

Creating safe habitats for the Great Indian Bustard in Pokhran, Rajasthan - involves habitat restoration, the development of grasslands, and protection



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Bombay Natural History Society

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About Great Indian Bustard (GIB)

The Critically Endangered Great Indian Bustard *Ardeotis nigriceps* is a grassland obligate bird from the family Otididae endemic to the Indian Subcontinent. It is restricted primarily to India (with a subset of the same population across the border in Pakistan). The GIB is an omnivorous bird. Due to human activities, habitat loss, habitat degradation, and land use changes, less than 100 of these birds remain in the desert, with the Pokhran tehsil being their only viable habitat outside protected areas where a project supported by Trident Pneumatics was executed.

The species currently has a viable population of not more than 100 individuals in India, and it mainly survives in the Thar Desert of Rajasthan, which holds about 100 individuals (BNHS report 2021). Of the remaining individuals, ~ 6-7 birds are found in Gujarat, ~ 2-3 in Maharashtra, ~ 6-7 birds in Karnataka, and ~ 3-4 in Andhra Pradesh. If the present trends continue, the GIB could become locally extinct, given that it is extinct over almost 90% of its former range. With the present rate of decline, GIB may become extinct in the wild if swift conservation actions are not implemented.

Threats and Challenges to Last Remaining Bustards in India

The GIB faces significant challenges to its survival. Therefore, protecting and preserving this bird species is crucial to ensure its continued existence. Three pressing issues require immediate attention to preserve this fragile ecosystem. Overgrazing has become a significant concern due to the livestock population surge, which has put grasslands under immense pressure, resulting in the degradation of these vital ecosystems; grasslands play a crucial role in maintaining the balance of Thar's biodiversity. Along with this, the encroachment of invasive species has become a

growing threat to the natural habitat. These invasive species have the potential to cause extensive damage to the environment, which could have long-lasting impacts on the survival of many species.

GIB in Thar Desert

In the early 1980s, the BNHS started conserving the Great Indian Bustard across India, including in the Thar Desert. Now, the Thar Desert is home to India's critically endangered bird, the Great Indian Bustard, and other associated unique fauna. The GIB populations in the Thar Desert are mainly found in four areas: 1. Desert National Park (DNP) - Estimated 25-30 birds; 2. Pokhran - Estimated 30-35 birds; 3) Deg Rai Mata Oran near Devikot in Jaisalmer, Rajasthan; 4) Border areas between India and Pakistan under the control of the Border Security Force (BSF) - Estimated 10-15 birds.

Since 2019, we have focused on the Thar Landscape, specifically in the Pokhran Area, working with the local community and the Indian Army to protect the endangered Great Indian Bustard. However, the rapid expansion of renewable energy infrastructure puts pressure on the bustard's habitat, making its survival increasingly challenging. Conservation efforts aim to protect or secure some patches from land use changes in bustard areas.

Objective of the project with justifications

To develop secure habitats for the last remaining individuals of the GIB that can be spared from ever-increasing grazing pressure from livestock and the change in land use, heavy infrastructure like solar, wind projects, and high-tension powerlines in non-protected areas in the Pokhran area of Rajasthan.

Major activities planned

- 1) **Habitat restoration and grassland development** – The bustard's habitat was planned to be restored by removing invasive plant species, *Prosopis juliflora*, that have taken over the area. Removing these plants will make way for planting native grasses from the selected sites during monsoon season, serving as a food source and shelter for the bustards. In addition, the plan includes developing pasture in restored habitat sites. This initiative will ensure the bustards have enough grazing areas to feed and thrive.
- 2) **Habitat and species protection** - The process included land fencing measures that will prevent human encroachment and disturbance, which is one of the significant threats to the bustards' survival. A monitoring process was designed to monitor the birds and their habitat, which involved a fine-scale assessment of the bustards and their environment, providing valuable insights into the effectiveness of the conservation measures. Overall, the plan aims to secure the Bustards' long-term survival by creating a safe and conducive environment for their growth.

Approach and requirements

An area of 16,463 Ha has been identified, free from heavy infrastructure and used by the GIB (~30-35), especially during winter. BNHS plans to create at least four to five pockets of 100 to 100 ha. The land will be managed as a GIB habitat, involving the local community in various capacities.

Site Selection and Mapping

Recognising the need for conservation, the BNHS collaborated with passionate individuals dedicated to wildlife conservation. These supporters were eager to establish a grassland reserve to provide a safe habitat for the GIB, showing great enthusiasm and invigorating the initiative. As the project progressed, the BNHS followed proper protocols to facilitate the reserve's development. This involved signing agreements with landowners willing to spare their land for conservation. The cooperation and support of these landowners were indispensable, and the BNHS deeply appreciates their partnership. Through such collaborative efforts, meaningful progress can be made in protecting threatened species like the Great Indian Bustard. In a recent development, we connected with local farmers who were willing to spare their land for the crucial GIB habitat. Building on this initiative, BNHS decided to fence 13 hectares of land in Chanani Village, Pokhran tehsil, Jaisalmer.

Commencement and Completion of Fencing

In February 2024, the process of enclosing the land with fencing commenced. Before the installation, thorough discussions were conducted with the local administration and landowners to establish the boundaries. The fencing material, which consisted of a sturdy 2-inch-by-2-inch iron mesh standing at a height of 6 feet, was acquired from nearby locations. At intervals of 10 feet, durable stone pillars were set in place, and a four-tier barbed wire arrangement was added to enhance the stability and strength of the fence. The entire fencing project was completed between the end of March and mid-April 2024.

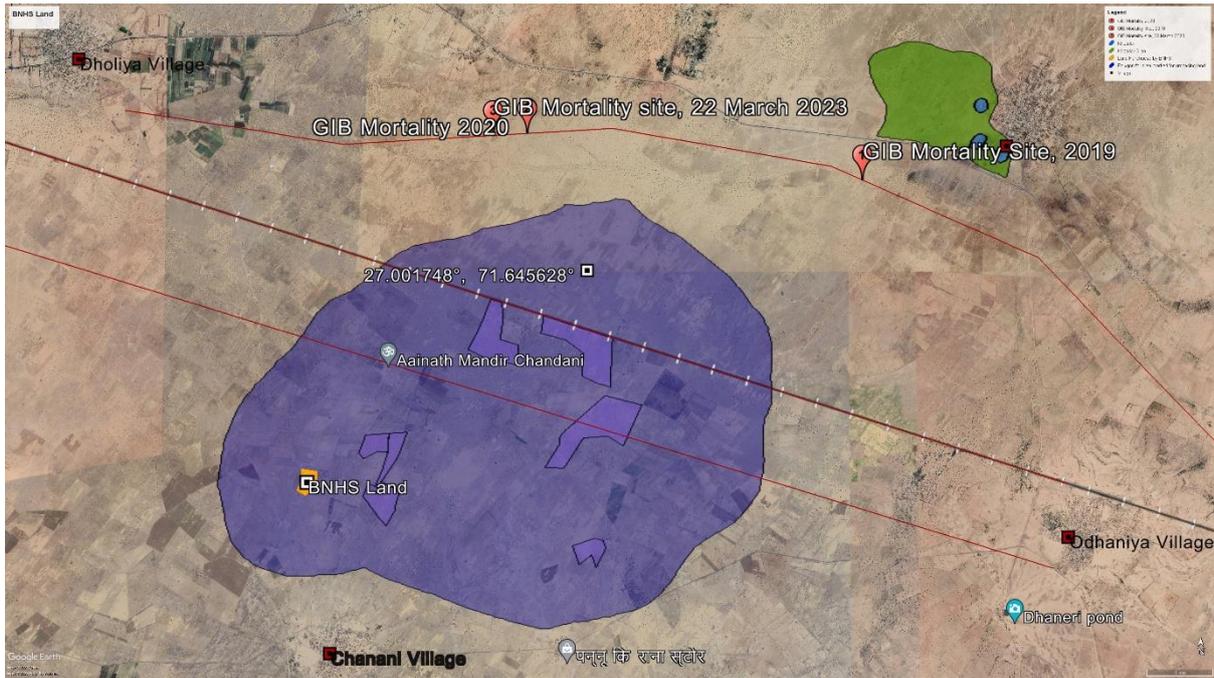
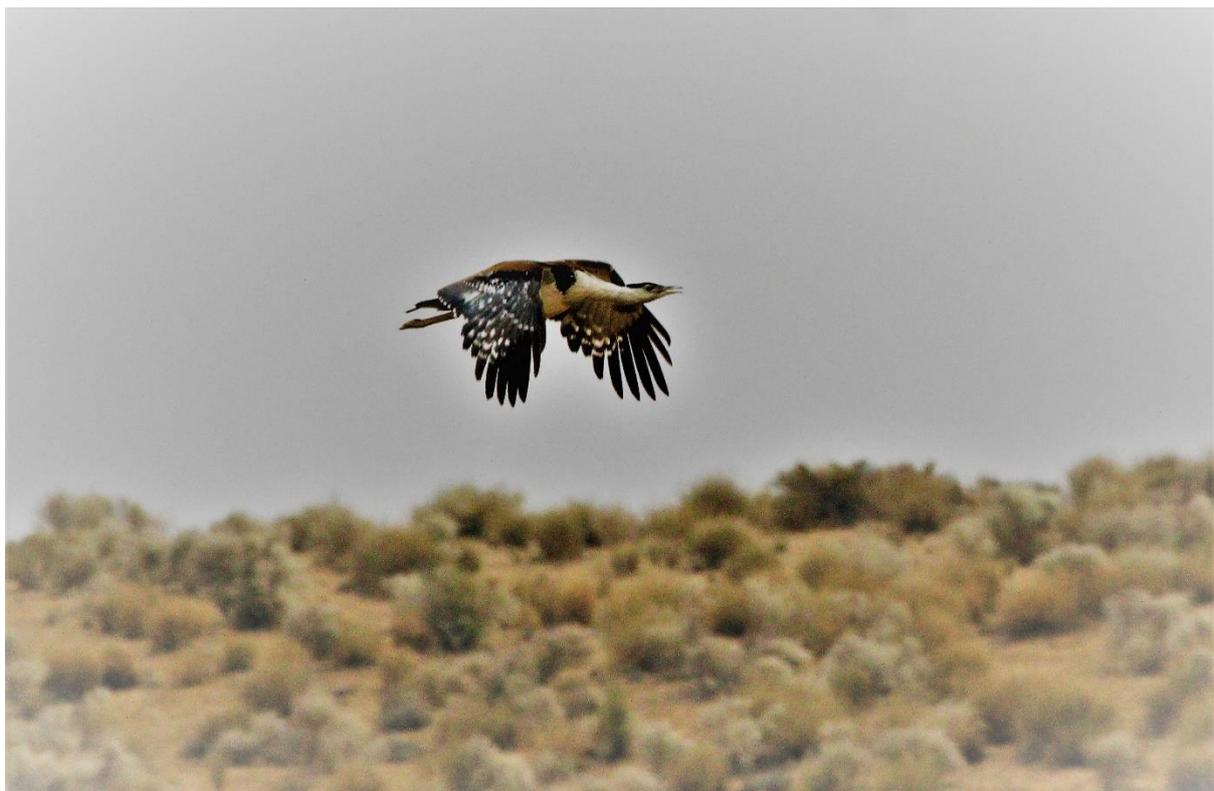


Figure 1 - The area intensively used by GIB in winter in Pokhran



Great Indian Bustard shows regular movements in protected areas of the Indian Army and surrounding non-protected Areas where habitat need to be secured

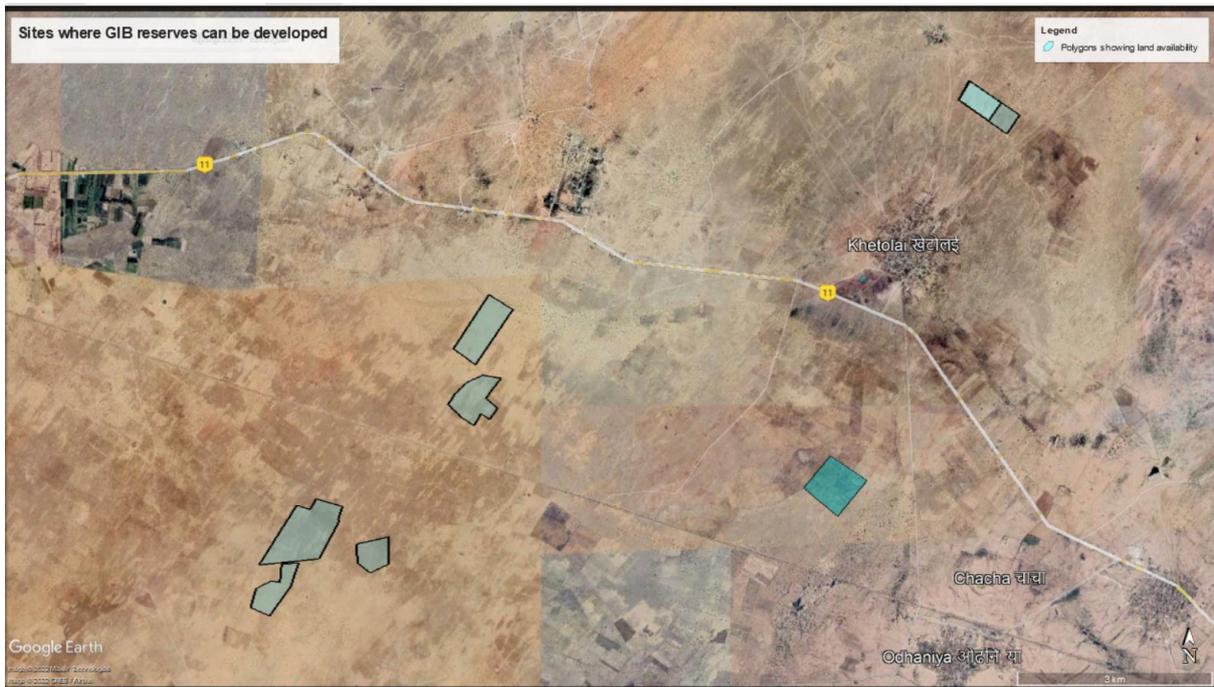


Figure 2 Sites identified where villagers are ready to spare the land for GIB

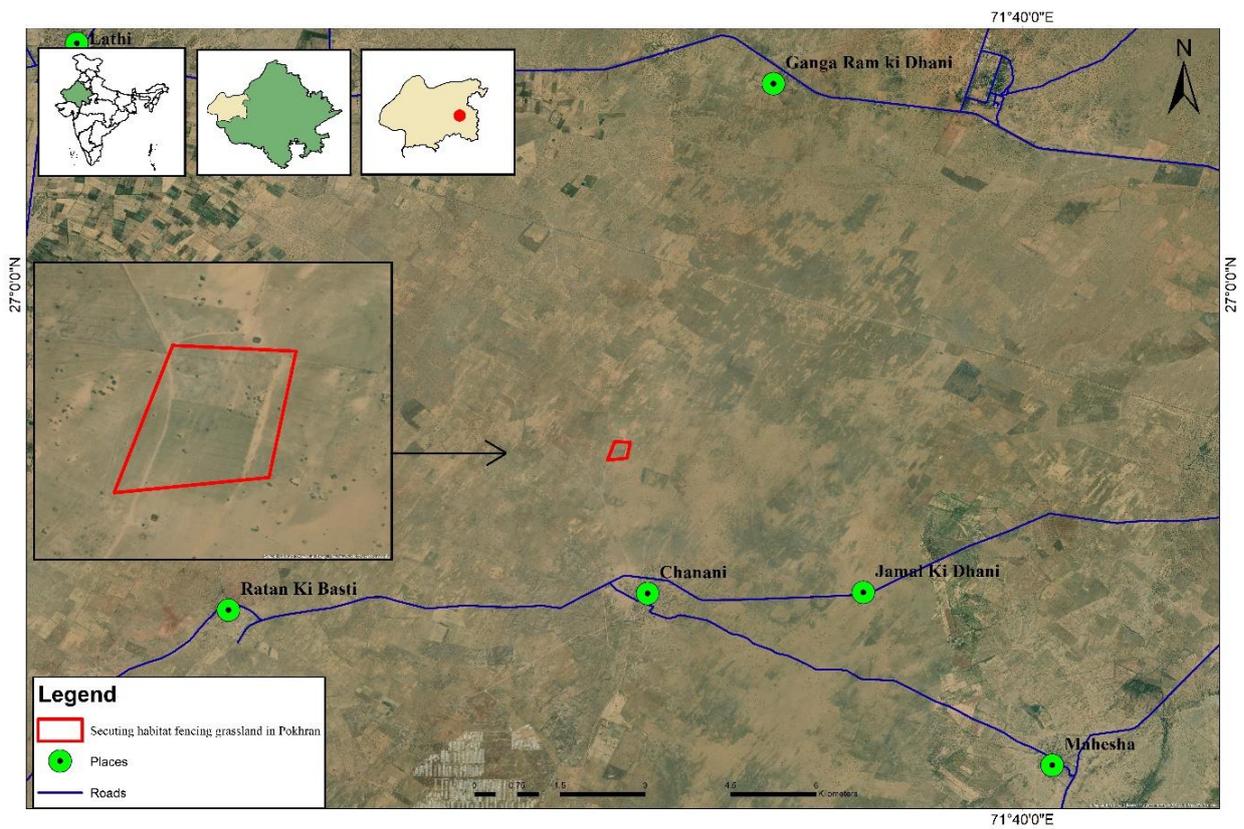


Fig 3 - Map showing the land's location fenced for securing GIB's habitat in Chanani Village, Pokhran



Consultation with local administration and neighbours before fencing work was initiated



Labour uses tractor and machinery for the installation of fencing



Locally available material like stone pillars was used for Chain-linked Fencing



Installation of stone pillars on the ground



Installation of barbed wire along the stone pillars



Installation of chain-linked fence

Output

1) Habitat and species protection

The shift from subsistence farming to commercial farming, expansion of human activities, an increase in the population of free-ranging dogs, and a surge of new renewable energy projects like solar and wind are leading to the shrinking of the critical habitat of ground-nesting birds like GIB. Bustards show strong site fidelity and stick to their traditional breeding grounds. Therefore, the BNHS has initiated a project to fence off selected areas to ensure proper land demarcation in non-protected regions in Pokhran tehsil, Jaisalmer. The fencing is made of high-quality, durable materials resistant to wear and tear. The main goal of this initiative is to ensure the safety and security of the land, protecting one of the few remaining habitat patches in the Thar landscape.

2) Saving bustards from threats like free-ranging dogs

An urgent issue requires attention: free-ranging dogs endangering the Great Indian Bustards, a critically endangered species. To control their population and protect wildlife, an Animal Birth Control (ABC) program is being implemented in collaboration with Gram Panchayat Dholiya and Khetolai in Pokhran. This is a proven and humane method of controlling the population of dogs selectively found in bustard habitats through the cooperation of the local community. Also, fencing the area will restrict the movement of dogs and provide a safe habitat for the birds.