

**TO ASSESS THE RESOURCES UTILIZATION PATTERN OF THE LOCAL PEOPLE AND  
ANALYZE THE EXTENT OF ECOLOGICAL DISTURBANCE AROUND THE GREAT  
INDIAN BUSTARD SANCTUARY**

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**Abstract**

*People depend on biodiversity in their daily lives, in ways that are not always apparent or appreciated. Human health ultimately depends upon ecosystem products and services (such as availability of fresh water, food and fuel sources) which are requisite for good human health and productive livelihoods. Biodiversity loss can have significant direct human health impacts if ecosystem services are no longer adequate to meet social needs. Indirectly, changes in ecosystem services affect livelihoods, income, local migration and on occasion, may even cause political conflict. There is growing concern about the health consequences of biodiversity loss and change. Biodiversity changes affect ecosystem functioning and significant disruptions of ecosystems can result in life sustaining ecosystem goods and services. Great Indian Bustard Sanctuary is a wildlife sanctuary for the great Indian bustard (*Ardeotis nigriceps*) at Solapur, Maharashtra, India. The land is drought-prone and semi-arid. Maharashtra is one of the six states of India where great Indian bustards are still seen. The great Indian bustard at Nannaj was first identified By Mr B.S.Kulkarni in 1972 and with his constant efforts to save the bird had resulted in Dr. Salim Ali visiting Nannaj and starting a research project.*

**Keywords:** *ecological disturbance, resources utilization pattern, Sanctuary.*

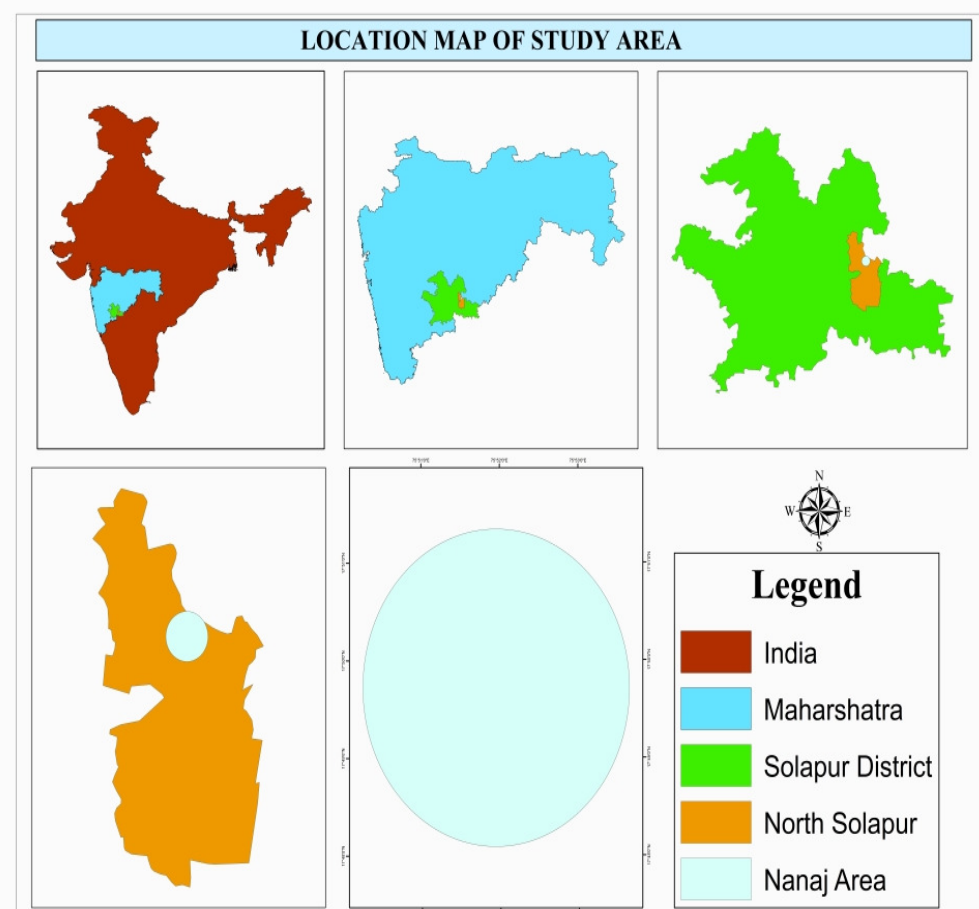
**1. Introduction**

Due to the rapid concretisation of the lands and urbanisation, the shelter places of the animals, birds etc. are getting diminished and these creatures are finding it very difficult to survive and some species are becoming extinct. Looking at this grave situation, the local Governments have swung into action and taken steps to declare some of the Wildlife and Bird Sanctuaries all over the country to preserve the rare species of Animals and Birds.

The Great Indian Bustard (Maldhok) is one of such rarest birds of Indian Sub continent. The Bird is found only in some parts of Gujarat, Maharashtra, Rajasthan, Karnataka, Andhra Pradesh, and Madhya Pradesh States. The respective State Governments have declared the sanctuaries for the Great Indian Bustard. The Government of Maharashtra declared Great Indian Bustard Sanctuary in 1979 with the sole objective of conserving the rarest species of Great Indian Bustard which are endangered with extinction. The sanctuary consists of the area of North Solapur, Madha, Mohol and Karmala Talukas of Solapur District covering a total area of 8496.44 sq.kms. This bird has been included in the Schedule-1 of Wildlife Act 1972 and accordingly due protection has been given to this bird. The headquarters of the sanctuary are Nannaj of Solapur District

### Study Area

- Location - North Solapur area of Solapur District
- Name of the Sanctuary - The Great Indian Bustard (Maldhok) Sanctuary.
- Year of establishment- 1979
- Coordinates - 18°21'00"N 75°11'38"E
- Size - 849,644 hectares (3,280.49 sq mi)
- Climate - Dry, mild winter. Hot summer (40 °C to 43°C )
- Temperature - 13 °C to 42 °C
- Figure of bustards according to census 2009 - Total 21 ( 13 females and 8 males)
- Major Floral Species - Neem, Sissoo, Babul, Bor, Tarwad, Henkal, Dongri, Kusali etc.
- Major Faunal Species - The Great Indian Bustard, Blackbuck, Wolf, Indian Fox, etc.



### **2. Methodology**

The present study will conduct by collecting data (Primary rural appraisal technique) on socioeconomic variables, reliance on forest for fuel wood and attitude towards alternative fuel resources. Qualitative and quantitative data will be used for determine socioeconomic variables as primary data collection. Secondary data will be collected from census information for total population and recorded data from forest office, village panchayat and revenue department. The data gathered was analysed using descriptive tool and graphical representation of the data in order to elucidate various patterns. Relationship between various aspects of the dependence on the forest such as variability of various alternatives to forest recourses, attitude towards accepting alternative resources, landholding and income source will be exploring.

## 3. Result and discussion

Sr. No	Name of family	A6	electricity	A11	B1	C2	C3	D1	D2	D3	D4	E4	
		R/P	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No/DK	Yes/No/DK	Yes/No/DK	a/b/c/d/ cooking gas	a/b	Male/ Female
1	Sitaram Rajaram Witkar	R	Y	N	N	N	N	Y	Y	Y	d	a	M
2	Rekha Subhash Waghmare	I	Y	N	N	N	N	Dk	Dk	Dk	d	b	F
3	Lakshman Chandrakant Mane	R	Y	N	Y	N	N	Dk	Dk	Dk	a	b	M
4	Siddeshwar Uttam Parwe	I	Y	N	N	N	Y	Y	Y	N	a	d	M
5	Vaijantha Khaniph Khalekar	R	Y	Y	N	N	N	Y	Y	Dk	d	b	M
6	Prabhakar Shankar Gavali	R	Y	N	N	N	Y	N	N	N	d	b	M
7	Sushila Vasant Gavali	R	Y	N	N	N	Y	Y	Y	Y	Cooking gas	a	F
8	Padhmini Sakaram Gavali	R	Y	N	N	Y	Y	Y	Y	Y	Cooking gas	a	F
9	Dattu Shankar Gavali	R	Y	Y	N	N	Y	N	N	N	c	d	M
10	Dagdu Maruthi Gavali	R	Y	Y	N	N	Y	Y	N	N	a	a	M
11	Damoder Shankar Gavali	R	Y	Y	N	N	Y	Dk	Dk	N	Cooking gas	a	M
12	Sudhakar Prabhakar Gavali	R	N	Y	N	N	Y	N	N	N	Cooking gas	b	M
13	Shrimanth Datta Gavali	R	Y	Y	N	N	Y	Y	Y	N	a	a	M
14	Laxmi Vithoba Masal	R	Y	N	N	N	N	Y	Y	DK	Cooking gsa	b	F
15	Nanda Shamrao Gorigosavi	R	Y	N	Y	N	N	Y	Y	Y	Cooking gas	a	M
16	Hari Appa Kuli	R	N	Y	Y	Y	N	DK	DK	DK	c	b	M

17	Prabhakar Savdhakar Jamle	R	Y	Y	N	N	Y	DK	DK	DK	c	a	M
18	Hari Balu Shinde	R	Y	N	N	N	N	DK	DK	DK	Cooking gas	a	M
19	Subhash Darman Deshmane	R	Y	N	N	N	Y	Y	Y	Y	Cooking gas	d	M
20	Vaijinathk Krishnath Mule	R	Y	N	N	N	Y	Y	Y	DK	Cooking gas	a	M
21	Shivaji Shinde	R	Y	N	N	N	Y	Y	Y	DK	Cooking gas	a	M
22	Rupali Navnath Yelkhar	R	N	N	N	N	N	Y	Y	DK	Cooking gas	a	F
23	Vilas Arjun KhaShidh	I	Y	N	N	N	N	DK	DK	DK	a	b	M
24	Navshadh Abhasshaikh	R	Y	N	N	N	N	Y	Y	Y	Cooking gas	a	M
25	Maruthi Witakar	R	Y	Y	N	N	N	Y	Y	DK	c	a	M
26	Pandhurang Rauth	R	Y	N	N	N	N	Y	Y	N	Cooking gas	a	M
27	Kabhir Mehabubh Shaikh	R	Y	N	N	N	N	DK	DK	DK	Cooking gas	b	M
28	Prabhakar Lakshman Tonape	R	Y	N	N	N	N	Y	Y	Y	Cooking gas	a	M
29	Sunil Sirsath	R	Y	N	N	N	N	Y	Y	DK	Cooking gas	a	M
30	Innus Usman Shaikh	R	Y	N	Y	N	N	Y	Y	Y	Cooking gas	a	M
31	Maruthi Yampakh Ghadake	R	Y	N	Y	N	N	Y	Y	Y	a	a	M
32	Sudhiir Mashal	R	Y	N	N	N	N	Y	DK	DK	Cooking gas	a	M
33	Nirmala Gavali	R	Y	N	N	N	N	Y	Y	N	d	a	F
34	Shankar Vaman Guraw	R	Y	N	N	N	N	DK	DK	DK	Cooking gas	b	M
35	Sukadev Khamble	R	Y	Y	N	N	N	Y	Y	Y	c	a	M
36	Bapu Khamble	R	Y	N	N	N	N	Y	DK	DK	d	b	M
37	Sarjherao Abhimanyu Janarao	R	Y	Y	N	N	N	DK	DK	DK	Cooking gas	b	M
38	Kothabhai Janrao	R	Y	N	N	N	N	Y	Y	N	a	b	M

39	Arjun baburao Janrao	R	N	N	N	N	N	Y	Y	Y	a	a	M
40	Babu Gavali	R	Y	N	N	Y	Y	N	Y	DK	d	a	M
41	Hamina Khajabhai Shaikh	R	Y	N	N	N	N	Y	Y	DK	c	d	F
42	Hindu Dattu waghe	R	Y	N	N	N	N	Y	Y	Y	a	a	M
43	Parmeshwar Suryabhan Yadhav	R	Y	N	N	N	N	Y	Y	Y	Cooking gas	a	M
44	Bhagwath Baiyra Maske	R	Y	N	Y	N	N	Y	Y	Y	Cooking gas	a	M
45	Subhdra Dhondiram Salunke	R	Y	N	Y	N	N	Y	Y	Y	d	a	F
46	Jalindar Bali Bhonge	R	Y	N	N	N	N	Y	Y	Y	a	d	M
47	Krishnath Rama Bansode	R	Y	Y	N	N	N	Y	Y	Y	c	a	M
48	Subhash Ramling Khararikar	R	Y	N	N	N	N	Y	Y	Y	Cooing gas	a	M
49	Mehbubh Shaikh	R	Y	N	Y	N	N	DK	DK	DK	d	d	M
50	Fatima Shaikh	R	Y	N	N	N	N	Y	Y	Y	a	d	F

Table's all full forms

A6 – From how long has the family resided in village?

R – Resident

I – Immigrant

P - Part Time

A11 – Do you grow fodder to feed your livestock in your private form?

B1 – Do you any benefit from the forest near by your village?

C2 – Do you have any difficulty through the management planning and forest officials?

C3 – Do you recognize any problem due to wild animals of the park?

D1 – Do you want the government should apply some developmental initiative to conserve the plant and animals of this area?

D2 – Is the conservation of plants and animals is good object?

D3 – What do you think the area from where you are getting your required resources needs to be conserved?

D4 – are you ready to adopt some alternative to reduce the pressure on forest resources?

- Purchase fodder from market
- Grow fodder n your private land
- Reduce number of livestock
- Use crop residues

E4 – If any management initiative for has shaped to conserve the natural resources, What are your feeling about this?

- a) Welcome more
- b) Did not openly welcome more

1. Electricity –

The data collected in household survey assessed with social and economic parameters. In Nanaj Village 97% household have a electricity because their income source is good and they afford the electricity , but 3% houses don't have electricity because they afford the electricity and their income source is not well to pay electricity bill.

2. From how long has the family resided in the village?

There are 97% families is resident and only 3% families are an immigrant, as per the collected data from the survey.

3. Do you grow fodder to feed your livestock in your private form?

There are 78% people are not grow fodder to feed livestock because, lack of land and lack of water. The 22% people are growing fodder to feed livestock because they land to feed livestock and their income source is from livestock.

4. Do you have any benefit from the forest near by your village?

The data collected in household survey, most of the 84% people don't have any benefit from forest because they afford the cooking gas they don't use the fuel for wood. And the 16% people have some benefit from the forest like, wood, fodder for livestock and other benefits are recreational values, extraction of land etc.

5. Do you have any difficulty through the management planning and forest officials?

Most of the 96% people don't have difficulty through management planning and forest official because they happy to seeing wildlife animals, and also they happy to have sanctuary in their village, because of sanctuary tourist are come in their village. But 6% people don't response about this management.

6. Do you recognize any problem due to wild animal of the park?

The data collected in household survey, the 72% people are don't have any problem from wild animal of the park. But 14% people have problem because they have farm and some people have livestock, the animals are raiding the crops, livestock depredation and fear of wildlife.

7. Do you want the government should apply some developmental initiative to conserve the plants and animals of this area?

When my survey was completed I recognize that, the 70% of the people are want the government should apply some developmental initiative to conserve the plant and animal this area because they want to see more wildlife animals, and they want more plantation in their village. And 22 % people are don't know about this planning or development and conservation. But 8% people are don't want the development and conservation, because they afraid from the wild animal.

8. Is the conservation of plants and animals is good object?

The data collected in household survey, after the analysis, result is 66% people are agree to conserve the plants and animals is a good object, but 26% people are don't know about this conservation. And 8% people are don't agree to save plants and animals because they are not educated.

9. What do you think the area from where you getting your required resources need to be conserved?

Most of the 40% people are agree to conserve that area that area from where they getting their require resources need. But 42% people are not given the answer properly; they afraid from government because

they extract the land and also they can't feed their livestock in the sanctuary. And 18% people are not happy to conserve the sanctuary because they don't want the area from where they getting their required resources.

10. Are you ready to adopt some alternative to reduce the pressure on forest resources?

Most of the people shows positive attitude towards alternative to reduce the pressure on forest resources.

Interested in Purchase fodder from market, Grow fodder n your private land, Reduce number of livestock,

Use crop residues again LPG is easily available 50% people use cooking gas.

#### 4. Conclusion

The relationship between local communities with The Great Indian Bustard will improve and the conflict between forest recourses, attitude towards accepting alternative resources will become developed, with respect to resources utilization pattern that can generate the better live hood options for the local communities. The result of this study will be very helpful in mitigating pressure on forest by providing alternatives to the forest recourses and by economic upliftment of the local communities. A possible way to reduce biotic pressure of the Sanctuary requires conservation education through training programmes, capacity building and outreach with respect to sustainable harvesting of natural resources. To reduce the pressure of the local people on the forests for their daily fuel wood, fodder and leaf-litter biomass needs plantation of suitable species preferred by local people on wastelands, agro forestry setups and land outside forest boundary set-ups are recommended. Initiatives can also be taken to employ local people into forest protection related jobs as they are more aware with ground realities.

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