



**CONVENTION ON
MIGRATORY
SPECIES**

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Agenda Item 27.1

**PROPOSAL FOR THE INCLUSION OF
THE GREAT INDIAN BUSTARD (*Ardeotis nigriceps*)
IN APPENDIX I OF THE CONVENTION**

Summary:

The Government of the Republic of India has submitted the attached proposal for the inclusion of the Great Indian Bustard (*Ardeotis nigriceps*) in Appendix I of CMS.

PROPOSAL FOR INCLUSION IN CMS APPENDICES

A. PROPOSAL

To include the Great Indian Bustard *Ardeotis nigriceps* in the Appendix I of the Convention on Migratory Species

B. PROPONENT

India (Ministry of Environment, Forest and Climate Change)

C. SUPPORTING STATEMENT

The Great Indian Bustard, an iconic, critically endangered and conservation dependent species, exhibits transboundary movements, and its migration exposes it to threats such as hunting in boundary area of Pakistan-India and power-line collisions in India. Inclusion of the species in Appendix I of CMS will aide in transboundary conservation efforts facilitated by International conservation bodies and existing international laws and agreement.

1. Taxonomy

1.1 Class Aves

1.2 Order Gruiformes

1.3 Family Otididae

1.4 Genus, species or subspecies, including author and year - *Ardeotis nigriceps* (Sibley and Ahlquist 1990)

1.5 Scientific synonyms - *Choriotis nigriceps*, *Eupodotis edwardsi*, *Otis nigriceps*

1.6 Common name(s), in all applicable languages used by the Convention

Great Indian Bustard, Godawan, Ghorad, Son Chiriya, Maldhok

2. Overview

The Great Indian Bustard *Ardeotis nigriceps* is a Critically Endangered species with a small population of about 100–150 individuals that is largely restricted to Thar desert in Rajasthan, India (Collar et al. 2018). This population is presumably shared with the neighboring state of Pakistan, where birds are hunted (Khan et al. 2008). The population in India is currently facing high mortality due to bird collisions with power-lines along with habitat loss. The species has a slow life-history and cannot sustain any additional human induced mortality. If the above two critical threats – hunting and power-lines – are not addressed immediately, the population is likely to go extinct (Dutta et al. 2011). Therefore, it is proposed to include this species in the Appendix I of the Convention on Migratory Species, so that urgent conservation actions (protection and threat mitigation) are implemented by both Range states.

3 Migrations

3.1 Kinds of movement, distance, the cyclical and predicable nature of the migration

Great Indian Bustard exhibit local seasonal movements (Rahmani 1989). They breed in known, traditionally used grasslands during summer and monsoon (March - September) but their non-breeding movements (October to February) are wide and poorly understood. Based on information from two tagged birds, one individual moved 7.2 (4.2 SD) km daily with annual home range of 429 sqkm and farthest movement of 21 km from capture site, while another individual had annual home range of 7774 sqkm and farthest movement of 62 km from capture site. Transboundary movements between Thar desert (Rajasthan), Kutchh (Gujarat) in India and Cholistan in Pakistan are likely although not comprehensively known (Khan et al. 2008). The population in Rajasthan shows fluctuating numbers spatio-temporally (Dutta pers. comm.). Whilst, birds visit and breed in Cholistan during May – September, with more numbers sighted in summer than monsoon (Khan et al. 2008). The seasonally fluctuating numbers in both countries indicate transboundary movements. Two more females have been recently tagged in Desert National Park (March 2019) and their movement patterns will shed further insight into transboundary migration in future.

3.2 Proportion of the population migrating, and why that is a significant proportion

Proportion of Great Indian Bustard population migrating between the range countries is not clearly known. However, Khan et al. (2008) reports that about 25 birds would visit Cholistan, Pakistan during summer and attributed this to the degrading habitat in Thar, India due to agricultural expansion around the Indira Gandhi Nahar. Given that the current population size of Great Indian Bustard is less than 150 birds – a critically low number – the reported seasonal sightings of the species in Cholistan comprise a sizeable proportion of the population.

4. Biological data (other than migration)

4.1 Distribution (current and historical)

Historically, the species was distributed throughout the western half of India, from Punjab and Haryana in north to Tamil Nadu in south, and from Gujarat and Rajasthan in west to Orissa in east, spanning eleven states (Rahmani 1989) along with eastern Pakistan in Cholistan and Sindh regions. The current distribution is restricted to six states of India: Rajasthan, Gujarat, Maharashtra, Karnataka and Andhra Pradesh along with sporadic sightings from Pakistan (Khan et al. 2008, Dutta et al. 2013). The species distribution has currently reduced by 90% from its former range.

4.2 Population (estimates and trends)

The current population size is about 150 birds or less in India. There are 128 (SE 19) birds in Thar, Rajasthan, about 10 birds in Gujarat, less than 8 birds in Maharashtra, about 10 birds in Karnataka and Andhra Pradesh (Dutta et al. 2018, Habib et al. 2018, Collar et al. 2018). The population size was roughly 1260 individuals in 1969 (Dharmakumarsinghi 1971) that dwindled to 745 individuals in 1978 (Dharmakumarsinghi 1978), around 600 birds in 2000 (BirdLife International 2001), 250 birds around 2011 (Dutta et al. 2011); thereby reducing by nearly 90% within 50 years.

4.3 Habitat (short description and trends)

Bustards generally prefer flat open landscapes with minimum visual obstruction and fewer disturbances. Great Indian Bustard use arid-semiarid habitats dominated by grasslands with 30-70 cm grass height interspersed with short shrub and extensive agriculture. Breeding usage is restrictive to traditional areas that are well connected, flat, grassland dominated and with less disturbance. Non-breeding use is vast and in productive agro-grassland-scrub habitats with fruiting shrubs. At a fine scale, microhabitat requirements differ between daily activities: relatively tall sward for nesting, moderate sward for day resting, short sward for night roosting and elevated areas with short sward for courtship display.

4.4 Biological characteristics

Great Indian Bustard is sexually dimorphic with males weighing 10-15 kg and females weighing 5-10 kg (Rahmani 1989). They are highly k-selected with age of first reproduction at 3 years (female) to 4 years (male), maximum longevity of 28 years, only one clutch per year with low survival probability up to the first year, but higher survival rate thereafter (Dutta et al. 2011, Dolman et al. 2015). The species is diurnal, mostly active in early morning (0500 – 1000 h) and evening (1700 – 2000 h). They form sexually segregated flocks because of contrasting biological requirements. The species exhibits polygynous mating system with exploded leks, where males display from prominent arenas and do not participate in parental care, which is entirely done by females. They have omnivorous diet chiefly comprising vegetable matter, fruits, crops, insects such as grasshoppers, beetles, ants and termites, and reptiles (Dutta 2012, Dutta et al 2013).

4.5 Role of the taxon in its ecosystem

Great Indian Bustard is a large omnivorous bird that consumes considerable amount of insects and is a good indicator of grassland ecosystem

5. Conservation status and threats

5.1 IUCN Red List Assessment (if available)

The species is listed as Critically Endangered by IUCN (IUCN 2019)

5.2 Equivalent information relevant to conservation status assessment

The species has disappeared from 90% of this range; their population has reduced by 90% within 50 years (six generations); and their threats are expected to increase in future.

5.3 Threats to the population (factors, intensity)

Historically (pre 1972), the species has been subjected to rampant game hunting and egg collection by British officers and royal families that reduced their population to about 1260 individuals in 1969 (Dutta 2018). Subsequently, habitat loss due to diversion of their habitats – semiarid grasslands – to intensive agriculture, infrastructure and industries became the major threat (post 1980). Currently, the most important threat to the species is fatal collision with power-lines that has resulted in at least 12 recorded bird deaths in the last 15 years, and five recorded deaths in Rajasthan during the last 1-2 years (Dutta 2018). Based on the importance, power-line collision (high), nest predation by native predators (fox, mongoose, crow, monitor lizard) and free-ranging dogs, hunting in Pakistan, agricultural expansion, pesticide prevalence (food reduction and contamination), grazing pressure, plantation of shrub and tree species in grasslands, poor land-use policies (Protected Area based approach without landscape level conservation planning) are the major threats to the species.

5.4 Threats connected especially with migrations

Hunting has been reported from Pakistan (Khan et al 2008) in past and even recently in social media. Given the critically low number of the species, such additional human induced mortality is unsustainable for the species' persistence (Dutta et al 2011) and is the major threat to the species' conservation. Power-line density in Rajasthan, India is also increasing because of renewable energy production and is an important threat associated with migration. In India, habitat loss and power-lines are the major threats while in Pakistan, extensive habitats are still available, but hunting and lack of awareness about the species remain the major threats.

5.5 National and international utilization

Hunting for game and meat

6. Protection status and species management

6.1 National protection status

The species is listed as Schedule I in Wildlife Protection Act (1972) – the highest level of protection in India.

6.2 International protection status

The species is enlisted in CITES Appendix I.

6.3 Management measures

The Guidelines for state action plan for resident bustards' recovery programme developed by Ministry of Environment, Forest and Climate Change through consultative meetings of scientists, managers and decision-makers recommends a multi-pronged approach comprising: a) protection to breeding habitats by creating predator-proof enclosures that are seasonally inviolate of consumptive human uses, b) mitigation of threats particularly power-lines and detrimental infrastructure at the landscape scale, c) incorporation of local livelihood concerns in conservation planning by incentivizing bustard-friendly agricultural practices, and d) adopting a conservation breeding program to secure an insurance population against total extinction (Dutta et al. 2013).

6.4 Habitat conservation

Following the Bustard Recovery Plan Guidelines, State Governments, scientific organizations and NGOs are implementing actions for habitat conservation across range states of India. Management interventions such as creation of enclosures in breeding habitats of Rajasthan and Gujarat, engaging with power agencies to mitigate transmission lines, advocacy and outreach programs to generate conservation awareness among stakeholders, sterilizing and removing free-ranging dogs from priority habitats to reduce nest/chick predation, implementing pilot projects on incentivized bustard-friendly agriculture have been implemented. However, these efforts need to be scaled up, consolidated and expedited.

6.5 Population monitoring

Population monitoring protocol is in place, and has been jointly carried out by Wildlife Institute of India and Rajasthan Forest Department from 2014 to 2018, following occupancy and line transect distance sampling approaches in the single largest population of Thar, Rajasthan.

7. Effects of the proposed amendment

7.1 Anticipated benefits of the amendment

The proposed amendment will help in better understanding about transboundary movement of the birds and protection of the species against hunting and other human induced mortality risks

7.2 Potential risks of the amendment

There are no potential risk of the amendment

7.3 Intention of the proponent concerning development of an Agreement or Concerted Action

An Agreement between two range countries to protect the bird from hunting, power-line collision and habitat loss agents will aide in the species' recovery as these factors are unsustainable and require concerted transboundary actions.

8. Range States

India and Pakistan

9. Consultations

Transboundary consultation is yet to be undertaken

10. Additional remarks

11. References

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