



F. No. WII/SD/GIB/Misc-Part(1)

Date: 11.12.2024

To
The Inspector General (WL),
Ministry of Environment, Forest & Climate Change,
Indira Paryavaran Bhawan,
JorBagh, New Delhi-110003

Sub: Closure report of the Project Great Indian Bustard – reg

Ref: 1) F. No. WII/SD/ESRP-GIB/Misc-Part(1) dt 30.09.2024

As you are aware, the Wildlife Institute of India has implemented the 'Project Habitat Improvement and Conservation Breeding of Great Indian Bustard' with National CAMPA funding from 2016 to 2024 with a total budget outlay of 35.73 crores INR.

The Project has achieved its physical and financial closure. It has been greatly successful in its objectives of conservation breeding and scientific inputs in *in-situ* measures, due to which, the target species is on the verge of recovery. The final Project Report has been communicated to you (ref 1).

Further, the entire funds of 35.73 crores INR released by National CAMPA has been fully utilized and the current account balance is nil. The Annual Utilization Certificates have been communicated to the Ministry from time to time (enc 1).

A Project Closure Report with physical and financial progress is attached herewith (enc 2).

Signed by Virendra
Rambahal Tiwari

Date: 12-12-2024 14:08:02

Yours sincerely,

(Virendra R. Tiwari)
Director WII

Encl: as above

Copy: ADG(WL, MoEF&CC
CEO, National CAMPA
AIG(WL), MoEF&CC

Report on the physical and financial progress of the Project 'Habitat Improvement and Conservation Breeding of Great Indian Bustard', funded by National CAMPA being implemented by the Wildlife Institute of India

Aim & scope	Budget Outlay (Crore INR)	Project Duration	Project Objectives	Major Achievements (Physical progress)	Financial progress (Crore INR)	Outcomes
Implement conservation breeding & guide science based <i>in-situ</i> conservation for Great Indian Bustard (GIB) & Lesser Florican (LF), primarily in Rajasthan with some activities in other range states	33.85 (sanctioned in 2015) + 1.88 (sanctioned in 2024)	Five years (2016-21) & No cost extension (2021-24)	1. Conservation breeding: Develop & run conservation breeding facilities to secure captive populations of GIB & (if needed) LF	1. The Project has established two fully functional conservation breeding facilities at Sam (operational since 2019) & Ramdevra (operational since 2022) in Jaisalmer for GIB. It has also established a temporary facility at Bijainagar (Ajmer) for LF (operational during 2020-24) which is now shifted to a permanent facility at Anwar in Kekri (operational from 2024). Construction of a satellite conservation breeding facility at Sorsan (Baran) has been initiated. 2. GIB and LF conservation breeding activities were commenced in June 2019 and August 2020, respectively, by WII in partnership with MoEFCC, RFD & IFHC. Wild-laid eggs were collected, artificially hatched, and hand reared to secure a captive founder stock. 3. The facilities house captive stocks of 45 GIB (4-65 months) & 13 LF (4-52 months) that have been raised by specially trained technicians using scientific husbandry approach. 4. Captive breeding of GIB commenced in 2023 wherein 13 chicks have been produced through natural mating from captive-laid eggs. Additionally, 1 GIB chick has been successfully bred through Artificial Insemination technique in 2024.	35.73 crores has been fully utilized and the balance is nil. Annual UCs have been submitted.	Commencement of conservation breeding for two Critically Endangered species Founder populations of GIB and LF have been partially secured and captive breeding has commenced for GIB. Thus, the risk of total extinction for this species has been avoided. A trained, technically component team of veterinarians, technicians & support staff has been developed, along with scientific bustard rearing approaches.
			2. Applied research: a) prioritize conservation areas, b) characterize threats, c) monitor populations & habitats, d) assess local communities' livelihood concerns,	1. The Project implemented two landscape-level surveys for population & habitat assessment of GIB, jointly with RFD & Indian Army across 20,000 km ² area of Thar, Rajasthan (2016 & 2017-18) and estimated the GIB population at 128 (SE 19) birds. 2. Two range-wide population & habitat assessments for LF were conducted jointly with range SFDs & NGOs (2017-18) and the population was estimated at 426 (174–805 95%CI) males (and ~800 birds in total). 3. The Project successfully captured & tagged 12 female GIB (10 in Rajasthan + 2 in Gujarat) & 12 LF (9 male + 3 female in Rajasthan) with		Information on the population and habitat status of GIB and LF Detailed understanding of the species' movement patterns, habitat use, breeding biology and other ecological aspects Prioritization of threats and assessments of their

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			e) understand species' genetics to inform conservation	GPS PTTs. Telemetry and tracking provided valuable insights into the ecology, migration & conservation requirements for both species. 4. Threats to GIB and associated species were characterized in Thar. a) Power-line surveys showed that ~15% annual GIB mortality is due to collision (critical threat) and estimated ~20,000 deaths (all birds) / 1000 km² area in Thar & Kachchh (Gujarat) b) Impact of wind turbines on bird mortality was quantified. c) Survey & telemetry of free ranging dogs indicated 1804 (SE 462) dogs in/around Desert National Park (DNP) Wildlife Sanctuary & 10 chinkara predation/ dog/ yr, highlighting the detrimental impacts of dogs on wildlife d) Pesticide surveys across LF range indicated prevalence of organophosphates & other pesticides 5. Genetic analysis indicated 3 distinct populations; full genome mapping was undertaken to inform ex-situ & in-situ management. 6. Sociological questionnaires were conducted in 30 villages/Dhanis in Jaisalmer to inform community based conservation initiatives.		impacts on GIB Understanding of the species' genetic status
			3. Capacity building & awareness: To improve protection, sensitize stakeholders & raise conservation awareness	1. Capacity building of >500 frontline FD staff in GIB & LF habitats of Rajasthan, Gujarat, Maharashtra, Madhya Pradesh & Andhra Pradesh 2. Conservation education of >5000 school children, awareness stalls & skill development workshops in Jaisalmer & Ajmer, Rajasthan. 3. Regular sensitization meetings/ workshops with stakeholders (State & District Administration of Rajasthan, village Panchayats, Indian Armed Forces, power agencies, media & partners) 4. Technical recommendations on legal issues regarding GIB conservation in Hon'ble Supreme Court, Jodhpur High Court & National Green Tribunal 5. Technical inputs to power agencies & bird flight diverter developers on power-line mitigation measures		Training of frontline staff on wildlife identification, population assessments and handling / rescue techniques. Dissemination of technical understanding on threat mitigation measures among stakeholders Awareness among local people and school children on GIB and ongoing conservation efforts

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				6. Dissemination of Project findings through 12 peer-reviewed publications in international journals, >10 popular articles on GIB, grassland ecology & conservation & various outreach materials (brochures, posters, SM posts) 7. Video documentation of project activities, resulting in multiple short videos on GIB & LF conservation and their dissemination 8. Regular training sessions for visiting teams of IFS and SFS probationers (>350 probationers) and briefing of dignitaries on bustard ecology and ongoing conservation efforts. 9. Exhibitions & talks to disseminate Project activities at multiple fora: eg, CMS COP, UNFF country-led initiative, Van Mahotsav, Jaipur, G-20, ICCON, Desert Festival		Dissemination of Project findings through various media
			4. Pilot habitat management: Demonstrate best practices for habitat improvement through pilot/experimental surgical interventions that can be replicated by State Forest Departments	1. The Project undertook a series of predator management & pilot jump-start exercises to improve the <i>in-situ</i> recruitment of GIB, including: a. Translocation of ~40 predators (foxes, cats, mongoose & monitor lizards) from breeding enclosures of DNP; b. Translocation of >300 dogs from GIB breeding habitats c. Sterilization of ~1350 dogs from villages in/around DNP (23 villages in 2018) and Ramdeora (10 villages in 2024) in collaboration with Humane Society International(HSI)-India and ASRA animal welfare organization, along with monitoring of dog population for effectiveness of this activity d. Successful jump-start intervention for 3 chicks in wild, wherein wild eggs were artificially incubated (to reduce predation risk) and were replaced at GIB nests in Jaisalmer 2. Bird flight diverters (>300 pcs) were pilot installed to assess their designs, durability & effectiveness 3. Prioritization exercise was undertaken to scientifically delineate important GIB habitats in Rajasthan & Gujarat, jointly with RFD, for conservation and threat mitigation		The Project research and outreach have influenced threat mitigation by concerned agencies in GIB habitats that will reduce adult mortality once power-line and other threats are effectively mitigated Ongoing efforts of predator control & jump-start strategy in breeding areas can improve <i>in-situ</i> recruitment Scaling up of these activities can bring meaningful improvement in habitat status of the GIB

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				4. Power infrastructure was mapped & prioritized for mitigation. Recommended mitigation measures included undergrounding of high risk power-lines in priority areas & installation of diverters in potential areas. Power-line mitigation report & technical/financial proposal for Rajasthan were prepared. Maps, reports & recommendations disseminated to State Govts, MoEF&CC, MoP, MNRE & CEA for policy development.		

Please refer to the [Final Project Report](#) for more details.

Annexure: Brief presentation on Project highlighting key activities & outcomes with field photographs

Project Habitat Improvement and Conservation Breeding of Great Indian Bustard

● Funded by National CAMPA Authority ● 35.73 crores ● March 2016 – June 2024



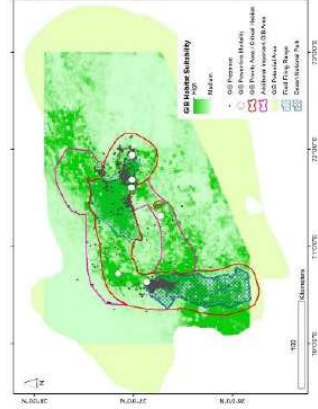
- 3 fully functional Conservation Breeding Centres for GIB at Sam & Ramdevra (Jaisalmer) and Lesser Florican (LF) in Ajmer
- Establishment of captive populations of 45 GIB & 13 LF through artificial hatching & hand-rearing
- Captive breeding: 14 GIB chicks from captive-laid eggs since March 2023, incl. one through AI



FACILITY AT RAMDEVRA

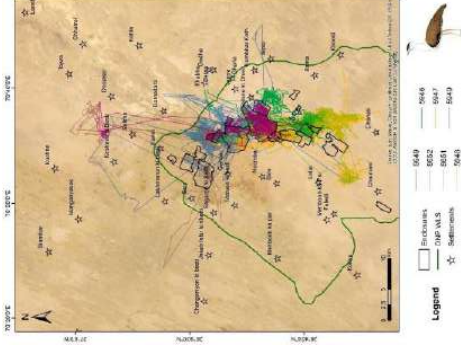
Major Outcomes

- GIB population & habitat monitoring in Rajasthan: ~128 (2018)
- Range-wide LF population assessment: ~800 (2018)
- Telemetry of 12 GIB & 10 LF : ecological understanding & conservation planning
- Comprehensive assessment of threats: predation, dogs, infrastructure
- Full genome mapping to inform *ex-situ* & *in-situ* management



Lesser florican migration

GIB landscape usage



Conservation breeding

Applied research

Project Habitat Improvement and Conservation Breeding of Great Indian Bustard

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Major Outcomes

- Training of >500 frontline Forest staff of bustard range states on biodiversity assessment techniques
- Technical inputs on GIB conservation to range states & sensitization meetings with stakeholders
- Conservation education of >5000 school children & community outreach programs in Rajasthan
- Conservation priority maps for GIB landscapes: consultation & dissemination



- Translocation of ~40 nest predators & >350 dogs from GIB breeding areas & fence repair, to improve *in-situ* breeding success
- Sterilization of ~1350 dogs in Desert National Park & dog population monitoring, to reduce impact on native fauna
- Pilot testing of bird flight diverters for durability & effectiveness



Pilot habitat management

Outreach