

SUMMARY AND CONCLUSIONS

Urbanization is occurring rapidly in Ethiopia, and it is expected that urban growth rate will remain the fastest with some decline in Ethiopia than in other African countries on average. However, when the level of urbanization is considered, Ethiopia is the least urbanized country in the world. For instance, World Urbanization Prospects (2011) indicated that the level of urbanization in the world as a whole was 50.6 % in 2010 and it is supposed to reach 57.2% in 2025. The corresponding figures for African countries were 40.0% in 2010 and will be 47.2% in 2025. Ethiopia was only 16.7% urbanized in 2010 and it is projected to be 21.3 % urban by 2025.

Since urbanization in Ethiopia involves rapid population growth, it results in the increase of non- agricultural workforce and change from agriculture to non agricultural land uses. Consequently, economic activities and population are concentrated in and around urban areas. At present, about 23.92 % of the country's total urban population is concentrated in Addis Ababa alone, and it absorbs up to 120,000 populations per year.

In Addis Ababa, this population dynamics are occurring within the context of economic stagnation or low economic growth, poor housing conditions, financially weak municipalities incapable of providing basic services, a poor transportation system and the like (UN-Habitat, 2009; Pitter 1998; CSA, 2001; Harsch, 2002). In addition to this, the authorities are inefficient in meeting the service demands of urban residents particularly the urban poor. The absence of policies on land use and economic development has also led to urban problems (Kumar and Barrett, 2008).

The present study is an attempt at a detailed investigation of impact of urbanization and industrialization on city environment with reference to Addis Ababa city, Ethiopia, Africa.

A general introduction to the subject of the thesis, research identifications, and review of the literature are discussed in the first chapter. Objectives of the study and methodology are also discussed. The main objective of the study is to assess the impact of urbanization and industrialization on population growth, land uses, environment, and civic amenities of the city of Addis Ababa. It is intended to cover the entire city region. Hence, data for this study was obtained from secondary sources. Both quantitative and qualitative

techniques were used to analyze the data. Geographic Information System (GIS) is used to produce maps showing the spatial and temporal variations of different physical and human characteristics of the study area. Review of literature has been discussed in this chapter. Literatures on urbanization with special reference to conditions in developing countries, Africa and Ethiopia were reviewed. It discusses themes such as urbanization as a dominant demographic process, nature of urbanization in Africa, environment and ecology, urban challenges, infrastructure, housing, and physical expansion. Profile of the study area is also the content of chapter one. An attempt has been made to present location & area, climate, administrative, physical and historical characteristics of the region.

The second chapter deals with the pattern of population growth of the study area. Addis Ababa's population growth pattern has at best been irregular during the greater part of its history, largely due to changes in the country's social, economic and political conditions. In this chapter, primacy of the city of Addis Ababa, distribution and growth rate of population, and migrations have been analyzed. The city compared with other parts of the country enjoys a relatively higher concentration of facilities, infrastructure, and industries. The main reason for high migration to the city is economic reasons. As a result, the city absorbs up to 120,000 new residents each year which contributed for the primacy of the city. Coupled with this extent of migration, the natural urban population increase of the study area accelerated its population growth rate since 1910. It appears therefore that much of this growth takes place in the slums and squatter settlements.

The analysis of pattern of economic development which includes concentration and distribution of industries, pattern of workers distribution, dependency burden and informal businesses are the content of the third chapter. The city has experienced rapid industrial development since 2002. The majority of these industries are micro and small scale ones, and they are given urgent and due attention for the fact that they are believed to settle the city's current economic, social, political and environmental problems. As a result, between the year 2002 and 2010, about 6471 micro and small scale industries were developed in the study region. Consequently, a total of 74,457 new jobs were created by these types of industries. Construction sector was the leading in providing jobs, followed

by wood and metal works. This shows that labor force participation rate in the study area had been showing an increasing trend while unemployment rate had been declining. Another important indicator of economic development is dependency burden. If dependency burden is high, the proportion of workforce/ economically active group will be low. It can be evident from the present study that there is a sharp declining trend in the dependency burden of the study area.

Pattern of land use changes in the study area which includes development of master plans, changes in the land use types, concentration of peripheral land use, and land use patterns relating to land use theories have been discussed in the fourth chapter. The land use distribution as per the master plan shows that most of the development of the city is mixed with no well defined residential, commercial and industrial areas. The physical expansion trend is also included here. It can be evident from the study that Addis Ababa physical expansion showed the rapid expansion of both planned and unplanned. As a result, farmland is disappearing at alarming rate to create industrial parks, new highways and sprawled housing developments. In many areas, urban expansion is forcing farmers out of business. This study concluded that the study area has been showing a sector model of land use theory. Its expansion is mainly guided by land forms and transport routes.

The impact of urbanization on physical environment of the study area has been assessed in chapter five. Climate is an important factor in the physical environment of all living things. In addition to this, air quality status is also another crucial component of physical environment. The study showed that there is a strong positive relationship between urbanization and temperature rise. Furthermore, the assessment of the changes in rainfall amount of the study area shows that the total annual rainfall of the study area had been increased by about 207.1 mm between the year 1965 and 2010. The study also reveals that rural environments around the study region with much of its area under agricultural land use have shown lower temperatures and higher humidity over urban areas. Hence, population growth as a major indicator of urbanization influences the climatic pattern of the study area. Environmental wastes are also the main theme of this chapter. The degradation of river water quality becomes one of the major environmental

problems that the study pointed out. The study showed that the solid and liquid waste collection capacity of the city is much lower than the total generated. Lastly, this chapter portrayed that environmental noise becomes a threat for the city's population.

The sixth chapter deals with the impact of urbanization on socio-economic environment which includes housing conditions, urban slums, sanitation, and health situations. According to the results of the study, the majority of housing units in the study area did not conform to the advisable housing standards which fit with rapid population growth, economic challenges and land shortages. The study found out that more than 80 percent of the city's population is living in slums which are characterized by overcrowded neighborhoods with no or little basic infrastructure and municipal services, worn out physical structures, under unhygienic sanitary conditions, lacking safe and adequate drinking water, illegal land occupation and absence of tenure security, high rate of HIV/AIDS and other epidemic diseases, and lack of security points.

The status of civic amenities and infrastructural facilities of the study area which includes road network, foot paths, drainage have been assessed in chapter seven. Extent of water supply which incorporates major sources of its supply, location and volume have also been discussed in this chapter. It can be evident from the results of the study that the degree of urbanization in terms of physical expansion has outpaced the infrastructure and basic urban service provision capacity of Addis Ababa city, which as a result, are inadequately provided. The majority of road length in the city was gravel with inadequate provision of foot path and drainage facility. In addition to this, the rapid growth in the number of motor vehicles of the city and inefficient development of road network has an impact on traffic movement, road safety, and environment. As far as water supply of the study area is concerned, the study showed that no adequate water volume was supplied to the city residents. Water scarcity forces people to relay on unsafe sources of drinking water as a result of which residents are suffering from the risk of waterborne diseases such as cholera, typhoid fever and dysentery. In addition to all these, water scarcity in the study area causes waste of time due to long waiting time to fetch water.

Strategies for the development of the study area which include identification of problems and bottlenecks, and formulation of strategies and action programs for the problems confronting in various spheres have been discussed in the eighth chapter.

Summary of the study and the conclusions that emerged from the study are presented at the end of the thesis.

CONCLUSIONS

Urbanization causes land use /cover changes, while at the same time it brings about increasing environmental loads due to expanding use of energy and resources and impacts on human health and ecosystems. Due to the massive population concentration in urban areas, there is huge pressure on the available civic amenities and facilities.

The study attempted to see impacts of economic development on physical and social environments of Addis Ababa. To achieve this goal, secondary data were collected from different published and unpublished sources and analyzed using different methods. The result shows that the study area has been showing rapid economic development mainly areas of micro and small scale manufacturing industries were absorbing much labor force. Like in other developing countries, economic development in the study area has been acting as pull factor; and as many as 120,000 new urban residents are added to Addis Ababa every year. This resulted in many urban problems fueled by the disparity between rapid urban population growth and environmental sustainable use. The extent to which residents of the study area get basic services and amenities is also far from adequate.

Therefore, it is evident from the results of the study that rapid economic development definitely contributed to rapid degradation in environmental quality as well as rapid population growth, thereby pressure on available civic amenities. Finally, the study formulated strategies and action programs for the improvement of the quality of the environment and better living conditions by streamlining the economic development with the physical growth of the city.

Urbanization imposes significant burden to sustainable development. Hence, proper strategy and judicious planning are necessary for sustainable development of cities. During city planning it should be ensured that adequate infrastructure is available to support the growing urban population. Development of satellite towns is one of the strategies to minimize urbanization in metropolitan cities. Government policies and programmes should encourage rural empowerment to prevent the rate of migration of people from rural areas to urban areas.

Planning for sustainable cities, mainly in the third world countries is a major challenge. Restricting the population boom is another major issue of the third millennium. Although it is impossible to restrict urbanization, it can be ensured that the path of the development can move in the right direction. Integrated and comprehensive planning with active public participation would yield positive results in curbing the problems of urbanization. Appropriate planning and meticulous implementation of developmental programmes with due participation of people could achieve sustainable urban environment.