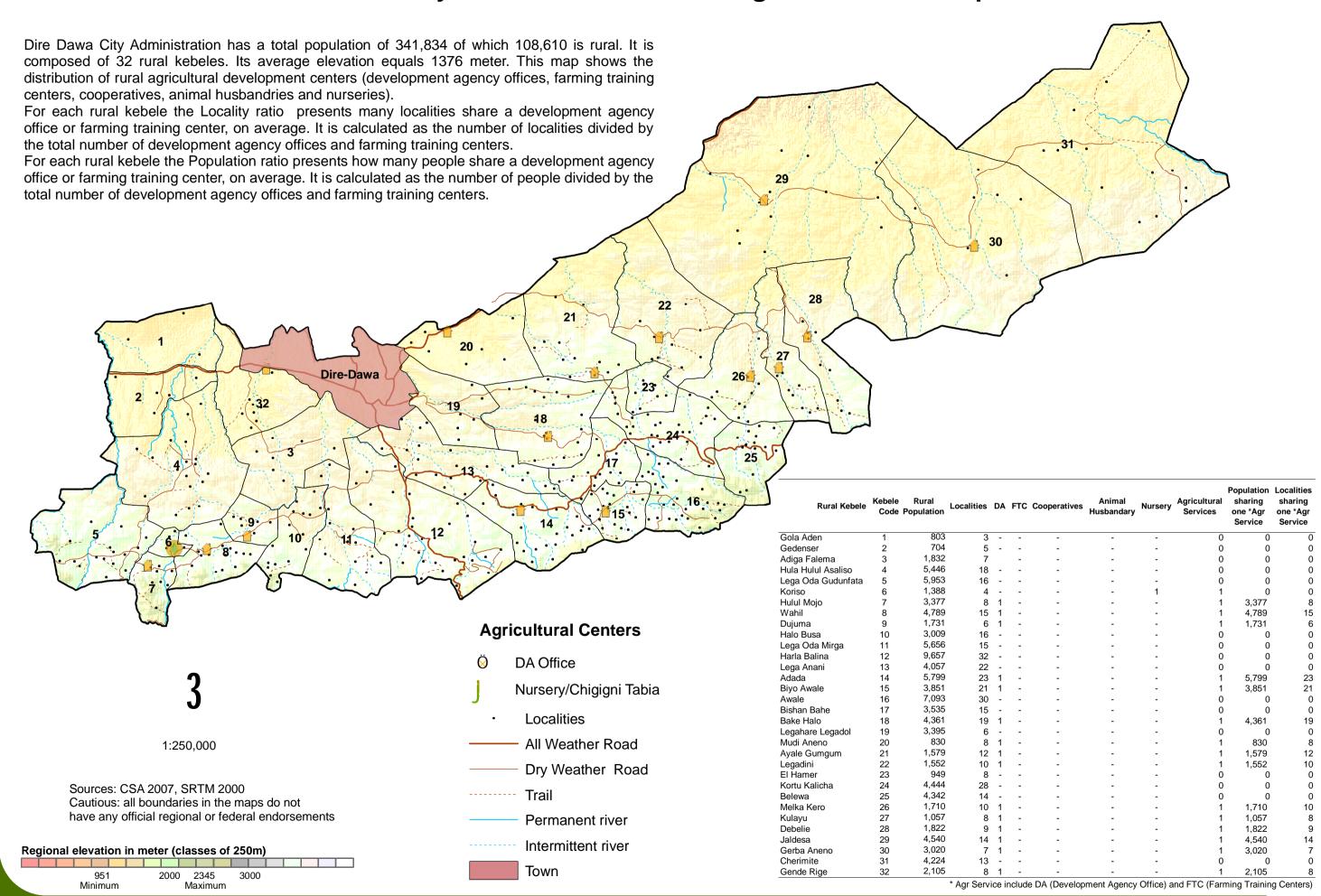
Dire Dawa City Administration Rural Commercial Services





2000 2345 Maximum

Dire Dawa City Administration Rural Agricultural Development Centers



Glossary

The definitions given bellow refer to some important concepts used during the cartographic work of the Population and Housing prior to 2007. There is some difference tends to occur between up-to-date definition of facilities and those provided by this glossary, particularly related to facilities.

Chapter 2 and 3:

Kebele: It is the lowest administrative unit in a woreda is called kebele. In general a kebele is a geographically defined area within a woreda under the jurisdiction of a local official. One should be alert of the fact that kebeles may have significant differences in total population and their number of households. Kebeles are called rural in rural areas and urban in urban areas.

Localities: A locality is defined as a nucleated and physically distinct settlement (also designated as inhabited place, populated center), in which the inhabitants live in neighboring housing units and has a name or a locally recognized status.

Towns: It is generally defined as a town with 2000 or more inhabitants. .However, for the purpose of census map work town includes the following regardless of the number of inhabitants:

A. Administrative capitals

- i. Capital cities of Regional States
- ii. Capital cities of Zones which are not included in i
- iii. Capital cities of Woredas which are not included in i or ii
- iv. Area where urban kebeles are constituted but not included in i, ii or iii
- B. Municipal towns not included in item "A" above

C. All Localities which are not included in A or B above having a population of 1000 or more persons and whose inhabitants are primarily engaged in non-agricultural activities. But localities with population less than 1000 persons should be considered as rural.

Woreda: Composed of neighboring adjacent kebeles and defined as the next and wider administrative level above the kebele. Woredas are legal entities. Woredas can include rural and urban kebeles, or can be composed by only rural or only urban kebeles.

Zone: Composed of neighboring adjacent woredas. It defines the next and wider administrative level above the woredas. Zones are legal entities within a Regional State and their main role is to coordinate the duties of the woredas under their jurisdiction. Zones can be composed of mixed urban rural woredas or of only urban or only rural woredas.

Chapter 4:

Preprimary: It refers to a facility for small children before grade 1, traditional and religious education for children can also be designated as such.

Primary School: It refers to facilities from grade 1 to 6 or from grade 1 to 8.

Junior Secondary School: It refers to facilities from grade 7 to 8.

Secondary School: It refers to facilities from grade 9 to 10.

Higher Education: In the atlas, it refers to all facilities above grade 10.

Chapter 5:

Health Post/ Tena Kela: One of the satellite facilities in the primary Health care unit.

Clinic: A clinic might be of different level:

i. **Higher Clinic:** Staffed at least by a general medical practitioner, a specialist and assisted by various specialists: serves for general outpatient clinic; for emergency and delivery this clinic has up to 5 beds.

ii. Medium Clinic: Staffed at least by health officer or general medical practitioner and serves for general medical services.

iii. Lower Clinic: Staffed at least by a health assistant or a nurse and serves for general outpatient clinic.

iv. Health Center/ Tena Tabia: An establishment which provides both Preventive and Curative outpatient care. Health Centers are also responsible for training CHA's (Community Health Attendants) and TBA's (Traditional Birth Attendants)

Hospital: An establishment with at least 25 beds that provides general medical care around the clock. It is at least equipped with basic laboratory, X-ray and basic treatments facilities. It is staffed with at least one medical practitioner.

Drugstore: An establishment which offers for sale to the public, such medical preparations, cosmetics nursing and sanitary articles, dietetic products and other articles as approved by the Ministry of Health but does not engage in the compounding and preparation or manufacturing of any medical preparation.

Chapter 6:

Bono/Public tap: A public fountain for drinking water purposes, and which use implies the payment of a fee.

Pond: A man made water hole used for human and animal drinking.

Spring: Natural source of water used for drinking water.

Hot Spring: Natural stem of hot water much sought for its medicinal effects.

Tanker: Reservoir of water made from different kinds of materials and used to collect and preserve drinking and other usage water.

Water Pump: An engine functioning by fuel or manpower used to pump up drinking or other usage water from underground water.

Well: A hole used to drag water from underground water for drinking and other usages.

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About this Atlas

Atlas of the Ethiopian Rural Facilities and Services produced in different volumes at regional level; each containing the most recent available data in the region on population from the Population & Housing Census of 2007, and on rural facilities and services collected during the preparatory activities of the 2007 Census.

There were no such sets of maps that have been produced previously on rural facilities and services in Ethiopia. This Atlas presents readers with information regarding land topography, population settlements and services in rural areas of the country. The maps and data also provides basis information mainly for policy makers, economical actors, development practitioners involved in the implementation of the Growth and Transformation Plan (GTP), and for a wide range of stakeholders involved in rural development.

The production of this Atlas is made possible through the financial support from the United Nations Fund for Population Activities (UNFPA) and core in-kind and financial contributions from CSA.



