



## A Greenfield airport's green challenge

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JEWAR: Any major infrastructure project requires a careful assessment of its ecological impact and a balance between development work and environmental conservation. In Jewar, it's that much more of a priority because of the wealth of wildlife and wetlands in the area that will soon concretise for India's newest international airport.

The airport is expected to eventually sprawl over 5,000 hectares, which is more than double the current spread of Delhi's IGI airport, but its first phase with one terminal building and a runway will occupy a little over a fourth of that — 1,334 hectares. Geographically, most of this area has agricultural or open scrub plantations. Located along the banks of the Yamuna, the agricultural land here is palpably fertile.

The course of the river has gradually shifted and shrunk, and over the years, the Yamuna itself has become polluted, but several big and small waterbodies and wetlands dot the Jewar landscape. Consequently, there is a wealth of fauna here — the blackbuck, sarus crane and peafowl are among the commonly sighted species here, often in agricultural fields and in the backyards of houses. Realising the need to prepare a robust conservation plan that has minimal impact on wildlife, an expert committee of the Union ministry of environment, forests and climate change had suggested that the Yamuna Expressway Industrial Development Authority (YEIDA) engage the Wildlife Institute of India (WII) for the purpose.

After a two-month survey of the area in 2019, WII submitted an inception plan with its observations on the species found there, the need for their conservation and the measures that can be undertaken for their safety. It conducted a workshop with several experts for insights into how some of the key species could be protected and possibly relocated.

The institute also submitted a conservation plan around six months ago. "Based on WII's inception report and its observations, the ministry gave the environmental clearance for the airport. WII was handed the task of preparing a comprehensive conservation plan. It is now ready and we are following all the measures suggested by them," said YEIDA chief Arun Vir Singh, who is also CEO of the Noida International Airport Limited, the special purpose vehicle set up by the state government for the project.

Blackbuck, sarus key species

The conservation plan prepared by WII focuses on the status of rare, endangered and threatened species around the airport site. The institute surveyed the 1,334-hectare parcel for the first phase and its radius area, in the range of 10-25km. Its report says the upcoming airport will affect local biodiversity in several ways, including loss, degradation or pollution of wildlife habitats and waterbodies. Species present inside the proposed airport site will also get displaced.

According to WII's conservation plan, the blackbuck and the sarus crane are the two key species around the site and conserving their habitat will enhance and support the overall conservation of the flora and fauna of the area. The survey revealed that the blackbuck is the main species of concern among large mammals here. "Blackbuck populations are scattered and patchy throughout the landscape, with varying sizes.

The largest population size of 29 animals was observed on the south-eastern side of the Jewar-Bulandshahr road, which bisects the airport site close to Rohi and Parohi villages. Most of the

habitats used by the blackbucks within the airport site are agricultural land in Ranhera, Rohi, Parohi, Banwaribas and Bankapur villages,” states the report.

Outside the airport site, 22 blackbucks were spotted near Jhuppa, Shyam Nagar and Shamsham Nagar villages. Another group of 19 was seen around the forest patch along the road linking Jewar with Jewar Khadar. The blackbuck is protected under Schedule I of the Wildlife Protection Act (WPA), 1972, and any crime against the animal leads to a penalty of Rs 10,000 or imprisonment of three to seven years. Apart from the blackbuck, WII found several mammal species in the area, such as nilgai, golden jackal and the jungle cat.

The WII team found sarus cranes in large numbers within and outside the airport site. It has identified the bird as a ‘species of immediate conservation’. The sarus crane, which is the state bird of Uttar Pradesh, is also categorised as a “vulnerable” species in the International Union for Conservation of Nature’s (IUCN) red list of threatened species. “The sarus crane is a commonly observed species.

In total, 76 birds in 31 independent observations were recorded across the landscape and the flock size ranged from one to 11. A majority of these were outside the airport site. The largest flock of five birds was observed within the airport site,” states the WII report. The WII team also found 60 other bird species, including the Egyptian vulture and Indian peafowl, in the region. The Egyptian vulture is an endangered species on the IUCN’s red list. The report mentions a number of waterbodies may get affected by the airport project. This will, in turn, affect birds dependent on the wetlands, it says. The WII survey found 453 perennial waterbodies within a radius of 10-25km of the airport site. There are eight waterbodies within the airport site itself, of which three are perennial. A total of 172 seasonal waterbodies were also recorded. Experts said they were important to sustain birds such as herons, egrets and other waders.

Within a 100km radius of the airport site, there are 48 wildlife habitat patches and another 96 once the radius is extended to 25km, according to the report. “This reveals the presence of a reasonable proportion of wildlife habitats outside the airport site and may provide refuge to wildlife once they are displaced from the airport site,” states the report.

Conservation steps According to WII, two major conservation strategies can be implemented — habitat improvement and restoration, and scientific research, monitoring and training. The report says open scrubs and forest patches are critically important for terrestrial mammals like the blackbuck, and it is crucial to identify and restore such areas.

“It is recommended to identify areas for offsetting the loss that is going to be incurred during the development of the airport. A similar strategy should be adopted in offsetting perennial/seasonal waterbodies that are going to be filled during the development stage. The alternative sites allocated should have scientific advisory on land allocation and a wetland management plan to keep ecological values intact,” states the WII report. It suggests 10 key strategies for overall conservation of flora and fauna.

These include restoration of scrub land and other wildlife habitats interspersed within the “agro-ecological” region of the airport, conservation of the sarus crane habitat and wetlands, financial incentive schemes for conservation support, establishment of an animal rescue and rehabilitation centre near the airport site, community-based tourism, public awareness programmes, policy-level intervention for planning effective conservation strategies in the airport landscape, creation of Greenfield Jewar International Airport Conservation Foundation, biodiversity offsetting (conservation actions intended to compensate for the residual, unavoidable impact on biodiversity) and an annual allocation from corporate social responsibility (CSR) initiatives.

Experts TOI spoke to suggested specific steps that needed to be taken to conserve the sarus crane and blackbuck population. Asad Rahmani, a member of the Wetlands International South-Asia and former director of Bombay Natural History Society, said, "I have worked with the UP government for its sarus conservation efforts in 10 districts, which have been very successful. The state just needs to share that expertise here and help conserve these magnificent birds. The initial conservation efforts were undertaken to save a few pairs of birds when the Etawah airstrip was being made. In and around Jewar, the number seems to be much larger." He added that since sarus cranes prefer smaller, shallow wetlands, they should be restored or created for these birds to shift. "However, these small wetlands should be at least 10km or further away from the airport to avoid bird strikes (crashes of birds with aircraft) in future. People could be incentivised or motivated to protect sarus nests," he said

NK Janoo, the conservator of forests (Meerut), told TOI, "I have discussed this with the district forest officer and suggested that a specific proposal should be made for conservation of sarus cranes. UP already has a Sarus Protection Society and the state has allocated funds for it. Since there is such a large population of sarus cranes in Gautam Budh Nagar, we will try to use our existing resources and expertise for conservation efforts here as well."

The Sarus Protection Society of UP operates mainly in 10 districts and was set up when the Etawah airstrip was being built in 2013. The forest department had partnered with the Wildlife Trust of India and Tata Trust to form sarus protection committees and "Sarus Mitra", or community volunteers, in several villages to protect the birds' nests and young ones. Through various activities across the 10 districts, the sarus crane population increased from around 12,000 in 2013 to around 15,000 in 2018. For protection of larger mammals like the blackbuck, it is expected that the animals will gradually move away from human activity towards other scrub and forest patches in the vicinity. Translocation can also be considered, though as a last resort, the report says.

"The WII team is the expert on how larger mammals can be moved and protected. A plan in this regard is being prepared and we will provide all resources for its implementation. Meanwhile, to avoid any man-animal conflict, especially during the initial construction phase, we are also suggesting the establishment of an animal rescue centre in Jewar with the help of NGOs. The centre will be able to deal with any emergencies regarding wildlife," said PK Srivastava, the divisional forest officer.

With such a large population of animals and birds in the area, taking careful conservation steps will be a huge challenge and require regular follow-ups from experts over the years. The WII team has suggested that environmental experts monitor the changes that take place during the construction and operational phases of the airport. The airport field staff should also be regularly involved in the monitoring of wildlife and their habitats, it says.

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