

Nigel Collar and Abi Tamim Vanak



Nigel Collar
(Credit: www.pisymposium.org)



Abi Tamim Vanak
(Credit: www.atree.org)

Nigel Collar is the Chairman of the International Union for Conservation of Nature (IUCN) Bustard Specialist Group and Leventis Fellow in Conservation Biology at the Birdlife International based in Cambridge, UK. Abi Tamim Vanak is a faculty with Ashoka Trust for Research in Ecology and Environment (ATREE), Bangalore, and has many years of experience in research and conservation of dry grassland and semi-arid ecosystems in India and the many species associated with these habitats. *Current Science* interviewed them both during the Student Conference on Conservation Science – Bangalore held at the Indian Institute of Science, Bangalore between 25 and 28 September 2013. Following are the excerpts from the interview.

In India, are grasslands more threatened than forest habitats?

Collar: The grasslands are under greater threat because they are not regarded in the same way as the forests. Threats to forests are more visible and can be tracked much better, whereas people do

not recognize grasslands to be of biological significance. Advocacy for grasslands is also much lesser than it is for forests and this puts them more at risk. There are fewer grasslands and most of them are being converted into agricultural farmlands or as pastures and plantations. Saving grasslands is an absolute fundamental necessity for a conservation biologist.

Abi: Grasslands are highly productive systems and while conversion of forest areas into agricultural land needs a lot of effort, grasslands are easy for conversion. The vast grasslands across the Terai region were rapidly converted into agricultural land after the problem of malaria was overcome. The reason semi-arid grasslands have survived a bit longer is because they have low rainfall. Now with irrigation projects coming up in the dry areas, water availability will no longer be a problem to practice agriculture.

Why are grasslands considered as wastelands in India? How did they get the tag?

Abi: Importance of grasslands was well recognized by many Indian rulers. Grasslands have had different uses and different statuses at different periods of time. For example, in Maharashtra, grasslands were reserved to provide fodder for the 'Senapati's' horses and elephants. In Karnataka, places like Amruthmahal Kaval were reserved for rearing the Amruthmahal breed of cattle which was an excellent draught breed and was used by the military. But with the advent of the British rule, nomadic pastoralists were sedentarized and encouraged to cultivate the grasslands. Since the semi-arid grasslands couldn't be cultivated, nor anything could be extracted from them, they were categorized as wastelands. The tag of wastelands has stuck to them even today.

What percentage of the Protected Area Network in India consists of grasslands?

Abi: I do not know of the whole country and therefore I won't comment on it. But during my work on Indian foxes (*Vulpes bengalensis*) another grassland-dwelling

Box 1. The Great Indian Bustard in its grassland habitat.

The Great Indian Bustard (GIB; *Ardeotis nigricaps*) is a bird species endemic to the grasslands of India. One among the three bustard species found in India, it was once widespread in its distribution, but now is found only in small grassland tracts across the states of Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Karnataka and Andhra Pradesh. Loss of habitat for development and agriculture are the main threats in addition to predation by village dogs and in some cases by humans too. With as few as 250 individuals left in the wild, the IUCN has categorized the GIB as 'Critically Endangered'.



The Great Indian Bustard in its grassland habitat.
Photo: Ramki Sreenivasan/Conservation India

IN CONVERSATION

species, I found that less than 2% of the grasslands in Karnataka and Andhra Pradesh are protected.

Why have grasslands not received the same amount of attention as the forests? Is it because of the absence of a charismatic large species like the tiger?

Abi: Grasslands were home to cheetahs not very long ago. A lot of interest in grasslands was renewed when the former minister for Environment and Forests, Jairam Ramesh, planned to reintroduce cheetahs in India. But unfortunately, you no longer find large tracts of grasslands suitable for cheetahs today. Though I was very sceptical about the cheetah reintroduction plan, its potential of increasing the profile of the semi-arid savannahs was very appealing.

Collar: But there still are left various large tracts of semi-arid savannahs suitable for GIB (the Great Indian Bustard) and other grassland species which Abi has identified as a part of his on-going study of mapping grasslands in India.

Abi: Now the question is whether we can protect these tracts of remaining grasslands. We need champion species for these places and the bustards don't seem to be successful in playing this role. Bustards and blackbucks haven't been popular representatives of grassland habitats as the tiger is to the forests. Neither have the wolves, which have never been popular with the people.

Has there been any extension in the distributional range of the GIB in the recent years?

Abi: We don't know. There definitely has been a range contraction. They were once found as far south as Tamil Nadu during 1900s. Mysore had bustards until the early 1960s. They were found in Ranebennur near Hubli in Karnataka, but went extinct in the late 1980s and this was mainly because of the eucalyptus saplings that were planted. Bustards benefitted initially when the eucalyptus saplings were only a few feet in height, but then as the saplings grew, bustards vanished from the area.

Given the GIB scenario, is setting up a captive breeding and reintroduction programme the solution?

Collar: Captive breeding and reintroduction are very context-specific solutions. There are some species which are very amicable to captive breeding and can be introduced back in their natural habitat. There are other species that are difficult and expensive to breed in captivity. We don't know whether they will do well or not when reintroduced. Birds can easily fly away and this has been a problem encountered in many cases. Trans-locating wild birds also has the serious possibility that they will return to their original location due to their inherent behavioural instincts. An animal or bird species which breeds well in captivity and has no inhibitions is a god send to conservation-

ists. But it by no means is a universal answer and this must be stressed to people who think it is the answer to everything.

What about the GIB? Are they good species to be used in a captive breeding and reintroduction programme?

Collar: They are not. We have the example of the Houbara bustard (*Chlamydotis undulata*) in the breeding programmes in the Arabian Peninsula, where it has taken more than 30 years and investments of billions of dollars to have them breed as they are doing now. To start with another species all over again will encounter a huge problem. Breeding of the Houbara bustard encountered problems for 15 years. The problem was finally cracked and the required technology acquired. But I worry that, in these 30 years of experimenting with breeding, the genetic trait of nervousness may have been weeded out and we may now be left with a somewhat domesticated form of the Houbara. For birds, nervousness in the wild can be a good quality. It keeps them alert and on the lookout for predators. This has not been proved but it is something that has been in the back of my mind for a long time now. Kori bustards (*Ardeotis kori*) found in Africa too haven't bred well in captivity at the Smithsonian. They are not able to produce sufficient eggs to give away Kori bustards to other zoos. It is not that breeding of the GIB in captivity is impossible. It can be done. But it would require huge amount of money and involves high risk. For example, you capture about 20 birds from the wild; my prediction will be that there would at least be 50% mortality. Can India afford such a loss with the GIB already down to such low numbers when every individual counts? The other alternative is to collect eggs, but the number of eggs you need to reach a state where you can put the GIBs back into the wild would be too high. I think it is too far a thought. May be 40 years ago it could have been attempted, but I think it's a bit too late to do it now. I will be very wary of starting a captive breeding programme for the GIB with the knowledge and experience we have had with other bustard species.

Abi: We first need to be clear on the purpose of starting a breeding programme or reintroduction of the species in an area. Is it to try and revive a popu-



Developmental projects like wind mills and solar farms have reduced the grassland habitat available for bustards. Photo Credit: Nirav Bhatt/Conservation India.

lation that will cease to exist without our intervention? Once these facts are set straight you should intervene to stop those negative factors or neutralize them. This hasn't happened in the case of the GIB. We are still grappling in the dark for answers. We have a few broad reasons on why the bustard numbers are declining. But there are a few other factors that are yet to be investigated.

There are plans to track two GIB individuals using satellite telemetry. What are your views on it?

Abi: Too little, too late.

Collar: There is an ambition to know what the GIBs do. The trouble is large bustard species do strange things and sometimes do nothing. A student of mine working on the Kori bustard in Botswana tried tracking four birds using satellite transmitters. They did not move from the area at all. It is one of those studies with boring results. Though these results are in a way helpful, a lot of expense and effort was put into the study with each transmitter costing around 3000–4000 dollars (USD). The Great Bustards (*Otis tarda*) released in Britain have been found to show an unpredictable pattern. The birds flew in all directions, with two individuals flying off to France only to return a couple of years later. It is intriguing, but the study doesn't give any information on predicting how other individuals might respond. You need a large sample size to predict such behaviour and with sample size as low as two individuals, you cannot learn much. Little knowledge can be dangerous, as we might make some assumptions that may not be true. Maybe the GIBs migrate in response to increased anthropogenic pressures in the area and this can be easily interpreted as their natural behaviour. If you could put 20 transmitters on 20 birds and then follow them for 5 years and see if a pattern emerges, then some predictions can be made. I am not saying 'don't do it', but just that one must be very cautious on interpreting the results.

Abi: I agree with Nigel. The Indian bureaucracy has so far been very wary of studies that involve capturing because government authorities are very risk averse. For them the risk associated with the death of an animal during capture and the bad publicity that follows it is much

higher than not knowing its ecology. The bird meanwhile may go extinct. That's how India's bureaucracy functions. From Suthirtha Dutta's study we now know GIBs in Kutch are found in similar habitats both during breeding and non-breeding seasons. This behavioural pattern might be true for that particular population, but from my personal experience, the GIB populations in Nannaj and Rollapadu do not show a similar habitat use pattern. The habitats available in most places are very small areas of about 4–5 sq. km. In Nannaj, the birds spent more time outside the protected plots and used the protected plots only during the breeding season to display. The males were never seen displaying outside the protected plots.

What is the immediate action that needs to be taken?

Collar: India has some grassland protected areas, but they haven't worked so far in conserving the bustards and it is important to assess why they haven't been effective. Bustards existed in grasslands even before the protected areas were created and it is possible that bringing about certain changes can make them work. The first thing to be done is to look at each reserve very thoroughly and see why it isn't doing as well as it should be doing. Abi mentioned to me that there are around 700 dogs/sq. km in Nannaj. That is a very high predator density. They probably wouldn't affect the adult GIBs much, but the chicks can be very vulnerable to predation. We need to examine such issues very carefully, and to my mind this is the single most important research challenge for the GIB. Solve management issues and persuade agnostic villagers to support their local grassland reserves. That's the only way there is a good chance that the number of GIBs might go up.

How does one bring back the focus on the bustards as a flagship species for the grasslands?

Collar: GIBs haven't had much of a profile until now. But that scenario now seems to be changing. India is a very proud nation and I am sure the last thing the people here want is to lose a bird species named after their country itself.

Protected areas have not been much help for the GIB and it has been suggested to

have a matrix of habitats integrating both protected areas and agricultural land? Does such a conservation reserve exist elsewhere in the world?

Collar: Yes there is. European Union provides money for a special protection area in Baixo Alentejo, southern Portugal, to conserve the Great bustards. It's an agricultural landscape and is not fenced. The farmers here are subsidized to grow certain bustard-friendly crops using bustard-friendly methods. I feel that this is an equitable, fair and reasonable arrangement for both the bustards and the people. In 1977, there were 400 bustards and now there are around 1500. This is a good example where the concerned authorities have improved on an already existing situation.

For conservation plans to work, local people have to be always a part of the solution and not the problem. You will fail if this isn't considered. Indians are very tolerant people and love their wildlife. One has to take advantage of this attitude. You need to treat the people fairly. It will definitely cost money, but it is not as expensive as setting up and running a captive breeding programme.

Abi: There are some examples like in Nannaj, where people are ready to set aside their land without cultivating it and just want the government to pay them the basic cost for the labour they would have incurred had they cultivated the land. Doing such a thing would be of great help to conserve the bustards and also the cost of doing this would be very reasonable. However, in cases such as this, a top-down approach will not work. Local people must be encouraged to come up with suggestions and tell the Forest Department and researchers on what works for them.

Which other bird species in India shares a fate similar to the GIB?

Collar: One of the other bustard species found in India, the Bengal Florican (*Houbaropsis bengalensis*). With the bird population in Southeast Asia dwindling rapidly, the Indian sub-continent might be its last hope.

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