

CONSERVATION LEADERSHIP PROGRAMME

FUTURE CONSERVATIONIST AWARD 2026

Connected Skies: Bhutan’s First GPS-AI Study Empowering Communities to Protect Great Hornbills

A public project brief for integrated telemetry, AI bioacoustics, connectivity modelling and community-led conservation in Biological Corridor 03, Bhutan.

TEAM LEADER / WANGDI

CONSERVATION CHALLENGE

Project Overview

Great hornbills depend on connected forest, large nest trees and dependable fruiting habitat. In Bhutan’s 407 km2 Biological Corridor 03, forest degradation, road expansion and climate-driven shifts are reducing nesting trees and safe movement routes. Local movement data remain limited, leaving managers without the evidence needed to identify flight pathways, feeding areas, breeding habitat and connectivity bottlenecks.

Connected Skies will combine GPS telemetry, artificial intelligence-supported acoustic monitoring and GIS analysis to convert these knowledge gaps into practical corridor conservation guidance.

INTEGRATED FIELD SCIENCE

Research Approach

01 GPS Telemetry

Supervised, welfare-compliant solar GPS tags will record movement locations under approved veterinary and animal-welfare protocols.

Movement tracking / Flight pathways / Habitat use

02 AI Bioacoustics

AudioMoth recorders will sample monitoring sites, while BirdNET screens calls for manual validation and repeated-survey analysis.

AudioMoth deployment / BirdNET AI detection / Occupancy monitoring

03 GIS and Connectivity Modelling

Telemetry, acoustic detections and environmental layers will be integrated to identify priority habitat and corridor bottlenecks.

Habitat mapping / Corridor assessment / Threat analysis

LOCAL STEWARDSHIP

Community Conservation

Thirty Hornbill Guardians will connect local stewardship with scientific monitoring. Community participants will help protect important resources, support long-term observation and report emerging threats.

- 30 trained Hornbill Guardians
- Nest tree protection and fruiting tree monitoring
- Threat and disturbance reporting
- Support for field monitoring and verified observations

PLANNED DELIVERABLES

Expected Outputs

- National hornbill movement database
- AI-supported monitoring protocol
- Habitat and connectivity assessment for Biological Corridor 03
- Transferable community-led corridor conservation model

PROJECT PROFILE

Year	2026
Role	Team Leader
Team	Wangdi, Sangay Chedup, Wangchuk Blon and Tashi Choden
Recognition	Conservation Leadership Programme - Future Conservationist Award 2026

OFFICIAL PROJECT PAGE

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