



URBAN LAND-USE ANALYSIS : A CASE STUDY OF GADAG – BETAGERI URBAN REGION, KARNATAKA

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ABSTRACT:

Land use pattern of each city is unique. The cities contain residential, commercial and industrial areas in general. The arrangement of these land uses can be understood by comparing them with the theoretical land use models viz., Concentric zone theory of Burgess, Sector theory of Homer Hoyt, Multiple nuclei theory of Harris and Ullman.

Gadag-Betageri urban region is located at the intersection of 15°25' north latitude and 75°38' east longitudes at an altitude of 650 meters above MSL in the dry region of Deccan plateau. It is 480 Km away from the state capital Bangalore. The Gadag-Betageri urban region has been spread over an area of 3585.48 hectares. The objective of this paper is to analyse the land use categories of Gadag-Betageri urban unit. It is a twin city system with a population of 172813 (2011) & growth rate of 11.60 during 2001-2011.



KEYWORDS: *theory of Burgess, commercial and industrial areas.*

INTRODUCTION:

The term "Land use" is generally adapted to man's activities which are directly related to the land. Land use can be defined as activity or development which occupies land. It could also be called as "Human use of Land" or "Human activities on Land" which means that this idea deals as much with people as with Land.

Land use studies have been evolved gradually as piecemeal to the limited extent of meeting, transportation and others.

In India urban Land use study is of recent origin. Many cities and towns do not possess up to date urban land use maps. After the advent of the five year plan programmes in the country, the urban study is connected with urban and regional planning.

The land use units in any urban area develop in accordance with the need and requirements of the people living in a specific region. The following are the land use units found in Gadag-Betageri urban region.

STUDY AREA:

Gadag-Betageri twin cities system geographically situated at the intersection of 15°25' North Latitude and 75°38' East longitude and spread over an area of 23371.91 Hectares and includes 10 revenue villages. It is situated at an altitude of 650 meters above MSL in the dry region of Deccan Plateau. Gadag is a newly formed District Head Quarter and it is the second biggest urban center in the

undivided Dharwad district. Bangalore the state capital is at distance 480 kms. The temperature in Gadag-Betageri ranges between 15°C to 37°C. The lower temperatures being in December and the highest being in April. The mean maximum temperature is 31.34°C and the mean minimum is 19.88°C. The average annual rainfall is 668.64 mm.

The city has railways junction connecting Gadag to Hubli, Guntakal and Solapur. Gadag is well connected by roads also. The Karwar-Bellary National Highway No.42 passes through the city connects Gadag to Puna-Bangalore National Highway No.4 at Hubli at a distance of 55 kms. The state highway and district roads passing through the city connects the neighbouring taluks of Navalgund, Naragund, Mundaragi, Koppal, Ron and other important centres like Bijapur, Gulbarga, Raichur, Badami, Ihole and Pattadakallu, the famous tourist centres are located in the close vicinity of Gadag at a distance of about 80 kms. The nearest airport is at Hubli, Karwar port is located at 230 kms from Gadag. The total population as per the 2011 census is 172813 consisting 86165 males and 86648 females.

OBJECTIVES OF THE STUDY:

- 1) To analyze the urbanization process in Gadag-Betageri Urban Region.
- 2) To examine the morphological developments of the Gadag-Betageri Urban Region.

DATA BASE AND METHODOLOGY:

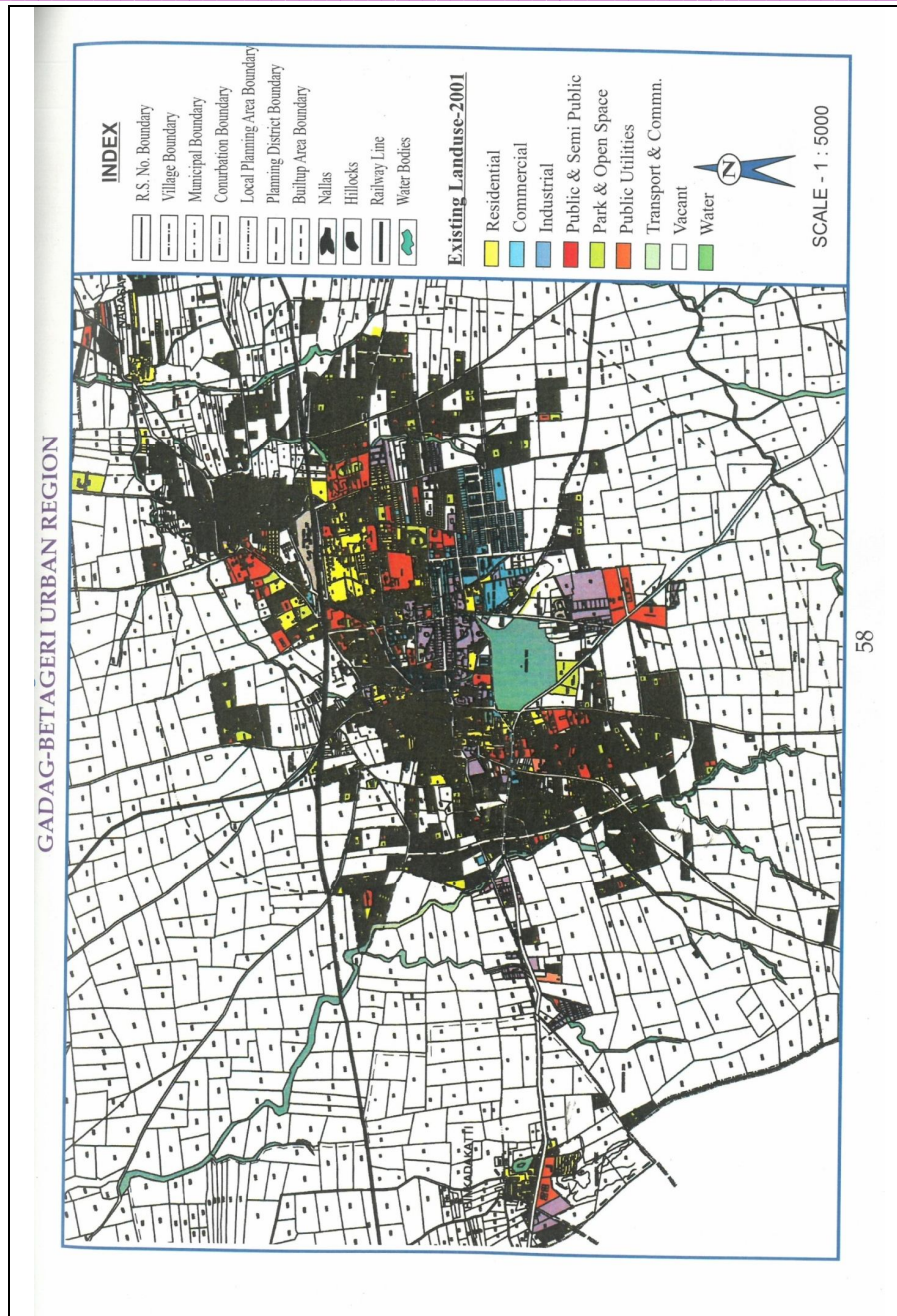
The present study is based on secondary sources of data. The secondary data was collected from the sources of Urban Development Authority Gadag, City Municipal Corporation Gadag-Betageri.

AREA UNDER RESIDENTIAL USE:

The earlier development of the city took place in Shapurpet, Jwali bazaar area, around Shri Veernarayan temple, Vikkalgeri and Betageri. These areas are thickly populated with densities of more than 330 persons p/h. The later developments have taken place in the eastern side of Pala-Badami road and southern side of Karwar, Bellary road.

In Betageri, the earlier developments are concentrated between Pala-Badami road and railway line. Residential units with handlooms are existing in this area and the gross density is 330 persons p/h. The later developments in Betageri are along northern side of Pala-Badami road where a planned residential area with broad road has been developed during the British period.

According to 1991 census the city had a housing stock of 23456 houses for a population of 134051. As per 2001 census there are 29412 houses for a population of 154849, which shows there is a rise of 5956 houses during the decade.



The major institutions providing residential accommodation under the housing programme in the city is given below.

Table-1: Major Institution for Residential Accommodation

Sl.No.	Name of organization/Institution	No. of quarters
1	Karnataka Housing Board	1010
2	Municipal Quarters	204
3	P.W.D. Quarters	27
4	K.P.T.C.L. Quarters	34
5	Karnataka Police Quarters	324
6	Medical and Health Department	02
7	Post and Telephone Department	66
8	South Central Railway Staff Quarters	534

Source: Urban Development Authority – 2004

It may be noticed that the Karnataka Housing Board has provided maximum residential quarters (1010) followed by South Central Railway Department (534), Karnataka Police Department (324) and Municipal Quarters (204); other institutions have provided less number of quarters.

COMMERCIAL AREA AND CBD:

About 5.14% of developed area comes under commercial use with an extent of 74.57 hectares. The central business district is located in old part of Gadag i.e. Pala-Badami road on east, Hubli-Guntur railway line on north, Karwar-Bellary state highway to south extends. Apart from this, there is no other organized market in the city except the road side shops along some important roads like market road, Tontadarya road, Someshwar road, Bank road, Pala-Badami road, Old saraf market road, Parswanath road, Basaveshwar road and K.C. Rani Road. In Betageri shopping is concentrated along Pala-Badami road, Rajendraprasad road nad Tenginkai Bazar road. The Municipality has built one cloth market to facilitate the wholesale and retail cloth trade in the city center. A vegetable market has built by the Municipality. The city has 25 banking institutions including the branches of National banks.

The Agricultural Produce Marketing Committee is functioning very well and it is located in the East of Pala-Badami road. The A.P.M.C. is serving to the entire region, mainly deals with Cotton, Oil seeds and Pulses.

Table: Land use Pattern of Gadag-Betageri Urban Unit – 2011

Sl.No.	Land use category	Area in hectares	%
1	Residential	496.27	34.22
2	Commercial	74.57	5.14
3	Industrial	65.14	4.49
4	Public and Semi Public	123.37	8.51
5	Parks, play grounds and other open spaces	78.85	5.44
6	Public utilities	6.70	0.46
7	Transport and Communication	305.50	21.07
8	Vacant	262.75	18.12
9	Water sheet	36.96	2.55

Source: Urban Development Authority Gadag – 2011

INDUSTRIAL AREA:

The Agricultural Produce Marketing Committee is functioning very well and it is located in the East of Pala-Badami road. The A.P.M.C. is serving to the entire region, mainly deals with Cotton, Oil seeds and Pulses.

The industries occupying an area of 65.14 hectares, account for 4.49% of the total built up area. This area includes all the medium and light industries and service industries. All the medium and light industries are industries. All the medium and light industries are mostly agro-based industries. In the

field of industrial activities Gadag has been known for its handloom industry. The city has a number of ginning factories. About 34 units are engaged in manufacture of cotton textiles. More than 40 units are engaged in manufacture of edible oil other allied products. In addition Gadag accounts for a large number of general engineering units and are mostly engaged in manufacture of agricultural implements, components of machines, steel furniture etc. Printing and processing unit's accounts for more than 60 where as the sawmills account for more than 20 units.

AREA UNDER PUBLIC AND SEMI PUBLIC USE:

The public and semi public use accounts for 8.51% of the total developed area, which consists of 123.37 hectare. This includes government, Quasi government (semi Govt.) institution, religious and cultural centers. After the district head quarters, the government officers are functioning in private rented buildings. The major shape of this public area is occupied under J.T. College, Tontadarya Engineering Institutions, Samiti School, Model high school, Ayurvedic College and Municipal high school.

AREA UNDER PARKS AND PLAYGROUNDS:

The area coming under park playgrounds is only 78.85 hectares accounting only 5.44% of the total developed area. K.C. Park, Veerananarayan van and new stadium are the major uses under this category, except J.T. College most of the Educational institutions do not have their developed playgrounds. So far no effort has been taken to develop the park area provided in the private layouts. Recently efforts has been made to involve the private associations in this field and nearly sixteen parks have been interested to them.

AREA UNDER TRANSPORTATION:

Transport and communication use comprising an area of 305.50 hectares, works out to 21.07% of the total developed area. Recently the NWKRTC is constructing a new Bus-stand by the side of Mundargi road in an area of 4.05 hectares. In the Gadag-Betageri there are two depots one at Gadag and another at Betageri. Daily 1.24 lakh people are floating in these twin cities.

AREA UNDER WATER BODIES:

Bheesham tank which is located in the central part of the city is a major water body, and areas under water sheet account for 36.96 hectares (2.55%).

AREA UNDER OPEN SPACE:

Another important aspect is that nearly 262.75 hectares of land is vacant within the developed area, which works out to 18.12% of the total developed area. This area is available for future development and can be best utilized for residential purpose.

CONCLUSION AND SUGGESTIONS:

From the land use analysis of Gadag-Betageri urban region it is found that the urban unit under study not fully and properly resembles to any theoretical land use models. There are no concentric zones of definite land use type in the study region. There are no clearly developed sectors of land use in the study region. It is found that the urban unit of Gadag-Betageri roughly represents the multiple nuclei model of Harriss and Ullman. The residential colonies have been developed in almost all parts of the twin cities adjacent to the commercial areas. The industrial area has been spread in entire central part of the twin cities, and also in peripheral areas particularly in southern and western parts of the twin cities. The industrial area is also found in the satellite towns such as Narasapur and Binkadakatti.

The slums developed in various parts of the twin cities have created obnoxious smell; hence slum clearance activities must be undertaken more rigorously. The roads in the CBD area are very much congested and it is different for the goods and people to move easily. This can be set right properly by widening the roads and by preventing the encroachments. Sufficient dustbins at appropriate locations

are to be placed to collect the solid and liquid waste generated in the twin cities. Dust allergy is a common disease in the city region. Dumping site developed along the Hombal road in the northern part of the city has created a nasty scene and must be shifted to another site away from the city region. There is ample scope for development of the twin city region in a circular form as sufficient vacant space is available all around the city region. This circular shape of the urban unit serves people in a better way. Sufficient greenery should be developed along the major road and parks and playgrounds.

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