



Indo - African Journal for Resource Management and Planning

(An International Peer Reviewed Research Journal)

ISSN 2347-1786. VOL 3. NO. 01 August 26, 2015

Article info

Received on March 15, 2015

Published on August 26, 2015

India

Urbanization and Changing Pattern of Urban Land Use Policy and Planning Implementation in Residential Land Use (In The Case Of Adigrat Town).

Toyba Yimam

Department of geography and Environment studies, Adigrat University, Ethiopia.

In this paper, the variables are the land use change structure and development pattern, changing housing uses and types, changing rent charges, access to vacant land, regularization of physical development and planning intervention for combating the negative effect of urbanization on urban land use. The data collection method used in this study includes the use of interviews to solicit view from house owners and owner of economic activities in the study area and personal observations of traffic condition and parking. The institution consulted during the data gathering process were town administration of Adigrat.

The study revealed that the pattern of development in the study area is redevelopment of housing. The study area has become a complete built up area with fewer reserves or vacant land for future development. Also the urbanization process is leading to changes in building type from residential use to commercial use. The layout of this area has been transformed significantly with the physical structure defined mainly by commercial activities.

Also the study revealed that there is high degree of urbanization and land use change in the study area. But this urbanization growth and land use change does not affect the service facilities deliver in the area as much.

Key Words – **Urbanization, Urban Land Use**

1 Introduction

The proportion of urban population has been rising rapidly over the last decades. Estimates indicate that in the mid 1990's 43 percent of the world's population lived in urban areas. This figure is projected to become three-fifth of

the world's population by 2025 (United nation, 1993). This result is expected to result from large movement of people to cities to take advantage of increase opportunities and improve their standard of living. It has been suggested that urbanization is both a mirror of broad socio-economic change (Chandra and Rajesh).

Other necessary requisites responsible for socio-economic change in society which also serve as catalyst of urban growth include technological change in industry, transportation, communication and building techniques (Bracken, 1981). In this case rapidly increasing urban population means change in economic, social, spatial and environmental issue for the betterment of society.

This means that the advancement of every community depends to a considerable extent on the judicious use and management of available land resource. Land, therefore has the singular characteristics of being the most important factor in the sustenance of mankind (Adarkua and Post, 2001). It is therefore necessary to ensure that land use is in conformity with planning regulating. In recent time the structure of Adigrat city are changing drastically. This land use change is mostly caused by rapid urbanization which results from growth of institution and swift growth of economic and industrial activities. The rapid change in the trend of urbanization indicates possible impact on urban land use and provides the ingredient that facilitates change in land use pattern of urban areas.

Also land use change is partly caused by the problem of land tenure system and uncontrolled physical development resulting from lack of education, overcrowding and increased informally settlement also affect the pattern of development of urban areas which causes adverse change in urban land use. Thus the effects of land use change are numerous and have created serious problem of transportation, land management, shelter provision and congestion in central business district (Olima, 2003).

When there is rapid urbanization, what follow is shortage of land development. The characteristics of urban growth such as fast switch from certain economic activities like agriculture to other like commercial requires increase land for investment. In response to increase demand for land, users compete for the most accessible location (Israd, 1956).

Thus the implication of a high degree of urbanization on the pattern of urban land use is serious (Alonso, 1964). From the forgoing, this study is appropriate and timely since it attempts to identify the impact of urbanization on the form of urban area with specific focus on changing urban land use pattern.

2. Material and Methods

2.1 Study area

Adigrat is a city and separate woreda in the tigray region of Ethiopia. Located in eastern zone of Tigray at longitude and latitude 14°16'N, 39°27'S with an elevation of 2457 meters above sea level below a high ridge to the west. Adigrat is the last important city south of the border with Eritrea and is consider to be a strategically important get way to Eritrea and the red sea. It located along Ethiopia high way 1, which connects Addis Ababa and Mekelle with Asmara. In Adigrat Ethiopia high way 15, turns off the main high way to the west in the direction of Adwa. Adigrat was part of Ganta Afeshum woreda before a separate woreda was created for the city.

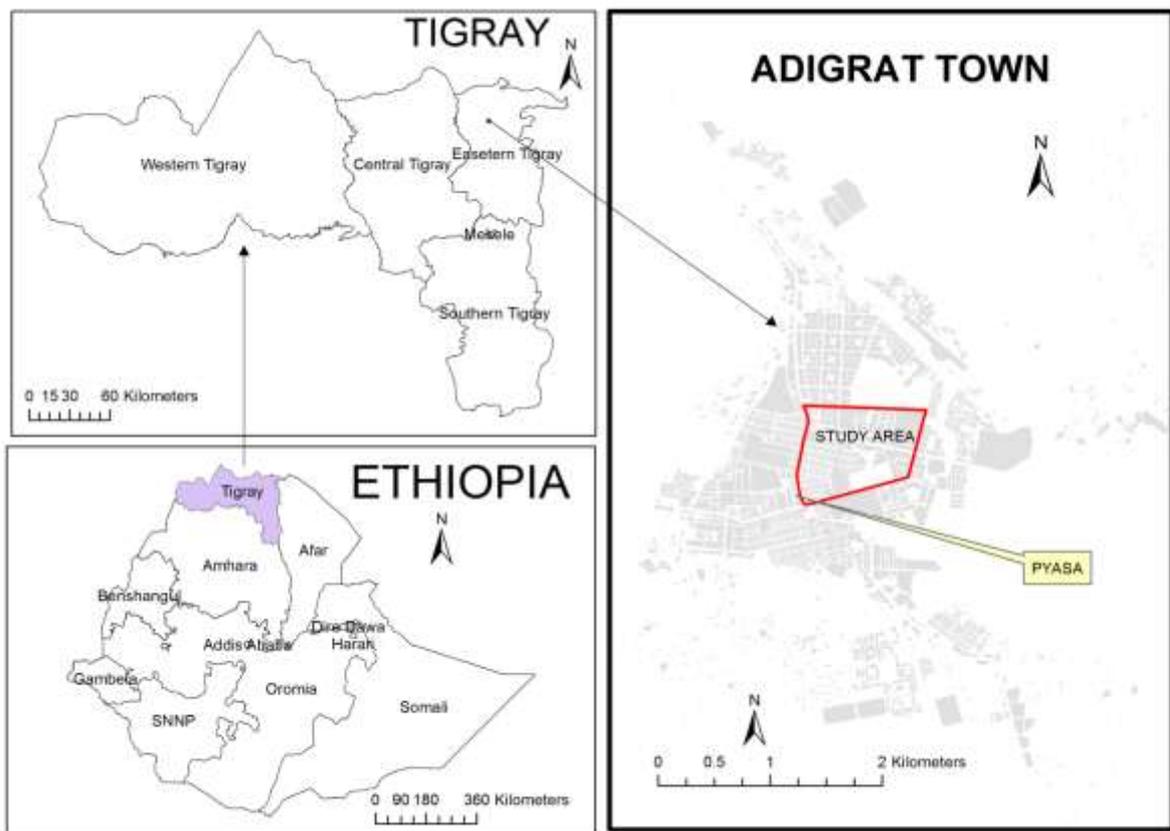


Figure 1

2.2. Research Design

Research design the research seeks to investigate the impact of urbanization on the land use pattern of Adigrat town. It would reveal issue as a problems posed by urbanization to urban land use, especially its effect on the residential land use in Adigrat town. It helps to describe the unit of analysis in detail (Patton, 1987).

Again the case study design provides an opportunity for researchers to gain insight into the nature of the nature and dynamics of urbanization. With this study design, the data would be systematically collect at a particular point in time analyze and present to give a clear picture of the state of urbanization and

its effect on residential land use of Adigrat town. Also, the design helps in examining factors that contribute to the pattern of urban land use in Adigrat. In this case, assessment can be making regarding the extent to which the objective of the study are achieve. This would also help evaluate the outcome of policy intervention by government on urban planning and land use.

2.3. Sampling Technique

The population for the research consists of all stakeholders relevant to the study of urbanization and urban land use at Adigrat town. This included local residents made up of land lords and business owners in this area. As a result of the large number of the population of land lords and business owners, simple random sampling technique would be use in selected the sampling units. This would help to eliminate biases in the choice of respondents such that every landlord and business owner has an equal chance of be drawn or select (Okoko, 2000). In applied this technique, the list of landlords and business owners would obtain. The business owners would sub -divided into activities related to commercial or services, and agriculture. Each of the lists would be numbered from one to the last number. The sample would be then drawn by the selected the units one by one. In this case, all landlords and business owners had an equal chance of being selecting since any number selected is automatically cancel or remove from the populated list.

In all 40 samples would be selected from the study area. From land lords and business mans. And also the other relevant respondent are include the town administration, because this institution exercise direct influence on the land use policy and planning issues related to the study area. Thus one respondent is selected from this institution. In this case, the information gathered from this institution would help, support or reject the assertions raised by the landlords and business owners in this area.

2.4. Data Collection Method

The data would be collected through the use of questionnaires. The item in the questioner would be a combination of close-ended and open-ended questions. The close ended question consists of a list of items with alternative answer for respondents to decide on their choice of answer. With the open-ended items, respondents will be requiring to supply answer themselves.

Different set of questionnaires would be developed for landlord, business mans, and various institutions. The questionnaires for landlords seek to verify whether the land owners obtain permit before putt up buildings. It also attempt to find out if there have been changes in the building type and its use. The motivated factor for changes in the use of building would also require from the land owners. The questionnaires for business men try to confirm the responses of the landlords with regarded to the change in the use of such land. These businessmen would be asked if they obtain permit from the town and country

planning department in changed the original purpose of building. The procedure in obtained permits, the means of disposed off waste, the special location advantages and the problem of the location would be some questions present to the business men.

The change in the use of land at the study area were confirmed or proved by the institution surveyed. This institution would be asked to identify the changes occurred in terms of land use and the cause of such changes. The main problem inhibited in enforced the law on residential land use would be also asked.

3.4. Data Analysis Method

In order to ensure a discrete analysis of both qualitative and quantitative data, the data would be collected from all the various sources would be edited thoroughly, code and analysis. In this case, the various questions would be given numerical values depending on the responses provided or supplied. This classification method simplifies the date into meaningful information for analysis.

Management is strictly adhered to. This means that citizens must be involved in the planning and implementation of development measure. It also means making administrative and decision transparent to those indirectly involves (UNCHS-Habitat, 1999).

3 Results

The purpose of this study was to explore urbanization and changing pattern of urban land use policy and planning implementation in residential land use of Adigrat town towards piazza, Meyda Agame and around Adigrat University. To understand the changing pattern of urban land use policy and its planning implementation in residential land use the researcher collected data from 39 households and one institution of the town regardless of their age, sex, marital status, educational level and other issues to deal in major problem identification by responding what they asked.

3.1 The original use of respondent houses

Table 1 original use of respondent houses

Original use of respondent houses	Frequency	Percentage
Residential	20	50%
Commercial	8	20%
Mixed(residential & commercial)	5	12.5%
Rent	4	10%
Other	3	7.5%
Total	40	100%

Source: own field survey

As the table indicates, 50% of the respondents were originally constructed their house for residential use, 20% of the respondent were constructed for commercial, 12.5% of the respondents were for mixed (commercial and

residential), the rest 10% and 7.5% of respondents were originally constructed their house for rental use and other purposes.

3.2 The use of respondent's house structure

Table2 Use of respondent's house structure

Use of houses	Frequency	Percentage
Residential	14	35%
Commercial	16	40%
Mixed	10	25%
Total	40	100%

Source: own field survey

As the table indicates 35% of the respondent houses are now used for residents, the other house of respondents which accounts 40% are now used for commercial and the rest 25% of the respondent houses are used for mixed(commercial and residential).

3.3 The benefit of respondents by the land use change

Table3 Land use change benefit

Benefits of the land use change for the respondents	Frequency	Percentage
Commercial area expansion	30	75%
Agricultural usage increases	—	—
Provision of service delivery	10	25%
Total	40	100%

Source: own field survey

3.4 Development pattern and structure of the study area

The pattern of the development in the study area is redevelopment of housing both public and private. The study reveals the new development hardly takes place due to lack of free space for development. Any development under taken in this area is redevelopment of old structure hence space is becoming a scarce commodity in the study area. 86% of respondents agreed that there is acute problem with land for expansion is always problem. The only way possible is the demolishing of old structure to give way for high rise building.

The most common building type is compound house. This constitutes 25% of total building unit. Most of the buildings are being transformed from compound house for purely human habitation to commercial building. It should that the changes in these housing types in this area are in response to rapid urbanization. The major road from the central bajaj terminal joining piazza, meyda agam and Adigrat University and several other cobblestone roads are aligned with some light that gives extra beauty to the area. The area also endowed with many public offices and financial institutions. Notably amongst that are the post office, different banks, the town administration office, the University of Adigrat and other institution are found. A side its commercial status, the study area provides employment for many people in the town. Thus, the area provides

many social and economic services. Economically, the study area is the life line of the whole town.

In this case, it is relevant that the major land uses in the study area are commercial and residential. Commercial land use alone takes the little greater chunks of the land in the area. Over 40% of the land in the study area is dedicated to commercial activities. The fast growing rate of urbanization in the city shows that in the near future commercial land use will take the whole stretch of the land of the study area. Residential land takes 35% and yet it is being threatened by the fast commercial growth of the area. The rest 25% is taken by mixed land uses (commercial and residential).

3.5 Urban land use planning and management

The administration of Adigrat town is committed to ensuring that development is controlled as much as possible. The study revealed that much work has been done by the administration to stream line the town's land sector and also ensure proper urban management.

At the town level, the study indicated that development control expert have been placed on the field to make sure there is sanity in the system. The planning department is affirmative that there has been major re-zoning in the residential areas under study in the town. Thus, in areas where the change has become rampant, residential land use has been rezoned for commercial use. In this regard, applicant who submit their development plan no longer go through re-zoning process, which is laid down procedure that developer need to follow if they want to effect a change in any land use.

3.6 Challenges of development control in the study area

Development control experts face a number of challenges which hinder the smooth running of their operation. The study showed that inadequate building inspector, logistic and political interferences are some of the challenges. Other challenges notes are financial constraints, lack of enforcement of development control law and inadequate public education about the activities of the unit.

Also the study reveals that some residents simply do not receive permit while others receive it but will not keep to the specification outline in the plan. It showed that only a few developer follow procedures for receiving permits but countless number of them do not aware of them. However, these challenges can be reduced if there is a well documented strategy plan or structure plan for the town together with prompt financial and legal backing framework.

3.7. Residential commercial and development

Access to residential land use in the study area is medium. The study shows that 76.7% of landlords have leased hold title to the land they acquire. It also revealed that 23.3% of land lords hold free title to their lands through inheritance from family member. Those who bought the land are entitled to 25-50 years of owner ship.

The study indicated that 79% of land lords receive permit before putting the building. The remaining 21% is made up of buildings whose real owner are no more a live and their care takers could not give exact account of their status.

3.8. Land use change

The changes occurring in land use in Adigrat town are becoming uncontrolled. The study showed that the major causes of this change are rapid urbanization of the town. This factor is having negative impact on the form and structure of the town of Adigrat. The interview with land lords revealed that a swift changes in the use of building. It showed that 79.7% of buildings were put up purposely for residential accommodation. This underscores the fact that urbanization is changing the pattern of urban land use of Adigrat.

The study also revealed that among those who changed the original use of their land space, 59% admitting seeking permission while 41% did not obtain permission before changing the use of the land. The study also showed that 55% of landlords who changed the original use of their land did so by permission with pay while 45% had permission without pay. Most business owner who changed the use of the space without permission said it is responsibility of landlords to obtain permission. However, some land lords and other users said they were not aware of the existence of such procedures while others stated they will obtain the permission later. A few land users were of the view that the fee for receiving permission is too high and that prevented them from obtaining permission. Also the economic activities in the study area in the past were not as high as it is today. More services and offices are being located in this area. In fact, these changes are however having negative impact on service delivery in these areas. It is noted that the major problem being posed by the changes include lack of parking. However, the best solution that can be prescribed for the short term is for town guards to help enforce parking regulation. In the long run, parking should be incorporate into the town spatial plan.

3.9. Implication of land use change for physical development

Due to rapid urbanization and the subsequent increasing prevalence commercial activities in the town, land use in piazza, meyda agam and around university residential area is changing to satisfy the needs of the urban society. Urban growth associated with increased commercial fortunes, also come with pressure available land resource. The study confirmed that land use pattern of the study area is changing drastically. The study revealed that only a few people applied for changing set of land occupy. As a result of the changing land use in the study area, land values are appreciating speedily. This means that some residents are being priced out of the land market.

Also the study revealed that vacant plot of land is decrease dramatically. This means that adjoining lands in terms of industrial and open space are being avoided as an intervention on for residential land use. Ultimately farm land and reserves are being gradually intruded upon. Land is not available for building

and selling in the future. However, development on old plots and reconstruction of compound houses to multi storey building is possible.

The change in land and building uses is also exerting pressure on facilities available in the area. The study revealed that about 97% of businesses have no parking space close by for customers to park their cars before transacting their business. As a result, the cars are parked along the main street there by obstructing vehicular and human traffic.

3.10. Implication of changing land use for land value

The management of land resource is essential for the development of every economy; urban land management is a key for a vibrant growth for the entire city. Changes occurring in land use in urban areas therefore cannot be over emphasized. Generally, land values in urban setting are high population. This is due to the influx of people in to this area. The high population number is associated with increased need for accommodation and jobs. This is therefore call for extra space for development of residences, commercial center, industrial sites and other public institutions.

Land in the centre of the town however attracts higher value than those at the other peripheries of urban areas. Consequently, up on the liberalization of the economy, retail trade took a different dimension and this called for extra land in the centre of the town for business activities. Residential land is therefore affected leading to limited spaces available for residential accommodation. The conversion of residential properties, in the study area in to commercial use certainly puts pressure on residential land. Subsequently, land value tends to be high and continue to rise due to the shortage that is created. As a result, rents are high in the study area compared to other residential areas in the town which are significantly affected by the land use change. Land owners however, enjoy these higher returns on land.

Conclusions

The study of urban land use change is much benefit to citizens as well as city authorities and policy makers it will provide us with insight into the significant factor determining land use change. It will also help identify problem in terms of decreasing residential land use and provide the plate form for better management of land resource in the peripheries of the town. The better management of land resource is essential for sustainability and for improving the quality of life people living in the town.

With major changes being residential land use giving way to commercial land use, access to residential land is drastically reduced and new development can only take the form of redevelopment of old structure. This has led to alteration of the land use plan of the city. Hence, effective land use planning should be based on promotion of policies. The government should support the Adigrat town administration by ensuring that bye laws passed are enforced. Also, bye-law should be passed by the Adigrat town administration to ensure that any new

development undertaken particularly in the centre of the town is rise building with one or two floors reserved for residential accommodation. Those who will default should therefore be punished severely.

Another key issue needed seriously attention, in the planning of our city, is public education. Awareness creation enlightens people of the importance of development control and decongestion exercise. This will reduce the wrong perception people have towards such exercise and help authorities their duties properly.

The town administration should endeavor to update its plans periodically. this will the planning department to notice changes in the land use change and how to incorporate them into the development agenda of the city. Planner must also ensure that all stakeholders are brought on board in the planning process to ensure compatibility of uses. Adopting these measures will restore meaningful sanity to our urban areas and promote orderly growth of our cities.

REFERENCE

Adarkwa, Kwafu K. and Johan, Post (2001). *The Fate of the Tree: Planning and Managing the Development of Kumasi*. Accra, Woeli Publishing Services.

Alonso, W. (1964). *Location and Land Use*. Cambridge, Harvard University Press.

Bracken, I. (1981). *Urban Planning Methods-Research and Policy Analysis*. Washington, University of St. Louis.

Chandra, Rajesh (1996). "Urbanization in Fiji, 1976–1986: A Preliminary Analysis". *Journal of Pacific Studies*, Vol. 19. Fiji, Institute of Pacific Studies.

Chauncy, D. Harris and Edward L. Ullman (1945). "The Nature of Cities" *The Annals of the American Academy of Political and Social Science*. Charlotte, University of North Carolina.

Central Statistics Agency Of Ethiopia (2007). "National Census", Addis Ababa, Government Of Ethiopia.

Hope Sr., K. Roland. and Lekorwe H. Mogopodi (1999). "Urbanization and the Environment in Southern Africa: Towards a Managed Framework for the Sustainability of Cities". *Journal of Environmental Planning and Management*.42(6). London, Routledge

Isard, W. (1956). *Location and Space Economy*. Cambridge, M.I.T. Press.

Lerise, Fred, John Lupala, Manoris Meshack and Robert Kiunsi (2004). *Managing*

Urbanization and Risk Accumulation Processes: Cases From Dares Salaam. Tanzania, University College of Lands and Architectural Studies.

Okoko, Eno (2000). *Quantitative Techniques in Urban Analysis*. Ibadan, Kraft Books Limited.

Olima, Washington H. A. (2003). "Urbanization and Housing Challenges". *Cities in*

Africa Conference. Reporter's report.

Patton, M. Q. (1987). *How to use Qualitative Methods in Evaluation*. London, Sage

Publications.

United Nations (1998). "World Population Estimates and Projections". New York,

United Nations Population Division.

United Nations (1993). "World Urbanization Prospects: The 1992 Revision". New

York, United Nations.

United Nations Centre for Human Settlement-Habitat (1999). "The Global Campaign for Good Urban Governance", Draft 3, 18 S.

United Nations Development Programme (2002). "World Urbanization Prospect:

The 2001 Revision Data, Tables and Highlights". ESA/P/WP. New York, UNDP. www.un.org/esa/population/publications/wup2001/wup2001dh.pdf .

United Nations-HABITAT (2006). "World Urbanization Prospects: The 2005 Revision". New York, Population Division, Department of Economic and Social Affairs, United Nations available at <http://www.unhabitat.org>.

World Bank (2000). "World Development Report 1999/2000. Entering the 21st Century". New York, World Bank.