

Land Use and Land Cover Change of Zone.No.2 in SolapurMunicipal Corporation

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Abstract

Urbanization has caused many impacts on natural resources associated with the reduction and conversion of green space. The land use/land cover pattern of a region is an outcome of natural and socio-economic factors and their utilization by man in time and space and has become a central component in current strategies for managing natural resources and monitoring environmental changes. A large number of cities around the World are undergoing rapid expansion and massive changes. Mapping urban land use/land cover and their changes regularly and accurately is thus important for urban planning and sustainable management of land resources. Maintaining up-to-date land use/land cover information is both costly and time-consuming using traditional field and air photo methods. During the past decades, a large number of researches were conducted on urban land use/land cover mapping and change detection using optical satellite data

Key Words: Urbanization, Land Use, Land Use Change, Land Transformation

Introduction

The urbanization takes place either in concentric pattern around a well-established city or linearly along the highways with expansion and land uses .So urban land cover / land use changes are necessarily for sustainable development of an area also these types of studies are very useful in urban planning study and urban expansion studies because urban land is becoming scarce resource due to massive agricultural and demographic pressure. Hence, information on land use/land cover and possibilities for their optimal use and transformation is essential for the selection, planning and implementation of land use schemes to meet the increasing demands for basic human needs and welfare. Various geographic and socio-economic factors largely determines that the land use pattern, distribution of land values, density of traffic, and the proportion of land used for different purposes in different parts of the city

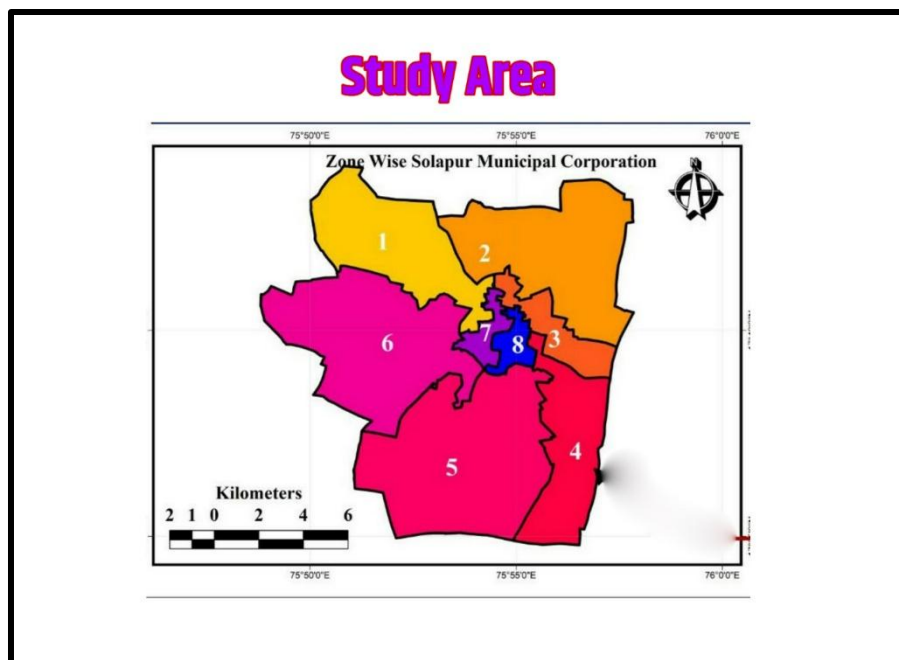
This chapter demonstrated a descriptive analysis of the zone wise urban land use change for the Solapur city. These changes have been studied during 1992 to 2014. The year 1992 has been consideration as the basic year for this study and the percentage and sq.km area of different category in land use change

Objective: Land Use and Land Cover Change of Zone.No.2 in SolapurMunicipal Corporation

Data Base and Methodology

Creating a collection of these dataset types is the first step in designing and building ageodatabase. Geodatabase storage includes the schema and rule base for each geographic dataset plus simple, tabular storage of the spatial and attribute data. All three primary datasets in thegeodatabase (feature classes, attribute tables, and raster datasets) as well as other geodatabaseelements are stored using tables. The spatial representations in geographic datasets are stored as either vector features or as raster_s. These geometries are stored and managed in attribute columns along with traditional tabular attribute fields. A feature class is stored as a table. Each row represents one feature. Feature classes are homogeneous collections of common features, each having the same spatial representation, such as points, lines, or polygons, and a common set of attribute columns, for example, a line feature class for representing road centerlines. The four most commonly used feature classes in the geodatabase are points, lines, polygons, and annotation (the geodatabase name for map text). The Geodatabase is created for storing, processing and retrieval of spatial data. The Feature Dataset is created with WGS 1984projection system which will applicable to all Feature Classes to be created in this Feature Dataset

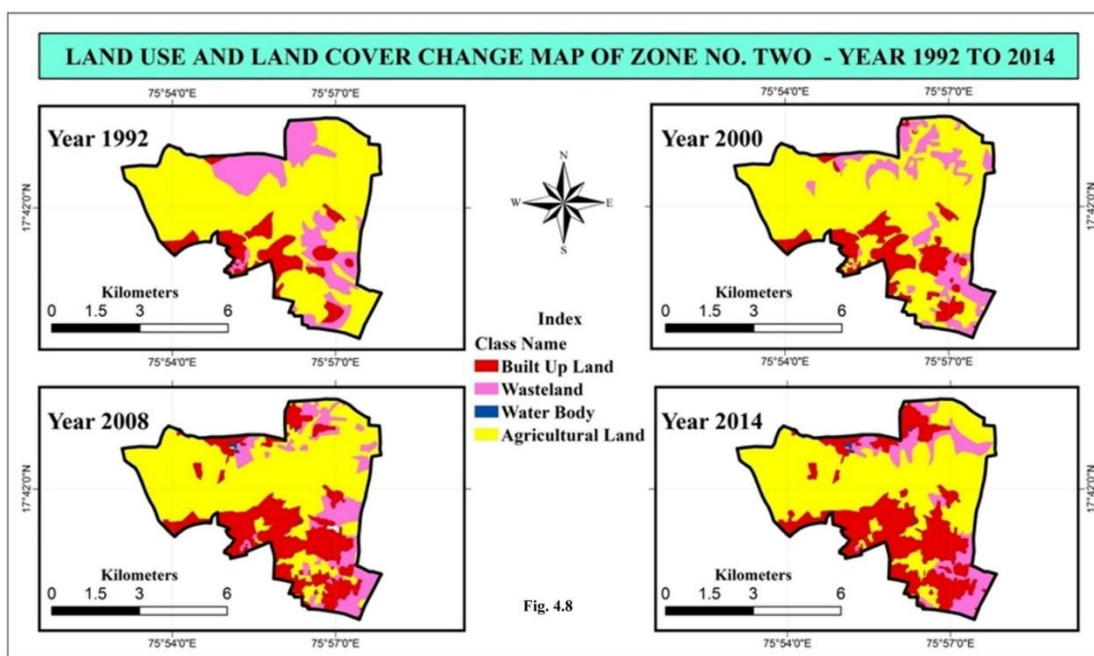
Study Area : TheZone no.2 of Solapur city is located in between 17⁰43' 30" north latitudes and 17⁰46' 15" north latitudes to 75⁰52' 10" east to 75⁰58' 20" east longitude.It has an average elevation of 458 MSL.Zone no .2 located on the north and north east of Solapurcity with covering 34.7sqkm of solapur. Total population of this area is 127921.



Land Use and Land Cover Change of Zone.No.2 -1992 to 2014

a) Agricultural Land:

Considering the agricultural area of zone no 2 , it is noticed that the area has declined by 8.32sq.km in 2014 comparison to the area in 1992 it was 24.61sq.km, whereas in 2014 it measured 16.29sq.km agricultural land mainly transformed in to built up land at the village



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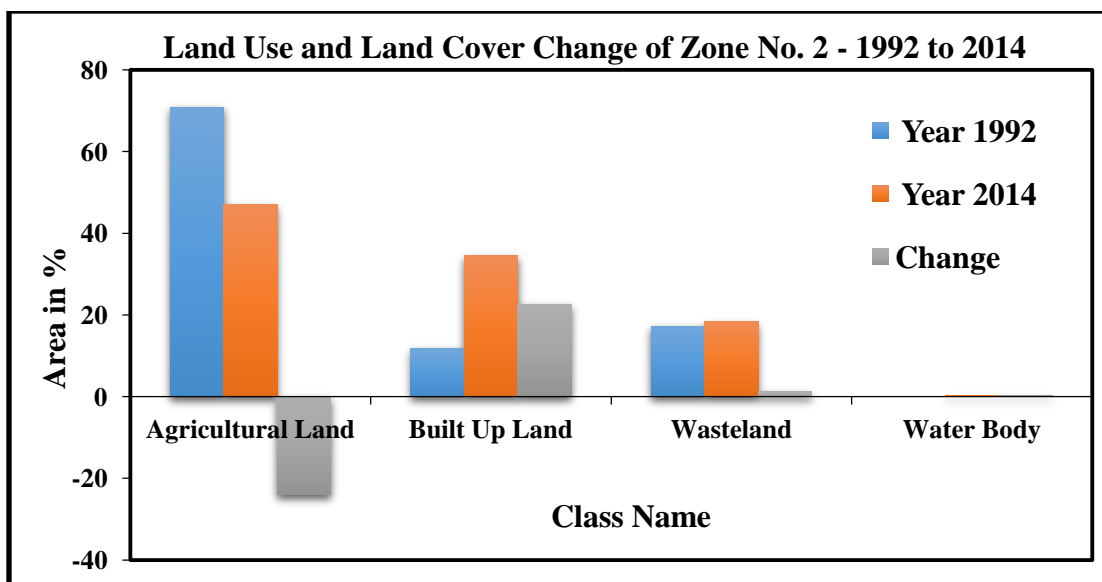
Hipparga at the northern side of zone. The major changes also occurred at the middle and south east portion of the zone and converted in to the built up land surrounding to the Shelagi and Dahitane

b) Built up Land:

There is tremendous change in built up land from 1992 to 2014, the built up area was 4.12 in 1992 and it reached up to 11.96 in 2014. From the central part of this zone built up area has expanded fig. 4.8 depict the same In 1992 the built up area observed in southern and middle east part of this zone it consist of old and very dense settlement include Hanuman Nagar, MaddiWasti, Dayanand college, State Bank Colony, Shelagi, Dahitane etc. During the study period of 22 year preexisting settlements were extended and numbers of residential colonies, apartment commercial complex come up in the peripheral of above mentioned area. These areas had been extended because of urban population growth some part of this zone has emerged new colonies and slum area capturing with the agricultural and waste land namely KarajkarNagar, Gumatewasti, Nandakishor Nagar in ward no .1 KamashiNagarDevaki Nagar, Dharmaraj Nagar, Chakote Nagar in ward no 3. At the middle part of this zone Bidigharkul C and D, Momin Nagar, Kekade Nagar, Gokul Nagar, Raghvendra Nagar, Rangraj Nagar, KotheNagaretc. Also newly developed settlement replaced with agricultural and waste land.

Sr. No.	Class Name	Year 1992		Year 2014		Change	
		Area in Sq.km	Area in %	Area in Sq.km	Area in %	Area in Sq.km	Area in %
1	Agricultural Land	24.61	70.92	16.29	46.95	-8.32	-23.98
2	Built Up Land	4.12	11.87	11.96	34.47	7.84	22.59
3	Wasteland	5.97	17.20	6.37	18.36	0.40	1.15
4	Water Body	0.00	0.00	0.08	0.23	0.08	0.23

Source –Computed by Researcher



c) Waste Land:

Table 4.8 and fig. 4.8 shows that the waste land measured was 5.97sq.km in 1992 and 6.37 in 2014. It has increased by 0.40sq.km i.e. 1.15% the depletion in waste land in 1992 and 2014 mainly observed in north part as seen in the map as extension of Shelagi Ganesh Nagar, Tuljapur Naka and MaddePatil Wasti etc. Some patches also renovate built up land as Trimurti Nagar, Samadhan Nagar and Vinayak Nagar at south eastern portion.

d) Water Body:

There were no any water body detect in the year 1992 but the fig. 4.8 reveal that the some patches of water body depict on the northern boundary of this zone adjoining the village Hipparga it was 0.08 in 2008 with capturing waste land.

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