

RECENT HABITAT MANAGEMENT

In Great Indian Bustard Sanctuary,
Solapur, Maharashtra.



a welcome sign for bustards

Report by



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Cover : Dr. Asad R. Rahmani



INTRODUCTION

Maharashtra is one of the six states of India where Great Indian Bustards are still seen (Ali and Rahmani 1982-84, Rahamani and Manakandan 1985, Rahmani 1987, Rahmani, A R, 2006, BNHS). In former days the bustard was a common bird in the dry districts of Maharashtra.

The Jawaharlal Nehru Bustard Sanctuary of Maharashtra (established in 1979) is located in Ahmednagar and Solapur districts which are drought prone and semi-arid.

Great Indian Bustard Sanctuary Maharashtra.

Coordinates-18 ° 21' 00" N and 75 ° 11' 38" E

Year of establishment- 1979

Size- 849,644 ha

Climate- Dry, mild winter. Hot summer (40-43 ° C)

Temperature- 13 ° C to 42 ° C

Topography- Gentle undulations, with isolated hillocks of 450-500 msl.

Habitat- 6A/01 Southern Tropical Thron Forest (Champion and Seth 1968)

Biogeographic Zone- Deccan Peninsula

Breeding Status- Breeds in Nannaj and some other DPAP plots.

Nesting season- Monsoon (July-October)

Figure of bustards according to census 2009- Total 21

(13 females and 8 males)

Drought Prone Areas Programme (DPAP) Plots.

In 1975 the drought prone areas Programme (DPAP), financed by the world bank was initiated in solapur district (Gabale 1980). Establishment of pastures and woodlots by the forest department under DPAP resulted in regeneration of wildlife, benefited by the protection of their habitat (Rahamani, A. R. Final Report 1989, BNHS).

The bustard was first sighted in the DPAP plots of Nannaj in 1978 (Gabale 1980).



Habitat Types In Nannaj Plots

Habitat of Nannaj can be broadly divided in to five main types (Manakadan, R. and Rahmani, A. R. 1986 Annual Report No. 3, BNHS, Rahmani, A. R. Final Report 1989 BNHS)

1) Grassland plots- Mardi 100 and Mardi 50 plots are pure grassland, with few young *Acacia nilotica* trees and *cassia auriculata* bushes. Prominent grasses are *Aristida funiculata*, *A. stocksii*, *Chrysopogon fulvus*, *Heteropogon contortus*, *Lodhopogon tridentatus*, *Melanocenchris jacquemontii*.



Grassland Plot



Woodland Plot

2) Woodlot (Nannaj plots)- In some of the areas following trees were planted by the forest department *Acacia nilotica*, *Albizzia lebbeck*, *Gliricidia sepium kunth*, *Dalbergia sissoo*, *Azadirachta indica*, *Hardwickia binata*, *Sapindus emarginatus* and *Tamarindus indicus*.

These plots have become extremely thick in the past years. And the grassland has been converted in to woodland.

3) Grazing land

4) Stony grazing land

5) Crop fields





Habitat utilization and preference

Maximum sightings of bustards are seen at pure grassland areas. And no bird is recorded in dense woodlots.

Bustards prefer wide open short grass plains and open scrubland with scattered trees. (Manakadan, R and Rahmani, A. R. 1986 Annual report No. 3. BNHS, Rahamani, A. R. Final Report 1989 BNHS).

Bustards need open habitat for following purpose-

- 1) Nesting
- 2) Display
- 3) Foraging
- 4) Roosting

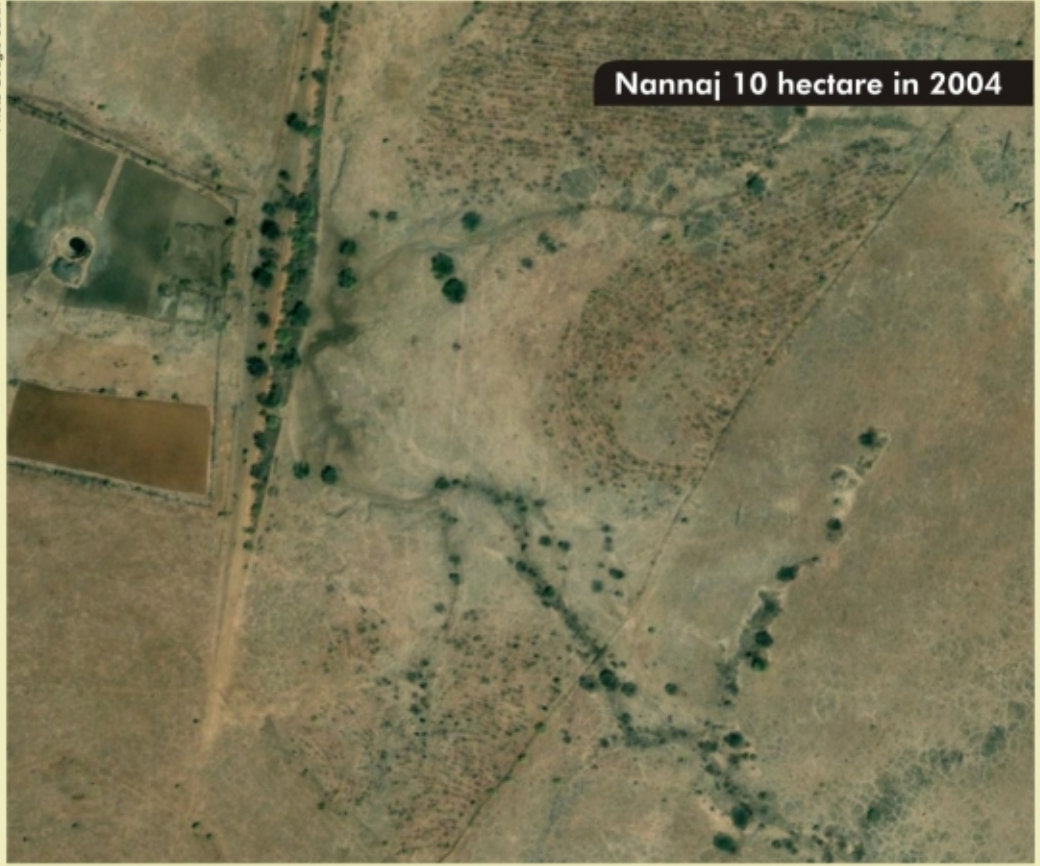
Need for habitat management

Some of the areas like Nannaj 10 ha(close to mardi 100 hectar) and Karamba (close to Mardi 50 hectar) were planted with exotic plant species like gliricidia sepium kunth, azadirechta indica Juss. Due to overgrowth of weeds like hyptis suaveolens and lantena camera these areas were converted in to dense woodlands.

Following pictures taken from google earth effectively shows how dramatically habitat has changed from scrubland and grassland to dense woodland.



Photo Google earth



Nannaj 10 hectare in 2004



Nannaj 10 hectare in 2008



Photo Google earth



Extensive study done by Dr. Asad Rahamani and others in Nannaj Sanctuary clearly recommended need for active habitat management. (Rahamni, A. R. 2002. BNHS, Mumbai)

What are these recommendations?

1) No tree planting- Its better to have less trees or bushes in the core areas than to have too many of them.

2) Maintenance of grassland- very thick and dense grasses are not preferred by bustards. In such cases thinning, cutting would be useful to maintain the grassland at the optimum suitability for the bustards.

These recommendations were included in management plan of the sanctuary but nothing much was done for the management of grasslands in Great Indian Bustard sanctuary, Nannaj, Solapur.

Recent habitat management by the forest department.

With reference to above recommendations in the management plan, forest department (wildlife Div.) Pune submitted a proposal to PCCF Maharashtra in the year of 2006 for the uprooting and cutting of trees like Gliricidia, Lantana in Nannaj and Karamba areas. With allotments of funds actual work started in march 2008 under the guidance of Conservator of forest (wildlife Div) Pune Dr. Y L P Rao.

Total 25 hectares of land was cleared out of trees, of which 10 hectares at Nannaj 10 ha area (near kale talav) and 15 hectares at Karamba (near Mardi 50 Hectare). Trees like Gliricidia , Neem and Lantana were cut and then uprooted so as to prevent their regrowth. Total 15,240 trees were uprooted from 25 hectare of land.(Dr. Y. L. P-Rao pers. comm)



Following pictures describe drastic change in the habitat after uprooting.

Before..



After..



Before..



After..





We visited the newly opened areas in Aug 2009 and got to see one male Great Indian Bustard in newly opened Nannaj 10 (Near Kale Talav) plot on 15 th August, bustard was seen foraging and we observed the bird for about 45 minutes in 10 Hectare (from 7.15 to 8.00 AM). Then bustard crossed the TCM by walking and entered in Mardi 100 hectare area.



We observed following species of birds in newly opened areas-

- 1) Great Indian Bustard (*Ardeotis nigriceps*)
- 2) Indian Bushlark (*Mirafra erythroptera*)
- 3) Ashy- crowned Lark (*Eremopterix grisea*)
- 4) Rufous-tailed Lark (*Ammomanes phoenicurus*)
- 5) Southern Grey Shrike (*Lanius meridionalis*)
- 6) yellow- wattled Lapwing (*Vanellus malabaricus*)
- 7) Red- necked Falcon (*Falco chicquera*)
- 8) White- eyed Buzzard (*Bustastur teesa*)
- 9) Rock Bush Quail (*Perdicula argoondah*)
- 10) Barred Buttonquail (*Turnix suscitator*)
- 11) Grey Francolin (*Francolinus pondicerianus*)
- 12) Eurasian Collared Dove (*Sreptopelia decaocto*)
- 13) Pied Bush Chat (*Saxicola caprata*)
- 14) Common Myna (*Acridotheres tristis*)
- 15) Large Grey Babbler (*Turdoides malcolmi*)
- 16) Indian Silverbill (*Lonchura malabarica*)

Majority of above mentioned species are grassland birds. These observations suggest the acceptance of newly opened habitat by Great Indian Bustard and also by various other bird species.

It has been repeatedly emphasized earlier by various workers that bustards prefer treeless open habitat with short grass and scattered bushes. The special attention needs to be given for the proper management of such vital areas, as these are the only places left on earth for survival of magnificent Great Indian Bustard. Protected areas like Nannaj should not be considered as important only for GIB conservation but should be considered as gene banks. They have an important genetic resource in the form of grass and shrub species which are important for ecological and food security of the country. Therefore protection and proper management of such grasslands should be given high priority and should be integrated in the overall land use policy by people.

Our intention of compiling this report is to support such activities and to promote awareness.

Forest department has proposed for the uprooting from further areas covering about 5,244 trees in Mardi, Akolekati and Karamba plots. This will help in restoration of proper habitat for bustards.





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Acknowledgment

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About Us

Gahivar Foundation is a conservation organisation that has been working for the conservation for past few years, We are trying to involve the common man in the conservation movement, We are working with the forest department for creating awareness amongst people living around protected areas like Nannaj. We have also initiated adoptions of nest boxes and feeders which has been very successful in Maharashtra.

Gahivar Foundation works with NGOs, government institutions and various educational institutions for creating awareness on various issues connected to Environment, Art, Culture and their Conservation. Our aim is to create wildlife friendly habitats and involve the COMMON MAN in the conservation movement to save India's rich heritage.

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**Extinction is not a word
that we use lightly it means
gone forever and lost
to the world...**

Great Indian Bustard is vanishing at tremendous speed. Locally extinct from almost 90 % of it's former range, they are on the brink of extinction. Project Bustard is the only hope for surviving bustards. Their otherwise obvious fate is illustrated by this painting.

**SAVE OUR
BUSTARDS**

RECENT HABITAT MANAGEMENT IN GREAT INDIAN BUSTARD SANCTUARY

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