

Greenery In Urban Environments: A Study of Gulbarga(Kalaburagi) City(Karnataka), India

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Abstract - The maintenance of healthy nature is an integral part of urban planning. Well maintained greenery contributes immensely to various sectors and forms income generating program me, thereby enhances property value. Gulbarga is popularly known as a ‘Cement Kashi & Bowl Of Pulses’. The buildings in the city are architecturally beautiful and are endowed with well-maintained parks, open spaces One of the adverse effects of rapid and relative unplanned growth is heavy encroachment leading to the problem of shrinking green space and City Corporation resources are inadequate to fully meet the basic domestic needs of the city’s green spaces. Gulbarga has a total of 248 parks in addition to a large number of institutional open spaces and avenue plantations. The main objective of cultivation and management of trees is their contribution to the physical, social and economic well being of the urban community. The city has a only one Lake-Sharnabasaveshwar Lake, That Add To The Beauty And Environmental Value Of The City. This Lake Is Popular Picnic Spot and Is Frequentd By Nature Lovers. The Sewage Water Increases The Capacity Of Local Lake During Monsoon.

Keywords - Gulbarga city; urban; greening.. planning open space biodiversity etc.

I.INTRODUCTION

Developing and preserving parks and green areas are a part of ancient Indian culture. They continue to be life sustaining even today. Well maintained lush gardens, parks and trees constitute a necessary input for civilization. Natural and cultivated greenery preserves and improves the overall urban environment. In addition, it offers entertainment, exercise and playground for younger and relaxation for old aged peoples. Since greenery is such a visible part of the landscape, due care must be taken to ensure proper growth conditions. This paper highlights the vital role played by natural and manmade greenery like parks, residential gardens, institutional gardens, avenue plantations, green belts and of green areas. It aims to assess the present state of green spaces in the city of GULBARGA and evaluate its potential for sustainable development.

Urban forestry is a specialized type of forestry that has the objective of cultivation and management of trees for their actual and potential contribution to the physical, social and economic wellbeing of the urban community. It embraces a multi-dimensional system that includes maintenance of water sheds, water bodies, biological control of weeds and pests, human and animal habitats, outdoor recreation facilities, landscape design, recycling of municipal wastes, tree care in general and future production plantations in upgrading the usability of

wastewater cannot be minimized and has many biotechnological interfaces

II.PROFILETHE STUDY AREA

Gulbarga is an alarmingly developing city in Karnataka. It is the administrative headquarters of Hyderabad-Karnataka region. Gulbarga is situated between 76°.04' and 77°.42 east longitude, and 16°.12' and 17°.46' north latitude, covering an area of 64 square kilometers. The population of the city is 5.43lakhs. Gulbarga is well connected via road and rail to other major cities. The location map is shown in figure I.

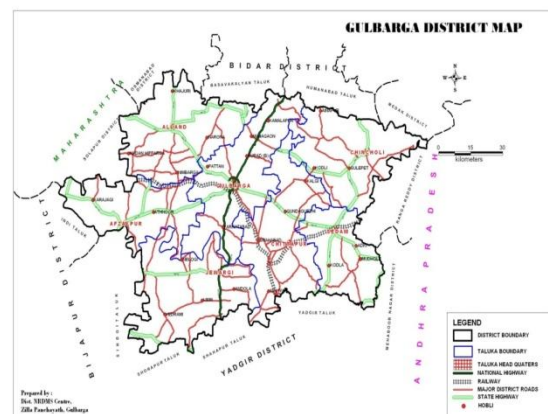


Fig. 1The location map of GULBARGA Dist.

1. Climate

The weather in Gulbarga constitutes of 3 main seasons: The summer (February to mid-June), followed by the south west monsoon (late June to late September). GULBARGA has a salubrious climate, it is always pleasant, and although some climatic changes have become evident as forest areas have shrunk. It is then followed by dry winter weather until mid-January. Temperatures during the different seasons are: Summer: 40 to 44 °C. Monsoon: 27 to 34 °C & Winter: 10 to 26°C. The humidity ranges between 60 %- 40%. The average annual rainfall is around 730 mm.

2. Topography

The entire city is situated in Deccan Plateau and the general elevation ranges from 300 to 750 meters above mean sea level. Black and red soil is predominant soil type in the district. Located on vast expanse of gently undulating plain, the terrain drains towards south and southeast towards Bhima River .The city is surrounded by small hillocks here and there towards the north and northwest side. The city is spread around the natural Lake (The SharanaBasveshwara Lake), which is the lowest point of the city and catchment for all run-off and storm. . GULBARGA also has a FORT- that is a unique landmark of the city and is a rich heritage site, tourist spot.

3. Economy

Agriculture is the main source of income here. Though the land here is dry and humid climate, much of the farming is dependent on rains. Gulbarga is one of the largest red grams producing areas in the State and has the largest dal mills. The main soil found in the district is black soil, which facilitates the cultivation of crops like jowar, groundnut, rice, sugarcane, sunflower, wheat, cotton, linseed and pulses. The Upper Krishna Project in the district is a major irrigational venture. The major industries in the region is cement, Gulbarga city accounts for 14% of the district's total population and about 50% of its urban population.

Table 1 Population Data of Gulbarga City.

S. No.	Year	Population	% of Population
1.	1961	97069	25.75
2.	1971	145588	49.98
3.	1981	221325	52.02
4.	1991	310920	40.48
5.	2001	430265	38.38
6.	2011	543000	36.84.

Source-census of India 2001

GULBARGA is situated in the south central part of the Indian Deccan Plateau. Gulbarga city has 55 wards connected by 821 Kms length of roads. Lung space also has been equally emphasized as playgrounds for children and sports grounds for youth and students. Increase in population and unbridled urbanization of

GULBARGA city has eaten away green spaces as the city continues to expand horizontally. In response, the GULBARGA Urban Development Authority (GUDA) has proposed new residential layouts on the periphery of the city.

4. Land use pattern

Gulbarga is a booming city. As elsewhere, fast growth is accompanied by decrease in the quality of life for many people. The city is getting over crowded and there is a growing tendency to violate prescribed norms in the land use change. The various land use planning is shown in Table 2.

Table 2 Land use in GULBARGA 1995 and proposed land use analysis for 2011.

S.N	Land Use	Existing Land use in 1997		Proposed land use in 2016	
		Area in Hectares	% of Developed Area	Area in Hectares	% of Developed Area
1.	Residential	1,203	47	4082	60
2.	Commercial	121	5	340	5
3.	Industrial	297	2	610	9
4.	Public and Semi Public	606	24	709	10
5.	Public Utilities	96	4	446	7
6.	Transportation & Comm.	194	7	6	8
7.	Water Sheet	37	1	38	1
8.	Developed area	2534	100	6842	100
9.	Parks & Open spaces	9	5.8	20	13
10.	Agricultural Purposes	3	1.9	1.2	0.7
Gross Total		5100	197.7	13,094	213.7

Source- Gulbarga Development Authority.

From table it is clearly inferred that as population increases the corresponding Greenery must increase, but year wise it has been decreased (in the 1997 the land use pattern is 3.8%, while in the year 2016 it has been decrease to 1.6%). Instead of increase there is a sharp decline towards forestry has been noticed. Hence there is ample scope for Greenery development.

New developments have been along the four directions of GULBARGA- A number of large residential colonies have come up in these areas. This expansion is expected to continue unabated and the total land areas of GULBARGA are expected to encompass to a higher rate. An analysis of the land use pattern of GULBARGA shows a tilt towards residential areas, which cover a greater portion of the city, and this is expected to increase in the next few years.

III. PRESENT SCENARIO OF GREEN AREAS IN GULBARGA

It is important to adopt a network approach to conservation of green areas so that contiguous stretches can be conserving and managing the nature as green areas and make GULBARGA a sustainable city rather than an urban jungle. One of the adverse effects of the rapid and relatively unplanned growth of the so-called 'Garden City' is the heavy encroachment on gardens, parks, playgrounds and other organized open spaces and Lakes. Parks and green areas face the threat of encroachments by way of accommodation for other types of land uses.

1. Parks

Gulbarga City Has A Total Of 248 Parks. The Gcc Has Various Problems Regarding Their Upkeep Including Labor And Water Shortage. Guda Is Yet To Hand Over Parks To The Gcc For Development And Maintenance. There Are Several Parks In The City Each In The Range Of 1 To 3 Hectares Of Area. Not Many Out Of The 248 Parks In The City Measure Less Than Half A Hectare. Park Area Is Illuminated By Series Of Lighting; The Park Has A Playing Area For Kids. The Gulbarga City Has A District Science Centre And Science Park, One Of The Most Rare Of Its Kind, Situated In The Heart Of City & Is Exactly Opposite To Sharnabasaveshwar Lake.

2. Avenue Plantations & Institutional Greenery

Avenue trees are found along major roadsides in the city. Apart from avenue trees, fruit yielding trees are **prominent** within residential slots. GULBARGA is known for many institutional and public/ civic buildings. These are important and major public institutions that provide large scale lung space with greenery in the city. Particular mention may be made of the University of GULBARGA woodlands Other major institutions like High court of Karnataka, Police training centre and Vishwariah Technological University's regional centre within the city provide open spaces with greenery.

3. Green Belt

A green belt of forests and other plant communities in and near cities for the primary purpose of providing open space, recreational opportunities and other

amenities including the prevention of environmental degradation. De-silting, fencing around its boundary, laying of the path for walkers, Boating in the Lake has started. The walking track around the Lake is very popular among the locals too with a view to provide better climatic conditions.

4. Lakes/Lakes And Their Surrounding Regions

In Gulbarga, Some Lakes Have Already Disappeared And On Them Now Stand Towering Symbols Of Urbanization, Irresponsibility And Lack Of Love Towards Natural Beauty. The Guda, After Preparing A Layout And Fencing Off A Park Area, Simply Hands It Over To The Gcc For Development And Maintenance.. But, Under The Present Circumstances, The Gcc Is Overburdened And Owing To Scarcity Of Funds, Is Unable To Undertake Development Works.

IV. PLANNING AND DEVELOPMENT OF GREENERY

Every aspect of planning and development should be infused with a concern for imaginative and effective thereon. GULBARGA is poised to launch its new Master Plan aimed at beautifying the city. Work has also started on drawing up an urban forestry strategy and an information pamphlet on this strategy. being circulated.

1. Suggestions and Conclusions

The following policy measures are suggested in the context of green areas in GULBARGA. To protect and preserve the beauty of the city, it is necessary to constitute an Urban civilian forum. Further, the flowering trees should be planted suitably along the roads in the city. In the future, greater effort will be needed towards greening GULBARGA and the urban fringe and a more careful consideration about the suitability of trees is required.

The Horticulture Department is the best agency to maintain public parks as it has the requisite knowledge, expertise and manpower.

Dredging and desilting of water bodies suitably in dry season and using this silt for upgrading agricultural land is a priority area of action. The use of recycled sewage water for irrigation of parks is important.

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