

has also classified it as 'endangered' in the Red Data Book in 2000. Its international trade and killings are prohibited, as it is listed in Appendix-I of the CITES.

In November 2004, the World Conservation Congress had urged the Government of India to start 'Project Bustard' (on the lines of Project Tiger) to protect the GIB and the other Indian bustards and their habitats<sup>3</sup>. Some misguided efforts in Maharashtra<sup>7,8</sup> to limit the area of the GIB sanctuary from the originally proposed 8500 km<sup>2</sup> to only 347 km<sup>2</sup> can be dangerous to protect the bird. However, the Rajasthan Government is keen to revive the falling GIB population and is planning to widen the DNP by relocating the nearby nine villages<sup>5</sup>.

Protected dry grasslands, bigger sanctuaries and captive breeding may save this bird. Otherwise, the GIB will be extinct in the next 5–10 years.

1. Bird Life International, Species factsheet: *Ardeotis nigriceps*, 2008; available online at [www.birdlife.org](http://www.birdlife.org)
2. <http://www.care4nature.org/wildindia/bustard/>
3. [http://www.iucn.org/congress/2004/members/Individual\\_Res\\_Rec\\_Eng/wcc3\\_rec\\_115.pdf](http://www.iucn.org/congress/2004/members/Individual_Res_Rec_Eng/wcc3_rec_115.pdf)
4. <http://www.indianexpress.com/res/web/p/ie/daily/19991108/ige08015.html>
5. Dey, A., *Times of India*, New Delhi, 22 July 2008, p. 6.

6. Rahmani, A. R., *J. Bombay Nat. Hist. Soc.*, 1996, **93**, 442–458.
7. [http://economictimes.indiatimes.com/News/Politics/Nation/Maha\\_Govt\\_to\\_approach\\_SC\\_for\\_reducing\\_bird\\_sanctuary\\_area/articleshow/3202661.cms](http://economictimes.indiatimes.com/News/Politics/Nation/Maha_Govt_to_approach_SC_for_reducing_bird_sanctuary_area/articleshow/3202661.cms)
8. [http://www.gunaah.com/index.php?id=46&tx\\_ttnews\[tt\\_news\]=1703&tx\\_ttnews\[backPid\]=1&cHash=642d83c449](http://www.gunaah.com/index.php?id=46&tx_ttnews[tt_news]=1703&tx_ttnews[backPid]=1&cHash=642d83c449)

ABHAY S. D. RAJPUT

(*S. Ramaseshan Fellow*),  
H. No. 59, L. No. 1, Munshi Chak,  
Opp. Old Chungi, Camp Road,  
Talab Tillo,  
Jammu 180 002, India  
e-mail: [abhaysdr@yahoo.co.in](mailto:abhaysdr@yahoo.co.in)

## Justifying tiger farms – a step backward for tiger conservation?

We refer to the correspondence on the use of tiger farms for conservation by Xavier<sup>1</sup>. There seems to be an over-simplification of several points raised about the management of tiger farms and other issues related to tiger conservation. In the following discussion, the terms 'breeding centres' and 'tiger farms' are used interchangeably.

The concept of 'wise use of replenishable resources for the benefit of mankind' was mentioned by Xavier, but in the case of tigers, resource-use patterns are way past 'wise use' levels, to the extent of depleting them. A large-range contraction of tigers within the past decade<sup>2</sup> and the estimated 2500 or less breeding tigers in the wild would attest to this<sup>3</sup>. Promoting tiger farms generates the dangerous notion that the wild resource cannot be depleted, but if there is an insatiable demand and tiger farms cannot cope with the situation, the remaining wild tigers will eventually succumb as well, possibly due to the anthropogenic Allee Effect<sup>4</sup>. On a related note, Clayton *et al.*<sup>5</sup> have shown how the mere proposal of a captive programme for the babirusa, an endangered suid, caused a spike in the capture and trade of wild-caught individuals. Similarly, the set-up of several tiger breeding centres in India can potentially have adverse repercussions on wild populations.

Many researchers have maintained that it is impossible to differentiate tiger body parts taken from farmed animals and

those from the wild<sup>2,6</sup>. This is contrary to the proposal of gene-tagging by Xavier<sup>1</sup>. Gene-tagging may work within a country, whereby tiger farms are compliant with strict regulations and enforcement is strong. But if regulated international trade is allowed and the tiger parts or products are shipped, there is no way for independent verification of the legality of the trade items. Besides, tiger parts are usually smuggled out via alternative routes to escape detection. Until there is a tight cooperative network between tiger farms, tiger range states and CITES parties sharing a constantly updated genetic database and the development of an inexpensive test kit, implementation of gene-tagging as a regulating tool is not feasible.

Breeding centres established for the sake of breeding tigers for reintroduction without 'commercial motives and methods'<sup>1</sup> would be a truly altruistic venture. Raising a captive-bred tiger to adulthood is a costly undertaking<sup>2</sup>. China's tiger farms are not established for the purpose of breeding tigers for re-introduction into the wild per se, but rather for tourism, and the eventual (underlying) aim of trade in tiger parts should the domestic trade ban be lifted. In short, the scepticism behind tiger farms is not unfounded because economics dictates the viability of such production systems. There is also a grave concern that a legalized trade in tiger parts begets the poaching of wild

tigers to be sold as legitimate trade items<sup>2,6,7</sup>. The captive breeding of tigers for re-introduction into the wild or reserves formerly occupied by tigers is best left to zoos with sound breeding programmes, and not tiger farms or breeding centres where the provenance of the captive stock may be poorly recorded and not verified.

There is an adequate regulatory framework in most range states to protect tigers, but law enforcement is woefully inadequate<sup>2</sup> and compliance is lacking. Hence, we agree with Xavier that there should be stricter enforcement measures to check poaching, both within and outside protected areas where tigers occur. This would complement scientific long-term population monitoring, sensible land-use planning and swift human-wildlife conflict resolution in the toolbox of tiger conservation<sup>8</sup>. India may be best placed to save this iconic cat given that it probably has one of the largest tiger populations in the world<sup>9</sup> and has taken some pro-active steps in tiger conservation<sup>8</sup>. But the proposal of initiating tiger farming in India by Xavier, seems counter-productive to those efforts.

1. Xavier, N., *Curr. Sci.*, 2007, **93**, 1467.
2. Dinerstein, E. *et al.*, *Bioscience*, 2007, **57**, 508–514.
3. IUCN (World Conservation Union), 2006; <http://www.iucnredlist.org>
4. Courchamp, F. *et al.*, *PLOS Biol.*, 2006, **4**, e415.