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GEOGRAPHICAL ANALYSIS OF FOREST IN NASHIK DISTRICT, MAHARASHTRA

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Abstract:

A forest is a large area of land inhabited by dense growth of trees and other woody plants. At least 33 percent land of any region should be under forest to fulfill the forest related requirement of the people of the region and to environmental equilibrium of the region.

The main aim of the present paper is to investigate the spatial and temporal analysis of forest area in the Nashik District of Maharashtra. The secondary data is used for the present study. The Tehsil has been taken as a unit for analysis of forest area. Some of the simple mathematics and statistical tools like percentage, average etc have been used in the study. A Geographical Information System (GIS) technique is also used to prepare the maps for analysis. The study has observed that during the study periods the area under forest was 21.8 percent in 1960-61 and now it is decreased upto 16.87 percent in the year 2008-09. The land under forest in the district is decreased mainly because of industrializations, urbanization, construction of roads and dams, expansion of crop land, requirements of fuel wood and mining operations. It was a maximum decreased in Nashik tehsil by 17.79 percent due to industrialization, urbanization and population growth.

Overall the area under forest in the study area is not sufficient for ecological balance. It is only 16.87 percent which is less than expected (33 %) forest area. To control deforestation by the strict legal policies and public deficits also important. To promote and encourage to the people for afforestation policies and various schemes should be outlined in rural and urban area is urgent. Cultivable waste and wasteland can be brought under plantation with proper planning. Government must give top priority for forest conservation with help of peoples and local NGO will be useful in such programme.

Keywords: Forest, Social forestry, Deforestation, Awareness & plantation

1) Introduction:

A forest is a large area of land inhabited by dense growth of trees and other woody plants (V.Kamathar, 1999). Forest are important natural resource of India. They help control floods and thus they protect the soil against erosion. They supply timber, fuel wood, fodder and wide range of non-wood products. They are the natural habitat for biodiversity and repository of genetic wealth (Datt & Sundharam, 2013). Forest is important natural resources providing the basic requirement of human beings. But since the growing demand from various sectors like agriculture, shipping, railway, industry and mining has accelerated the process of deforestation (Ahirwa, 2011). At least 33 percent land of any region should be under forest to fulfill the forest related requirement of the people of the region and to environmental equilibrium of the region (Aithwale & Doringi, 2005). But in Nashik district the area under forest is very less than expected area. It was only 21.8 percent in 1960-61 and now it is decreased upto 16.87 percent in the year 2008-09. The land under forest in the district is decreased mainly because of industrializations, urbanization, construction of roads and dams, expansion of crop land, requirements of fuel wood and mining operations.

2) Objectives:

The main objectives of the present paper are as follows.

- i. To analyze the spatio-temporal changes of forest area in the study region during the year 1960-61 to 2008-09.
- ii. To know the factors responsible for deforestation in the study region.
- iii. To suggest measures for increase the area under forest in the study area.

2) Study Area:

Nashik District is situated partly in the Tapi basin and partly upper Godavari basin. It lies between $19^{\circ} 35'$ to $20^{\circ} 33'$ north latitude and $73^{\circ} 15'$ to $75^{\circ} 16'$ east Longitude (Nashik Gazetteer, 1963). Nashik is one of the major agriculturally and industrially developed district in the North Maharashtra. The secondary data is used for the present study. Nashik District has an area of 15,244 Sq.km. In 2011, Nashik District had population 6,109,052 as per the 2011 census. Location of the study area is shown in Fig. No.1. There are 15 taluka included in the Nashik District. The main system of hills is the Sahyadri, which run north-south in the western portion of the district.

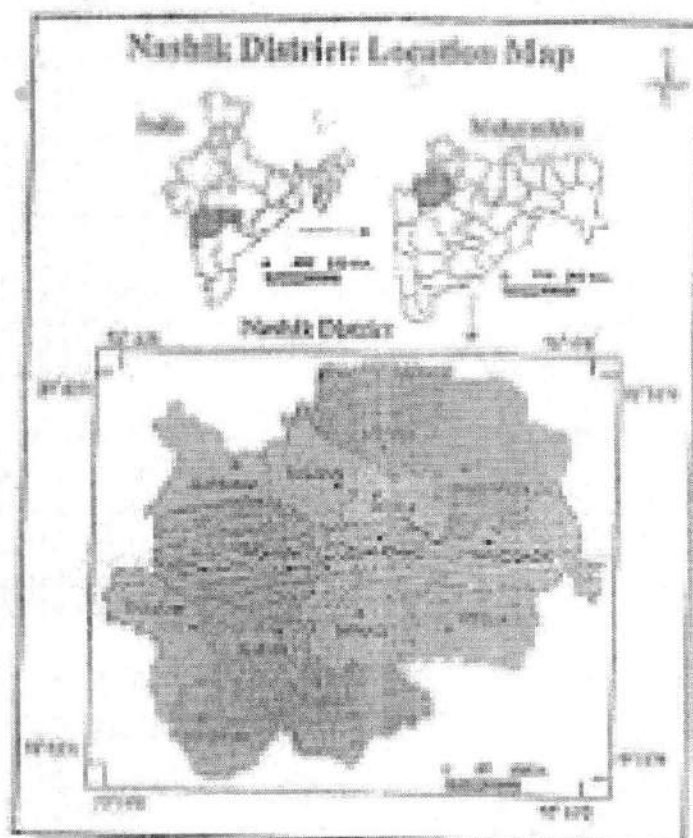


Fig. No.1.

North is Sahyadri range, which approximately forms and boundary between Nashik and Dhule district. Next is the Satmala range which runs right across district. Sahyadri range is located in the south part of the district. The district has two main rivers the Girna and the Godavari. The district is surrounded by Dindori district in the north, Jalgaon and Amravati districts in the east, Ahmednagar district in the south, and Thane district in the south-west and Gujarat state in the north-west. Rice, Sugarcane, Citrus, Grapes, Jowar, Bajra and Vegetables are the dominant crops of this region. The climate of the district is generally dry except during the monsoon season. The average annual rainfall of the district as a whole is 1064.5mm. The rainfall in general decreases from west to east. The summer season is

moderately hot and the temperature varies from 16° c to 43° c. The air is humid during the monsoon season and is generally dry during the rest of the year.

4) Data and Methodology:

Present study is based on the secondary source of data. Secondary data obtained from socio-economic abstract of the Nashik district (1965-66, 1983-84, 2004-05 and 2010-11), District census handbook & District Gazetteers. The Tabul has been taken as a tool for spatial-temporal analysis of forest area in the study region. Statistical tools like percentage, average etc. have been used in the study. Data is processed and represented with the line graph & point map by using ArcGIS software.

5) Results and Discussion:

Growth and concentration of Forest Area:

Area under forest is continuously decreased in the district from the year 1960-61. During 1960-61 it was 21.8 percent, which is decreased upto 16.87 percent in the year 2008-09. Table No.1 indicates that during the span of forty eight years, area under forest is decreased by 4.93 percent.

Table No.1: Area under forest in Nashik District, Maharashtra & India from 1960-61 to 2008-09

Sl.	Year	Nashik	Maharashtra	India
1	1960 -61	21.8	20.77	18.10
2	1970 -71	22.15	20.23	21.03
3	1980 -81	21.72	20.85	22.18
4	1990 -91	20.81	20.85	22.30
5	2000 -01	20.85	20.24	23.18
6	2008 -09	16.87	16.9	23.34

[Source: 1.Socio-Economic Abstract of Nashik District-1962, 1972, 1982, 1992, 2004 & 2011. 2.Socio-Economic Abstract of Maharashtra 2008-09. 3.India State Forest Report-2011, Government of India, (Delhi,)]

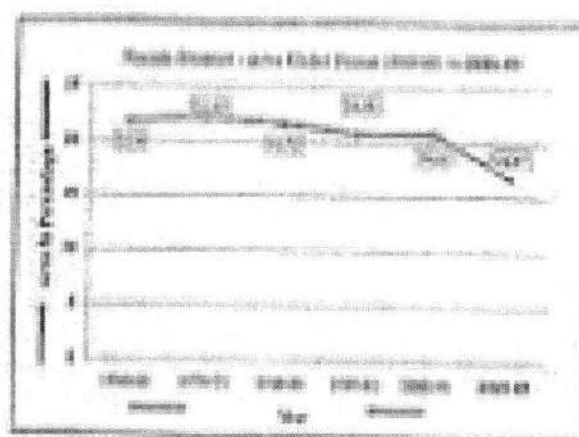


Fig.No.2

During the first twenty years the area under forest was not too much changed. It was very close to 21 percent. After that it was slowly started to decrease. In the year 1990-81 it was 21.72 percent which is

decreased upto 16.87 percent in the year 2006-09. It means during the span of forty eight year the area under forest was decreased by 4.93 percent in the study area. This is shown in the figure No.3. At national level the area under forest was slowly continues increasing. It was only 18.19 percent in 1960-61, which is increased upto 23.84 percent in the year 2006-09. At state level there is no significant changes in the area under forest. It is indicated in the Table No.1. The area under forest was increased by 0.64 percent. At National, State and District level the area under forest is not too much useful to maintain the ecological balance.

Spatio-Temporal variation in forest area in the study region:

Temporal variation indicates that during the forty eight years from 1960-61 to 2006-09, the area under forest is decreased continuously in the study region. It was only 21.5 percent in the year 1960-61 to district, which is decreased upto 16.87 percent in the year 2006-09. Except Dindori and Kalwan taluka in other taluka, the area under forest is decreased. It was decreased maximum in Nashik taluka by 12.79 percent due to industrialization.

**Table No.2: Nashik District:
Talukalwise Area under forest from 1960-61 to 2006-09**

Sr.	Name of Taluka	1960-61	1976-77	1980-81	1994-95	2000-01	2006-09	Variation from 1960-61 to 2006-09
1	Burgane	52.58	52.58	53.34	45.76	51.99	51.97	-1.01
2	Kalwan	32.89	32.92	32.89	32.29	34.6	32.38	+0.33
3	Derla	N.A.	N.A.	N.A.	N.A.	16.6	15.84	N.A.
4	Satna	28.76	29.76	28.83	23.33	28.25	28.28	-1.51
5	Mahagan	23.94	20.16	19.82	19.92	21.32	19.92	-0.62
6	Nandgaon	24.18	21.29	22.25	21.89	25.74	22.56	-1.62
7	Chandwad	10.13	10.16	10.02	10.02	9.82	9.31	-0.82
8	Dindori	16.33	16.32	16.4	16.4	16.76	16.45	+0.1
9	Peth	49.46	49.47	48.83	48.18	53.34	48.43	-3.05
10	Trotal	N.A.	N.A.	N.A.	N.A.	39.91	37.97	N.A.
11	Nashik	13.81	14.04	13.89	4.1	11.29	1.02	12.79
12	Igatpuri	21.35	21.33	21.25	19.29	2.46	21.64	+0.29
13	Sinor	10.52	10.53	10.52	14.1	14.04	13.23	-0.29
14	Niphad	1.05	1.08	1.43	7.13	1.04	1.01	-0.04
15	Yenla	16.19	16.19	12.64	9.81	8.83	9.97	-4.62
	Total	23.8	21.74	21.72	28.2	28.89	16.87	-4.93

Source: Nashik District Statistical Abstracts from 1962, 1972, 1982, 1992, 2004 & 011

N.B: Percentage is calculated from total taluk area.

Table No.3: Nashik District: Area under forest-1960-61 & 2003-09

Range (%)	Area under Forest	1960-61 (Taluka)	2003-09 (Taluka)
0 to 11	Very Low	Niphad, Chandwad, Sinner & Yeola.	Niphad, Nashik, Chandwad, Sinner & Yeola
11-22	Low	Malgaon, Nashik, Dindori & Igatpuri	Deola, Dindori, Malgaon & Igatpuri
22-33	Medium	Kalwan, Satana & Nandgaon	Kalwan, Satana & Nandgaon
33-44	High	Nil	Trimbak
More than 44	Very High	Surgana & Peth	Surgana & Peth

Source: Compiled by Researcher, 2014

N.B: Percentage is calculated from total taluk area

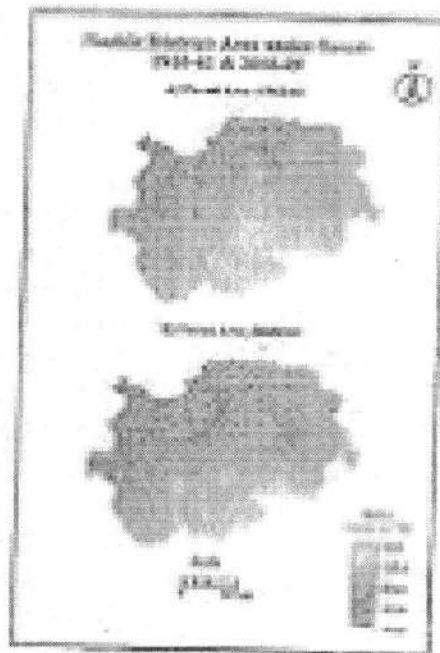


Fig No.3

Urbanization and population growth. In other taluk it is decreased by 0.20 percent to 4.62 percent during the span of forty eight years. It is shown in the Table No.2

Table No.2 indicates that in the year 1960-61 the area under forest was very low in Niphad taluk (1.60%), Chandwad (10.13%), Yeola (10.19%) & Sinner (10.52%). Whereas it was medium in the Satana

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conservation with help of people and local NGO will be useful in such programmes.

References:

1. Ahirrao and Alized (2001) "Environmental Science", Nirali Publication, Pune Pp 147-188.
2. Acharya and Bhatnagar (2005), "Environmental awareness", Success publication Pune Pp 3-16.
3. Datt & Sankharam (2017), "Indian Economy", B Chand & Company publication, New Delhi, Pp-95.
4. Gazetteer of the Bombay presidency (1883) Nashik District Volume No. 19, Pp. 5,7.
5. V.Kamantian (1995), "Plant Ecology & Phytogeography" Sarva publication Nagpur, Pp 233-261

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