



Declining Forest Cover in India: Scenario, Reasons & Remedies

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Introduction

A forest is a natural ecosystem having multi-species and multi-aged trees as dominant community. Man has continually and at an increasing rate been changing the forms and model of its interaction with the environment. Natural process and factors that depend on the structure and other characters of the earth and social process and factors that depend on structure and characteristics our society have been closely interwoven. Population of the earth is growing rapidly and by the year 2000 AD it might exceed the 6 billion mark on the other hand with the technological and scientific Revolution developmental activities have been accelerated to such an extent that in certain areas they have become a threat to the environment. The utilisation of natural resources is growing at the alarming rate causing great concern for their conservation. The degradation of environment due to the industrial and other waste discharged into the atmosphere and hydrosphere has also caused great concern and there is a big? What will happen next? All these environmental problems associated with the development have raised several questions regarding the type and nature of development and this has given rise to the concept of sustainable development.

Objectives

- 1) To observe and classify the forest in India.
- 2) To look into the state wise distribution of forest area and forest cover.
- 3) To find out the causes of declining forest cover in India,

Study area

The Union of India is the study area of this paper which is seventh largest country in the world covering an area 32287263 square kilometres and it is an important country in South Asia. The mainland stretches from latitude 8° 4' north to 37° 6' north trend from longitude 68° 7' East to 97° 25' east of Greenwich. The countries of has size and measure about 3214 kilometres from north to south and about 2933 kilometres from west to east. The tropic of Cancer passes through its middle part. India is situated on the northern fringe of the Indian Ocean.

Database and Methodology

The present study is mainly based on the secondary data collected from the India state forest report 2017 and 2019.

Result and discussion

The environmental degradation and associated problems like desertification, soil erosion, tropical forest depletion etc. in the third world are consequence of present development policies. Therefore, there is a need for positive mutual adjustment between development and natural environment. The problem of deforestation has been raised mainly due to destruction of forests for various developmental or commercial activities. The growth of population rapid expansion of cities and other settlements land for new agricultural farms mining construction of roads dams etc. have resulted in mass cutting of natural vegetation. Forest has been playing a vital role in the socio-economic development of our country. They have been an important source of subsistence employment revenue earning raw material to various industries. Their role is ecological balance environmental stability biodiversity conservation food security and sustainable development.

Forest in India can be broadly classified in different ways. The forest types depend upon the overtake factors such as climate and soil characteristics of a region. They can also be classified according to the nature of their trees spaces evergreen deciduous thorn trees mangrove etc. It can be also classified according to the most abundant species of trees such as saal or tick or Teak forest.

1) Coniferous forest - Coniferous forest grow in the Himalayan mountain region where the temperature are low. This forest has tall stately trees with needle like leaves and downward-sloping branches so that the snow can sleep of the branches.

2) Broadleaves forest - This forest are a several types such as evergreen forest and deciduous forest, thorn forest and mangrove forest. Broad-leaved trees usually have large leaves of various shapes and are found in the middle to lower latitude.

3) Evergreen forest - This forest grow in the high rainfall area of the Western ghats, North East India and the Andaman and Nicobar Islands. This forest grows in areas where the monsoon period lasts for several months.

State wise forest cover in India (2017 & 2019)

Sr No.	State / UT	Geographical Area	Forest Cover (Sq. km) 2017		Forest Cover (Sq. km) 2019		Change of forest +/- (Sq. km)
			Forest Area	% to G.A.	Forest Area	% to G.A.	
1	Andhra Pradesh	162968	28147	17.27	29137	17.87	990
2	Arunachal Pradesh	83743	66964	79.96	66688	79.63	-276
3	Aasam	78438	28105	35.83	28327	36.11	222
4	Bihar	94163	7299	7.75	7306	7.75	7
5	Chhattisgarh	135192	55547	41.08	55611	41.13	64
6	Delhi	1483	192.41	12.97	195.44	13.17	3.03
7	Goa	3702	2229	60.21	2237	60.42	8
8	Gujarat	196244	14757	7.51	14857	7.57	100
9	Haryana	44212	1588	3.59	1602	3.62	14
10	HimachalPradesh	55673	15100	27.12	15434	27.72	334



Sr No.	State / UT	Geographical Area	Forest Cover (Sq. km) 2017		Forest Cover (Sq. km) 2019		Change of forest +/- (Sq. km)
			Forest Area	% to G.A.	Forest Area	% to G.A.	
11	Jammu and Kashmir	222236	23241	10.45	23612	10.62	371
12	Jharkhand	79716	23553	29.54	23611	29.61	58
13	Karnatak	191791	37550	19.57	38575	20.11	1025
14	Kerala	38852	20321	52.30	24144	62.14	823
15	Madhya Pradesh	308252	77414	25.11	77482	25.13	68
16	Maharashtra	307713	50682	16.47	50778	16.50	96
17	Manipur	22327	17346	77.69	16847	75.45	-449
18	Meghalay	22429	17146	76.44	17119	76.32	-27
19	Mizoram	21081	18186	86.26	18006	85.41	-180
20	Nagaland	16579	12489	75.33	12486	75.31	-3
21	Odisha	155707	51345	32.97	51619	33.15	274
22	Punjab	50362	1837	3.64	1849	3.67	12
23	Rajasthan	342239	16572	4.84	16630	4.85	58
24	Sikkim	7096	3344	47.12	3342	47.09	-2
25	Tamilnadu	130060	26281	20.20	26364	20.27	83
26	Telangana	112077	20419	18.21	20582	18.36	163
27	Tripura	10486	7726	73.67	7726	73.67	0
28	Uttarpradesh	240928	14679	6.09	14806	6.14	127
29	Uttarakhand	53483	24295	45.42	24303	45.44	8
30	West Bengal	88752	16847	18.98	16902	19.04	55
31	A & N Island	8249	6742	81.73	6743	81.74	1
32	Chandigarh	114	21.56	18.91	22.03	19.32	0.47
33	Dadara & Naveli	491	207	42.15	207	42.15	0
34	Daman & Diu	111	20.49	18.45	20.49	18.45	0
35	Lakshdweep	30	27.10	90.33	27.10	90.33	0
36	Puducherry	490	53.67	10.95	52.41	10.69	-1.26
	Total	3287459	301797	9.18	712249	21.66	3976

4) **Deciduous forests** - These types of forest found in region with moderate amount of seasonal rainfall that last for only a few months. Most of the forest in which trees grow are of this type. The deciduous trees shed their leaves during the winter and hot summer months.

5) **Thorn forest** - Thorn forests are found in the semi-arid region of India. The trees which are sparsely distributed are surrounded by open grassy areas.

6) **Mangrove's forest** - Mangrove forest grow along the coast especially in the river deltas. These plants are an equally adapted to be able to grow in a mix of saline and freshwater.

They grow luxuriantly in muddy areas covered with salt that the rivers have brought down. The mangrove trees have breathing roots that emerge from the mud banks.

Forest Cover % in India

% of Forest cover to GA	2017 (Forest Cover % in India)	2019 (Forest Cover % in India)
	State / UTs	State / UTs
Forest cover below 33%	Andhra Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamilnadu, Telangana, Uttar Pradesh, West Bengal, Chandigarh, Daman and Diu, Puducherry.	Andhra Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamilnadu, Telangana, Uttar Pradesh, West Bengal, Chandigarh, Daman and Diu, Puducherry.
Forest cover 33% to 70%	Assam, Chhattisgarh, Goa, Kerala, Sikkim, Uttarakhand, Dadra and Nagar haveli.	Assam, Chhattisgarh, Goa, Kerala, Odisha Sikkim, Uttarakhand, Dadra and Nagar haveli.
Forest cover above 70%	Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura Andaman and Nico bar Island, Lakshadweep.	Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura Andaman and Nico bar Island, Lakshadweep.

In India there were 21 states / Union territory recorded below 33% forest cover to their geographical area in 2017. There was no change (below 33%) in forest cover area except Odisha in 2019. Because Odisha jump above 33% forest cover area to its geographical area. Punjab and Haryana recorded below 4% forest cover to their geographical area.

There were 7 States / Union territory recorded 33% to 70% forest cover in 2017 and 8 states in 2019 to their geographical area. There where it states union territories recorded more than 70% forest cover to their geographical area in India. Lakshadweep recorded highest forest cover area to their geographical area while Mizoram recorded 86.26 present forest cover area. It means 58% of States recorded below 33% forest cover their geographical area which is not environmentally ideal. Lakshadweep, Andaman and Nicobar Island, Mizoram Arunachal Pradesh, Meghalaya are the top five states in India which were covered largest area by forest. On the other hand Punjab, Haryana, Gujarat, Rajasthan, Bihar these 5 states recorded lowest forest cover area to their geographical area in the country. Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tamilnadu and Puducherry recorded negative growth of forest cover to their geographical area as compared to 2017 in 2019.



Causes for declining forest cover in India -

1. The forest cover has decreased due to harvesting of short rotation crops followed by new plantation and forest clearance in the encroached areas.
2. In the northeast the declining in forest cover has been attributed to shortening of shifting cultivation cycle and biotic pressure.
3. Due to other development projects or encroachment.
4. Threat of organised would smugglers and Mafia.
5. Agricultural land development by large and small scale producer is believed to be the main driver behind the declining of forest.
6. Rapid population growth has resulted to the conservation of forest areas to non-forest land for settlement and farming urbanization and residential area expansion.
7. Unequal distribution of resources has led people to find their way to exploit the forests.
8. Countries rich in mineral resources open their doors to multinational mining corporation that clear the forest.
9. Development projects like dam roads and airports.
10. There are uncontrolled causes to deforestation set a forest fire.
11. Overuse and irrational use of technological and industrial growth population growth and increasing consumption levels are major factor causing declining of forest resources.
12. Use of forest land for rehabilitation agriculture transport and tourism.
13. The forest wood is used up for construction furniture deriving energy and does the increasing demand for timber energy paper and Paper products as led to massive destruction the forest.

Strategies to reduce deforestation-

- 1) Reduce population growth and increase Pak per capita income.
- 2) Reducing emissions from deforestation and forest degradation.
- 3) Increases the area under forest and standard of Management to protected areas.
- 4) Increase the area of forest permanently reserved for timber production.
- 5) Increase the perceived and actual value of forests.
- 6) Promote sustainable management regarding forest.
- 7) Encouraging substitute to wood.
- 8) Increase area of forest plantation.
- 9) Strength government and non-government institutions and implementation of policies regarding forest.
- 10) Increase investment in research education and extension regarding forest.

Conclusion

Forest plays a vital role in balancing the environment such as increasing the rainfall decrease in temperature etc. in the India. Declining of forest is taking place rapidly because of overpopulation lack of alternative fuel instead of food in organic about forestation among the people etc in India. Jungle cutting by men for different purpose we must adapt strict and clear decision for preserving the forest otherwise India may be convert into desert in future.



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