

Use of RS and GIS for Land Use/Land Cover of Historical Badami Town, Bagalkot District, India

Manju Kumar P, Veena S Soraganvi, Lingadevaru D C



Abstract: India is one of the biggest countries and is 7th largest nation in the world; also India is 2nd country in population next to China. The Towns are like trees, both of them grow under natural limits. One of the objectives of any master plan is to guide town development by studying the natural properties of the town border and to determine a suitable direction of town growth. It should include general information for understanding the effective factors on the town's form. This report is mainly concentrated towards the historic Badami town development to prepare an accurate land use/land cover map on 1:21,000 scale appropriate allocation of land resources of the Badami A need for GIS driven analysis of factors such as urban planning, which in turn create various types of geo-referenced data, GIS was carried out to create, store, edit, visualise, analysis, and to present the data needed for carrying out the allocation of land for meeting various needs of the smart city. After the implementation of the Smart concepts desirable results have obtained and these outputs have the potential to fulfil the need of all the inhabitants without causing any pollution. The outputs of this project would help in sustainable planning to existing town.

Keywords : LULC, GIS, RS, Sustainable Planning

I. INTRODUCTION

The detailed information about the global positioning system (GPS) such as space segment, receiver, source of error and its application. GPS is available within the cell phones; the mobile internet would give information very specific to user to be sent to his phone based on his location (Ajai). The importance of the planning of infrastructure such as site investigation, regional planning, utility planning, material inventory, environmental impact assessment, survey and monitoring, disaster management system, conjunctive use of space communication, commercialization efforts using remote sensing (Gopalan and Dubey). Open GIS and remote sensing pictures to road acquiring and bring up to date (Forghani and Gaughwin). The detail information about the supporting the master plan by analyzing its ancient and current historic urban development (Mahrous et al). The importance of the record and archive morphological features of artifacts from past culture. An ATOS II optical scanner used to scan archaeological monument (Saravanakumar and Sanjay). Nation Urban Information System (NUIS) provides the evolution aimed at thematic mapping (Nation Remote Sensing Agency). To give

detailed information about the zoning, housing, slums, parks and playgrounds, Industries, Replanning Existing Town, master plan, urban roads and traffic management in the Town Planning text book for engineering students (Rangwala and Dalal).

A OBJECTIVE

To prepare an accurate land use/land cover map on 1:21,000 scale.

B STUDY AREA

Badami town is a taluk Headquarter. It is situated in Bagalkot District. It is pinpointed at a latitude of 15° 53' 31.675" - 15° 56' 44.544" North and at a longitude of 75° 38' 59.974" - 75° 41' 55.469" East and is at an altitude of 570.01 mts from mean sea level. The drainage network is dense and oblong in shape. The major rivers flowing in the district are Krishna, Ghataprabha, Malaprabha and their tributaries and Malaprabha confluences river Krishna near Kudalasangama. Drainage plus Surface water body Map of Badami Town.

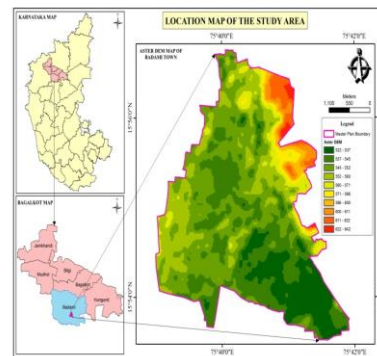
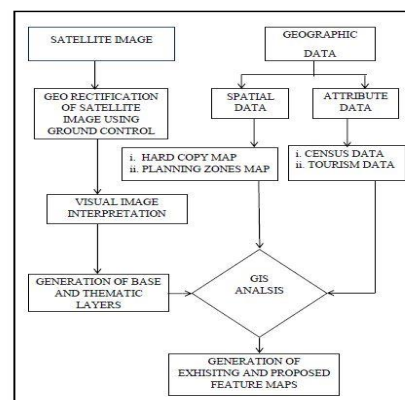


Figure 1: Location Map of the Study Area

II. PROCEDURE FOR PAPER SUBMISSION

A Methodology:



Flow chart1: Generation of Existing Feature Map of Badami Town

Satellite data (DigitalGlobe's QuickBird) has been downloaded from QuickBird software

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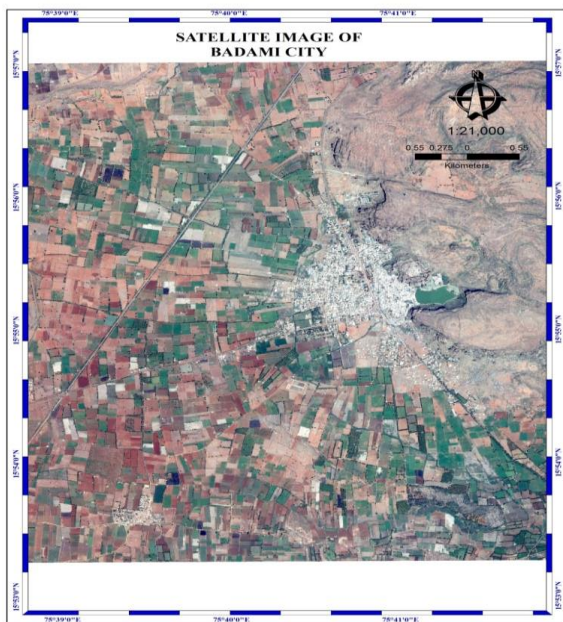


Figure 2: Aerial view of the Study Area

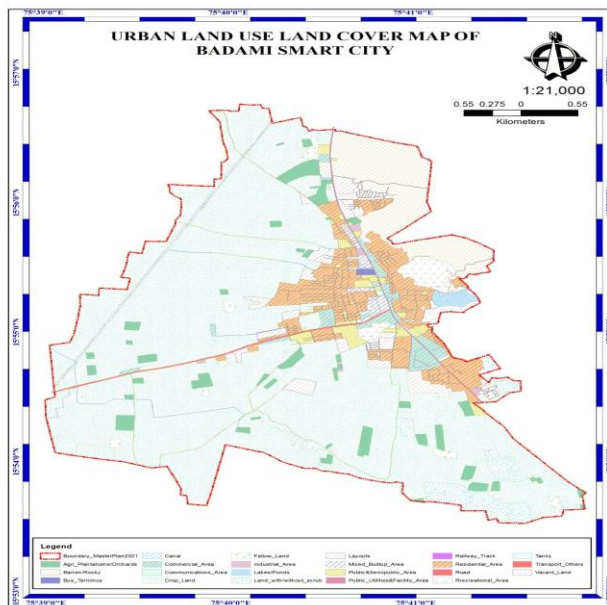


Figure 3: Existing Urban Landuse/Landcover Map of the Badami Town, Bagalkot District

III. RESULTS AND CONCLUSION

A RESULTS

Table 1: Existing Urban Land Use/Land Cover classification Analysis

SL.No.	UrbanLand Use/Land Cover	Area in Hectares	%
I	Built Up(Urban)		
1	Residential		
1.1	Medium density residential	139.42	7.90
1.2	Low density residential	37.09	2.10
2	Industrial	3.25	0.18
3	Mixed Built Up	11.50	0.65
4	Recreational	33.13	1.87
5	Public & Semi Public	25.97	1.47
6	Communications	0.50	0.02
7	Public utilities & Facility	0.01	0.001
8	Commercial	31.79	1.80
9	Transportation		
9.1	Bus Terminus	1.46	0.08
9.2	Roads	25.23	1.43
9.3	Railway Line	1.74	0.09
10	Vacant land	26.55	1.50
II	Built-up area (rural)		
11	Agricultural Plantation/Orchards	59.70	3.38
12	Crop Land	1133.87	64.32
13	Fallow Land	16.49	0.93
14	Land with/without scrub	77.81	4.41
15	Barren/Rocky	127.53	7.23
16	Water bodies		
16.1	Canal	1.71	0.09
16.2	Lakes/Ponds/Tanks	7.88	0.44
	Grand Total	1,762.64	100.00
	Boundary MasterPlan2021	1,762.64	100.00

Geospatial database of the present Badami Town, Bagalkot District existing urban urbanland use/land cover. The geospatial database is developed using ERDAS, ARCGIS (version 10.1). It provides shape files of thematic map of Badami town. The attribute data of the shape file of the urban land use/land cover. Prepared an accurate land use/land cover map on 1:21,000 scale This study mainly helps end user such as Archeological department, Tourism Department, Department of Town and Country Planning.

B CONCLUSION

The study has to be extended for entire towns in India must turn “green” for a better and healthy for entire Heritage Place in India as a “Smart Heritage Planning Town of India”.

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