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Changing scanario of landuse pattern and land value in Belagavi city-Karnataka state

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Abstract
The study of land use and land values of the in urban centers have gained importance as a themes for research in urban geography. The land use is result of various socio-economic activities performed in the urban centers, the cultural level of the people and the characteristics of the population in the surrounding regions. The land use in city is a dynamic phenomenon influenced by the location of the city, the nature of socio-economic activities, resources, transportation facilities, around the urban centers.

The present study is aims at to know the changing scenario of land use pattern and land value in Belagavi city. Belagavi city is fifth biggest and fastest growing city among the cities of Karnataka state and which is located in south western part of Belagavi district and extended between 15 - 15' north latitude to 74 -31' east longitude at an height of 710 mtrs above the mean sea level.

The required data for present study have been obtained by both primary and secondary sources. The collected data have been classified, processed and presented in the form of charts, maps and graphs by applying cartographic methods.

Keywords: Urban centers, urban land use, urban morphology, land value

Introduction

The study of land use described in terms of physical forms and arrangement of spaces and buildings that compose the urban landscape. The expansion of urban built up area up to the fringe and changing use of land are among the most dynamic spatial processes of urban growth. The land use patterns have been analyzed for proper understanding of their morphology and planning problems

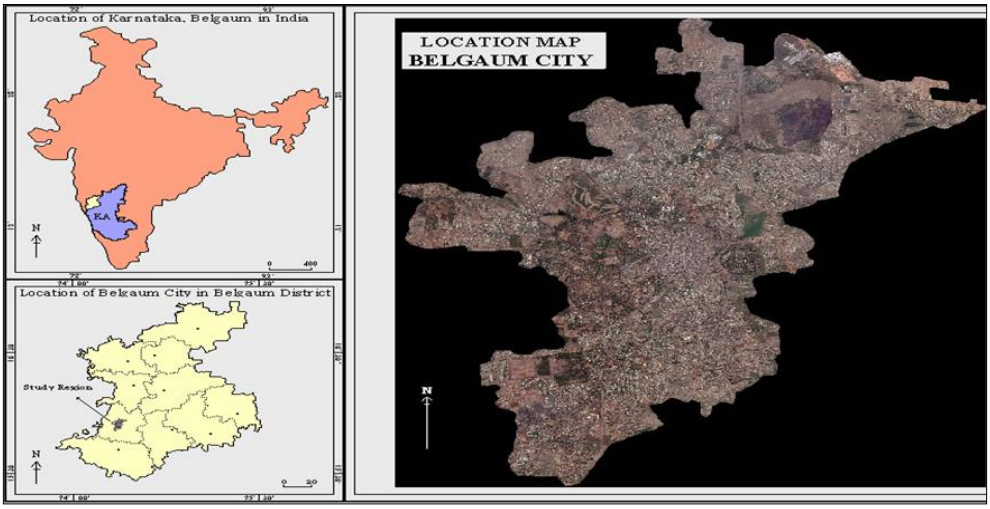
The urban land use is a term which denotes urban area, land use of cities, including the area under water bodies in the cities and three dimensional space about the surface of the city or land which can described urban. In essence the term urban residential communities or living areas and its institutional and leisure time function. The post urban studies have clearly revealed the broad geographical pattern of these functional areas and their characteristics. The urban areas develop or they change is an interesting topic of research from a variety of related fields, such as Agriculture, Land economics, Geography, Ecology, Sociology and others, have been studied scientifically scholars such as Burgers, Harris Ullaman, Fierry and others.

There is more migration of population to urban centers in search of secondary and tertiary occupations. This results in urban expansion and also has its bearing on urban land use. Land is in a continuous state of transformation as a result of various natural and man made processes. (Shahab Fazal)

The urban land use study, which gives basic information required for town planning, the knowledge of how a town or city uses its land is a starting point for planning the town or city. A detailed information regarding the use of which each category land is being put to use, character, condition, height, size of all buildings and structure of other spaces is a essential for the preparation of master plan.

Study area

Belagavi is referred to as "venugram" (Bamboo village) in the early inscription of 12th and 13th centuries. It is located in sourth western part of Belgaum district and extended between 15 - 15' north latitude to 74 -31' east longitude at a height of 710 mtrs above the mean sea level. The total geographical area of the city is about 94.08 sq. kms, It is fifth biggest city among the cities of Karnataka state in terms of area and population and also district and divisional headquarters of the state.



Objectives

The main objectives of the present study analysis are as follows

1. To analyze existing land use pattern of Belagavi city
2. To assess changing scenario of land use pattern from 1971 and 2021
3. To understand the interrelation of changing scenario of land use pattern on land value in the study area.

Data source and methodology

The present study is aims at to know the changing scenario land use pattern and its impact on land value of the study area. The required data for present study have been obtained by both primary and secondary sources. The primary data has been collected through field observation and survey and secondary source of data has been obtained from Belagavi Urban Development Authority (BUDA) and Belagavi Muncipal Corporation (BMC) offices. The collected data have been classified, processed and presented in the form of charts, maps and graphs by applying cartographic skills.

Table 1: Existing land use pattern -2021

Sl. No.	Land Use Type	Area in (Hectors)	Developed Area (%)	Total Area (%)
1	Residential	3513.30	45.15%	42.29%
2	Commercial	345.00	3.33%	3.12
3	Industrial	935.68	12.75%	11.93
4	Public & Semi Public	626.49	8.53%	7.99
5	Parks and Playground	361.37	4.92	4.60
6	Roads & Railways	1385.14	18.87	17.66
7	Water bodies /Nalas	163.60	2.22	2.08
8	Vacant Land	206.29	4.17	3.90
9	Total Developed Area	7336.87	100.00%	
	Agriculture	303.13		6.40
	Total	7840.00		100%

***Source*:** (Belgaum urban development authority)

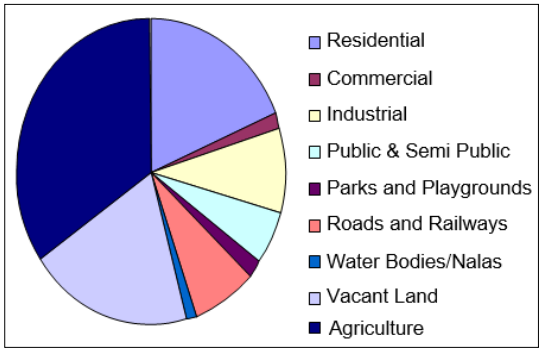


Fig 1: Existing Land use Pattern in Belagavi- 2021

Existing land use pattern of Belagavi City (2021)

The study of land use is very useful for the future land use planning of large cities and towns. And it is one of the important aspects in urban geography, the important land uses of the city are residential, industrial Commercial, Public and semipublic, Parks and play ground, Railways and Roads, water bodies, Vacant land and agriculture etc.

Residential uses

Residential land use is one of the important land use of any urban centre. The growth of town or city can be measured by growth of residential areas of the city. Residential areas can be defined as a set of areas mainly used for the purpose of permanent dwelling or construction of homes.

Belagavi city has 1764.20 hectors of land under the residential use. The percentage of residential use to the total land use is 18.75per cent and to the developed land use is 28.76per cent. The important residential areas of the city are M. Vadagoan, Anagol, Majagoan, Shahapur, Hindwadi, Bhgyanagar, Tilakwadi, R.C. Nagar, TV ceter, Jadhav Nagar, Hanuman Nagar, Sadashivnagar, Nehru Nagar and M.M. extension area and others are the important ones.

Commercial uses

Commercial land use plays a significant role in the urban function and morphology. The commercial activity in the city largely comprises of retail shops, hotels, restaurants, wholesaling, banks, cinema houses etc.

Belagavi has 144.60 hectares of land under commercial use, which accounts for about 2.35per cent to the developed land use and 1.53per cent to the total land use of the city.Most of the commercial activities are mainly concentrated in the central part (CBD) of the city.

Industrial uses

The land use for industrial purpose plays a vital role in the urban expansion and development and growth. Belagavi has 825.17 hectors of land under industrial use the percentage of industrial land to the developed land use is 13.45per cent and the total area is 8.77per cent. The important industrial estates are built-up in the different parts of the city they are Udyambag Industrial Estate (south) indal industrial area (north) and Kanbargi Industrial Estate (West). Few industries are also found in central part of the city near port and along the N.H.4

Public and Semi Public

Public and semi public land use includes all the educational institutions, police station, administrative offices, bus stands, railway station, hospitals, T.B's, place of worship and other public uses. Belagavi has 566.19 hectares of land under this use. The percentage of this land use to the developed land use is 9.23per cent and 60.1per cent to the total land use.

Parks and Playgrounds

Belagavi city has 162.56 hectors of land under parks and playgrounds. The percentage of land use to the developed land use was about 2.65per cent and the total land use it accounts for about 1.71per cent.

Roads and Railways

This is one of the essential and important land uses in the cities and towns. Belagavi city has 707.70 hectares of land under this use. The percentage of land use to the developed land use is 11.53per cent and to the total land use was about 7.52per cent. Belagavi Urban development authority (BUDA) and City Corporation development have planned systematically for sufficient widening of internal roads and main roads of the city.

Water bodies and Nalas

Bellary Nala and Lendi Nala are flowing across Belgaum city. They serve as drainage courses where salvage and other wastewater of the city are led. Other water bodies of the city are Kotokeri tank (Killa talav) and Jakkeri tank, Cantonment Tank and Angol Tank etc. Belgavi has 117.17 hectors of land under this. The percentage of water bodies and Nalas to the developed land use of Belgavi city, was about 163.60 hectors. Out of which 2.22per cent to the developed land use and 2.08per cent to the total land use of the city.

Vacant Land

Belagavi city has 1846.0 hectors of land under this category. The percentage of this land use to the total land use is 19.62per cent and to the developed land use was about 30.09per cent. The vacant land is decreasing because of the fact that this land is being converted into residential, individual and public and semipublic land uses. (Fig no 1)

Agriculture

Belagavi city has 3274.95 hectors of land under agricultural use. The percentage of this land use to the total land use was about 34.80per cent. It is clear from the study that the agricultural land use is decreasing during the study period, this is mainly because the agricultural land is being converted into residential and other uses for the growth and development of the city.

Changing scenario landuse pattern-1971-2021

The Table No 2 shows the changing scenario of land use pattern of Belgaum city during 1971and 2021. The changes are bounds to takes place in developed cities, it is because of the development of the city, resulting in demand of land for residential, commercial, industrial public and semipublic and other purposes.

Table 2: Changing scenario of land use in Belagavi city (1971-2021)

		1971			2021					
S. No.	**Land Use Type**	**(Area in Hect)**	**Developed Area (%)**	**Total Area (%)**	**Area (in Hector)**	**Developed area (%)**	**Total area (%)**	**Developed Area in % of change**	**Total Area % of charge**	**% of Change to the developed area**
1	Residential	593.50	15.27%	13.04%	1764.20	28.76%	18.75%	13.49	5.71	88.0%
2	Commercial	90.65	2.33%	2.03%	144.60	2.35%	1.53%	0.02	-0.5	6.2%
3	Industrial	76.13	1.95%	1.67%	825.17	13.45%	8.77	11.5	7.1	589%
4	Public and semipublic	343.88	8.85%	7.55%	566.19	9.23%	6.01	0.38	-1.54	4.2%

5	Parks and playground	24.02	0.61%	0.52%	162.56	2.65%	1.72	2.04	1.19	318.75%
6	Roads and Railways	259.94	6.69%	5.71%	707.70	11.53%	7.52	4.84	1.81	72%
7	Water bodies/Nalas	220.23	5.66%	4.84%	117.17	1.91%	1.24	-3.75	-3.6	-66%
8	Vacant land	2276.39	58.59%	50.02%	1846	30.19%	19.62	-28.2	-30.4	-48.47%
	Total Developed Area	3884.74	100.00%	-	6133.59	100%	-	-	-	57.88%
	Agriculture	665.40	-	14.62	3274.95	-	34.80%	-	20.18	392.17%
	Grand Total	4450.14	-	100.00%	9408.54	-	100%	-	-	111%

Source: (Belgaum Urban Develop Authority (buda), Computed by researcher).

1971: Total Developed Area of the city=38.84 Sqkms Total Net area =44.50 sqkms

2021: Total Developed Area of the city 61.33 sq.km Total Net Area of the city is 94.08 sq.Km

During the year 1971, the area under residential use was 593.15 hectors it increased to 1764.2 hectors in 2021. Whereas the area under commercial use was 90.65 hectors in 1971, it rose to 144.60 hectors in 2021. The area under industrial use was 76.13 hectors; it rose to 825.17 hectors during 2021. similarly public and semipublic, parks and playgrounds, roads and railways land uses also changed during study periods. But the land use of water bodies and vacant land decreased during study period 1971-2021.

Changing scenario of land value in Belagavi city-1971-2021

The land value is a very important as a economic factor and for planning the city. The increase or decrease of land value is related with the process of Urbanization. This process of Urbanization increased in the recent years due to many factors, like migration of rural population, industrialization and socio-economic condition and better for urban living (Naregal. S.S)

Table 3: Changing scenario of Land Values in Belgaum City-1971-2021 Land Values of Selected 10 Areas [Fig. In Rupees Per Guntas]

Station No	Name of the area	1971Rupees [per Guntas]	2001Rupees [per Guntas]	% Change
1	Kangrali	1650	15,66,805	94957%
2	Civil Hospital	3850	46,66,468	121206%
3	Shivaji Nagar	3156	35,99,663	114057%
4	Khade Bazar	17,550	204,19,758	116351%
5	Mahantesh Nagar	2855	3320166	116293%
6	Shahapur	2500	2573527	102941%
7	Vadagoan	1750	2046302	116931%
8	Angol	2100	1821067	86717%
9	Tilakwadi	4059	2811067	69255%
10	Cantonment	1895	35.99663	189955%

***Sources*:** Sub-Register (Land Records) Belgaum]

Table No 3 depicts the changing land values in Belgaum City during 1971-2021. The land values in Kangrali Area was 1650 rupees per sq gunta in 1971. It has increased to Rs. 15,66,805 per guntas in 2021. Whereas the land values in civil Hospital area was about Rs. 3850 per sq gunta in during 1971, which has increased to Rs. 46,66,468 per guntas in 2021. The highest land value in 1971 was observed at khadebazar or C.B.D Area i.e., Rs. 17550 per sq gunta, increased to Rs. 204,19,758 per Gunta in 2021.

During 1971 the land values in residential areas i.e., Mahantesh Nagar, shahapur, Vadagoan, Angol and Tilakwadi areas was about Rs. 2855, Rs 2500, Rs 1750, Rs. 2100 and 4059 per guntas respectively. Which has increased to Rs. 3320166, Rs. 2573527, Rs. 2046302 Rs. 1821067 and Rs. 2811067 per guntas respectively by 2021. The lowest land values observed at Vadagoan and cantonment area i.e., Rs. 1750 and Rs. 1895 per guntas respectively, during 1971 but today which have been increased to Rs. 2046302 and 35.99663 Rupees per guntas respectively by 2021.

Discussion

In the present study, it has been observed that the more land is utilized for residential, industrial, commercial, park and open spaces, government and semi-government, roads and railways, playgrounds etc. The study execute that, The land value of a study area is interrelated with the population size and land use functions. Land prices in residential areas to a certain extent influenced by proximity to shopping facilities and better street frontages, but the main considerations are usually better facilities like electricity, water supply and sewerage services. The land values in the fringe areas of the city are already going upward due to the speculative business in real estate. The government and housing agencies should take up steps to acquire lands well in advance and

develop new township in the surrounding part of the Belgaum city.

Summary and Conclusion

In the present study, we have made to know the changing scenario of land use and land value of the study area. The present study reveals that the percentage of change of urban land use pattern in the city. Total 8 functions have been taken into consideration for the present study analysis. Out of which 6 functions namely Residential, (+88.00%) commercial (6.2%) industrial (589.0%) Public and semipublic (4.20%) parks and playground (318.75%), Roads and Railways (72%) have positively changed in their structure during the study periods i.e. 1971 and 2021 and 2 functions mainy water bodies (-66%) and vacant land (-48.47%) have negatively changed during 1971-2021. This negative change is mainly because of the conversion of this area into residential, commercial and industrial purposes.

It has been also observed in the present study that, there was a grater variation in the growth of land values, during the study period i.e 1971-2021, mainly due to urban growth and development of socio economic activities in the city, which leads to greater demand for land in the city.

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