Source : www.thehindu.com Date : 2018-11-06

NEW ENEMY OF BIRDS OF PREY: WIND FARMS

Relevant for: Environment & Disaster Management | Topic: Environmental Degradation - Wildlife related issues

Cascading effect: The study shows that wind power projects have complex ecological consequences. | Photo Credit: PPAMPicture

There's a new super-predator in Maharashtra's Chalkewadi plateau. With their constantly-whirring blades, wind turbines have decreased birds of prey here, finds a study published in *Nature Ecology and Evolution* on November 5. It also proves, for the first time, that the ramifications of wind farms run much deeper across the food chain: superb fan-throated lizards – small, colourful reptiles that the birds prey on – increased in number and showed altered behaviour, physiology and even less-flamboyant body colours.

Wind farms arrived in Chalkewadi almost 20 years ago and Professor Maria Thaker (Bengaluru's Indian Institute of Science) and her team studied their impact on the local ecosystem between 2012 and 2014. Comparing raptor and lizard numbers in six areas with and without wind turbines, they found that wind farms had one-fourth the number of birds of prey (including eagles and kites) and showed lower predatory bird activity.

But the impacts didn't end there. With fewer predators, lizard numbers shot up to almost three times more in wind farms. And these reptiles showed marked changes in behaviour.

"They were bolder and less risk averse," said Dr. Thaker.

With lowered anti-predator responses, the reptiles let researchers approach to within 3 m before running away (normally, they flee if intruders approach to within 15 m). The lizards' stress (corticosterone) levels were also far lower than those in areas without wind turbines.

But oddly enough, these lizards were not doing well: they were thinner, a sign of poor body condition. The usually brilliant blue and orange colours that male lizards sport were less vibrant in individuals at wind farms: not a good sign, because colour intensities aid lizards in social communication.

"Increased competition for resources, now that lizards are at high densities, could be the cause," said Dr. Thaker, whose work depicts a trophic cascade (the changes in an ecosystem when one component of a food chain is removed or added) due to the introduction of wind farms.

The study is important for it shows that wind power projects — currently exempt from Environment Impact Assessments — have complex ecological consequences, commented Shikha Lakhanpal, research scholar at Bengaluru's Ashoka Trust for Ecology and Environment who studies environmental and developmental aspects of renewable energy.

"Given India's focus on renewable energy, policy-makers should start thinking deeply about the trade-offs between clean energy and environment protection," wrote Dr. Lakhanpal in an e-mail.

END