

## Joining the dots but loosing the cats?- Dr. K U Karanth, Cat News 43, Autumn 2005

**The Prime Minister of India appointed the Tiger Task Force (TTF) recognizing that wild tigers are in serious decline. This recognition was triggered by a huge public outcry over the extirpation of tigers in the high-profile Sariska reserve. The task force was headed by environmental activist Sunita Narain, and, had as its members Madhav Gadgil (evolutionary biologist and human ecologist), Hemendra Panwar and Samar Singh (former directors of Project Tiger and of Wildlife Preservation, respectively) and tiger conservationist Valmik Thapar. It submitted a 206-page report titled "Joining the Dots" (TTF 2005) on 5 August 2005. The report includes a dissent note by Thapar and its rebuttal by Narain. I have analyzed some key aspects of the TTF report here.**

### Transparency of Approach

Unlike most other government reports, Joining the Dots was published on the Internet (<http://projecttiger.nic.in/TTF2005/contents.htm>) enabling the tiger conservationists to examine and critique it. An important adjunct to this laudable move is TTF's specific recommendation that Management Plans of reserves and the data on tiger status collected by Project Tiger should also be made public on the Internet. Given the present lack of transparency in tiger management, serious mismanagement of tiger habitats through poorly drafted plans is an all too common phenomenon. If this key recommendation is implemented, biologists and conservationists will be able to review and critique tiger reserve plans in real time, possibly helping to curb some of the ongoing mismanagement.

### Maintaining 'Inviolable' Areas for Wild Tiger Populations

The TTF publicly recognizes that viable breeding populations of wild tigers need sufficient habitats that are kept free of incompatible human uses. The report

calls them 'inviolable areas'- a usage I will follow here. This key recommendation is not a new idea for tiger ecologists or conservationists. However, its public reiteration by TTF, which simultaneously proclaims its commitment to 'coexistence' between tigers and people, is welcome. In the specific context, this can only mean that while TTF recognizes that wild tigers must indeed 'coexist' with people in India, at the same time they need sufficient 'inviolable' critical habitats to maintain viable breeding populations. The key issue then becomes, how we can identify and protect such inviolable habitat patches within the overall forested landscape matrix of India.

TTF report projects an area of just 37,000 km<sup>2</sup> (14,300 square miles), within boundaries of current Project Tiger Reserves as future 'inviolable' space for tigers. Assuming a mid-range ecological density of 8-10 tigers/100 km<sup>2</sup> estimated in India's protected reserves (Karanth *et al.* 2004), TTF estimate thus sets a ceiling of 3000-3700 individuals as the potential maximum population size for breeding tiger populations. India's land area of about 3 million km<sup>2</sup> harbors 300,000 km<sup>2</sup> of potential tiger habitats (Wikramanayake *et al.* 1999). I would argue that TTF estimate of space required for securing wild tiger populations is too low, given what we know about tiger population viability based purely on demographic criteria (Karanth & Stith 1999), even if we were to ignore for the moment the far more demanding genetic criteria.

The report is flawed because it identifies just current project tiger reserves as future inviolable space for maintaining viable tiger populations. The fact is, some of these tiger reserves are simply paper sanctuaries: several are virtually under the control of guerilla groups (e.g. Indravati, Nagarjuna Sagar, Manas); many are deteriorating under pressures of hunting and habitat overuse (Namdapha, Simlipal, Palamau, Ranthambore). Most have densely packed human settlements that cover substantial proportions of their area.

Given these facts, restricting the scope of potential inviolable tiger habitats to present Project Tiger Reserves is not scientifically defensible. The selection of such inviolable space should have been a more careful data-driven exercise. TTF has failed to draw on knowledge of tiger ecology in India and Nepal generated from three decades of scientific research, and, instead relied poor quality data in the form of pugmark census tiger numbers and the much touted but largely irrelevant "core and buffer zones concept" promoted by Project Tiger.

### Feasibility and Cost of Maintaining Inviolable Tiger Habitats

TTF has initiated a valuable exercise in estimating the potential cost of creating inviolable areas for tiger populations in the country through incentive-driven village resettlement projects. TTF report rightly points out that the required scale of investments is far greater than what is earmarked in current government plans for the wildlife sector. TTF has done well to identify some potential additional sources of funding that can be mobilized to pay for such tiger conservation efforts: charging farmers, businesses and urban citizens for the watershed services provided by the forest reserves and by recovering costs from forestry, tourism, mining and other resource-based industries etc.

TTF however, has failed to recognize an even more important potential source of hitherto untapped funds. The fact is that if the settlements for relocation are carefully chosen based on sound ecological criteria, the amount of money saved in other sectors of public expenditure (on provision of rural roads, power lines, communication, health care, education et) on them, is likely to be far more than the actual cost of relocations. In fact, that there may sometimes even be a net saving of government funds with such an approach.

The costing exercise is also flawed because 'existing Project Tiger Reserves' have been used by TTF as units for

generating estimates. Many of these tiger reserves were created over time in an ad hoc manner, driven substantially by whims and fancies of individuals. Many of them harbor human settlements and varied incompatible land uses. Trying to relocate all of these settlements is neither the ecologically optimal nor the most cost effective approach for securing critical tiger habitats for the future.

### **The Issue of Human-Tiger Coexistence**

The TTF report claims to have come up with an "Indian way of saving the tiger" through its own unique formula for human-tiger coexistence. Many conservationists have derided this claim. I am, however, willing to concede TTF a right to indulge in a bit of hyperbole, given that it has agreed sufficiently large areas in which tigers can breed must be kept inviolate. My quibbles with TTF are on the details of their proposal for establishing such inviolate areas.

In any case, this so-called "Indian way of tiger conservation" is hardly unique or even Indian. John Robinson called a similar approach "Sustainable Landscapes" as far back as 1993 in a seminal paper titled *Limits to Caring* (Robinson 1993). For example, as far as Wildlife Conservation Society's biologists engaged in tiger conservation are concerned, this "Indian way" is simply a mixture of the conservation strategies adopted in different ecological contexts. The 'inviolable area strategy' is recommended for ecological contexts of high potential tiger density with high human density such as in India, Nepal, Thailand and Malaysia. The 'coexistence strategy' is suggested for contexts of low human density and low tiger density, such as the Russian Far East and some parts of Southeast Asia. I believe there is no "Indian Way" - or any other nation state way - of saving the tiger. There is only the tiger's own way.

However, TTF report does pose a pertinent question that Indian tiger conservationists sometimes tend to ignore: if we agree that 'sufficient' tiger habitat is to be kept inviolate through adequate investments in voluntary relocation of villages, what do we then do with human settlements in other tiger habitats where such relocation is not a practical option in the foreseeable future?

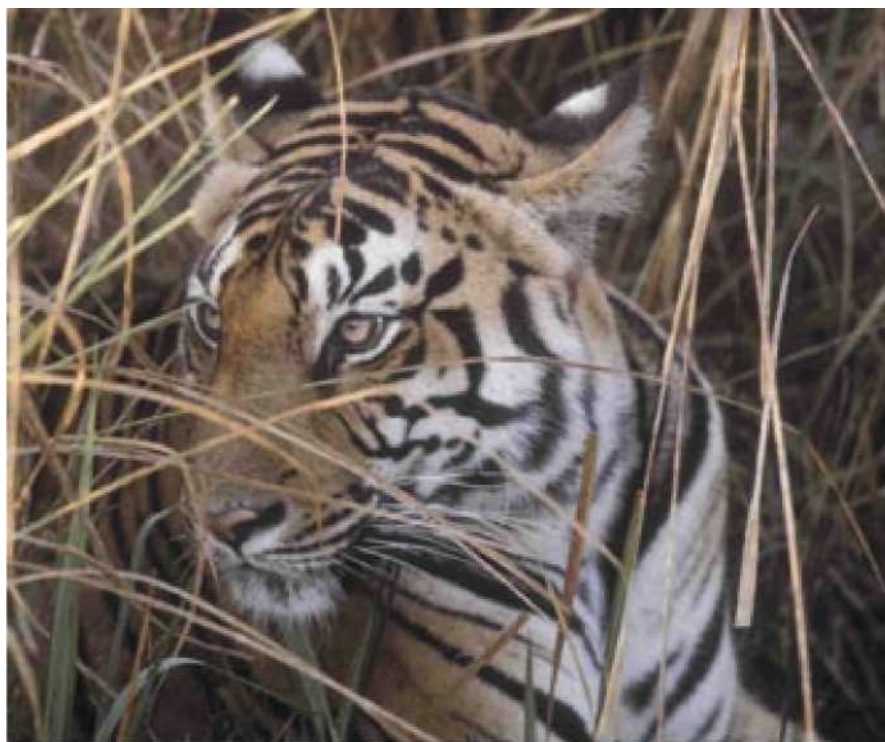


Photo: K. U. Karanth

TTF seems to suggest that in such tiger habitats that are already within nature reserves, existing wildlife laws should be relaxed to allow exploitation of forests and other multiple-uses. TTF seems to implicitly believe that the 'coexistence' envisaged under multiple-use will also be somehow 'peaceful'. Many conservationists see this position as compromising on the interests of the tiger, and, as the thin end of a wedge that will drive commercial forest exploitation and development deeper into India's already meager and fragmented nature reserves.

I would argue that diluting India's strict - albeit loosely implemented - protected area laws would be most unwise. Given the tremendous extractive pressures from local communities, developmental agencies and various commercial interests, such dilution will indeed further promote continued fragmentation and destruction of even remaining critical tiger habitats. It will make effective anti-poaching patrols almost impossible. Given the increasing pressure from poaching of tigers and prey, such a move will be most inimical to tiger survival.

Given the prevailing high human population densities and intensive biomass extraction, any multiple use areas

will be clearly poor habitats for tigers. They will not hold viable breeding populations, but can only serve as corridors for dispersal or areas of transience. Human-tiger conflict will be perpetual in such areas. We must recognize that the proposed "coexistence" - while being inevitable in many contexts as pointed out by the TTF - will be neither "peaceful" nor "harmonious". This reality is simply dictated by the biology of the big cat, and there is no way around it. Examples of such tenuous and conflict-prone coexistence can be found even now in multiple-use and community forests in India and Nepal.

I believe a practical approach to resolve this dilemma is to set about scientifically identifying all high priority areas of sufficient size where tiger habitat should remain inviolate. This process must cover all tiger habitats in India, including "reserved forests" and "community-controlled forests". The process must be driven by knowledge of tiger ecology and should aim at generating realistic costing and implementation schedules. After that a decision has to be made to re-categorize some of the currently excluded critical tiger habitats as nature reserves. The TTF report appears to suggest that such an identification and planning process should be

restricted to current Project Tiger Reserves and be executed by Project Tiger authorities within one year. These limitations are too restrictive, impractical and not carefully thought out.

At the same time, I would argue that another scientific process must be initiated to earmark areas within the present network of protected areas (not just tiger reserves) for deletion: areas that are too densely populated and without any real prospect for implementing village relocations in the foreseeable future. These areas must eventually be reclassified as 'community conservation reserves' or 'reserved forests', within which local people and their development needs will have priority over tiger conservation goals. Hopefully, this will, to some extent at least, lessen local hostility towards nature reserves, while at the same time keep exploitative industrial interests at bay.

Only the best of modern wildlife science can help us generate optimal solutions as to where and how many tiger habitats can India try to keep 'involute', and, where and which areas can only sustain the alternative of a precarious, conflict prone 'co-existence'. Exchange of polemics will not deliver optimal solutions.

### **Addressing Science Deficiency in Tiger Conservation**

A welcome feature of the TTF report is the clear and unambiguous criticism of past official curbs on scientific research and lack of transparency in processing research permissions. TTF recommendations relating to the conduct, facilitation and promotion of wildlife research are well thought out and appear to have been generated largely by the solitary scientist on the Task Force. My concern is about the extent to which these recommendations will be implemented, given the anti-wildlife research culture that permeates the forestry and wildlife officialdom in India (Karanth *et al.* 2003, TTF 2005.).

To its credit, the TTF report tries to give a decent burial to the scientifically discredited pugmark census of tigers based on total counts traditionally practiced in India. It clearly mandates a switch over to a sampling-based approach recommended by most scien-

tists (Karanth *et al.* 2003, TTF 2005). However, the fact that such a switch to sampling based methods was earlier mandated in 1997 by Project Tiger, and, that subsequent to 2002 the Directorate of Project Tiger had reversed course to retain the pugmark census have been ignored by TTF. Consequently, continued official attempts to undermine TTF diktat to abandon the pugmark census cannot be ruled out.

Unfortunately, despite praising the concept of open competition of scientific ideas in the realm of future monitoring of tiger populations as well as in the audit of tiger reserves, TTF has approved a rather technically unsound monitoring scheme jointly developed by Project Tiger and the government-run Wildlife Institute of India recently. Curiously, TTF report itself admits that the proposed scheme has problems and recommends the establishment of a technical forum to deal with these. Superior ways of monitoring tigers and prey species across different spatial scales, which explicitly deal with the central problem of estimating detectability in animal sampling studies (Thompson *et al.* 2005) have been proposed earlier (Karanth & Nichols 2002). It appears that TTF has failed to spot the design flaws (not just data analysis problems as it notes) in the monitoring scheme it has endorsed. TTF appears to have been pushed into this scientifically awkward position by the Ministry of Environment, which reportedly sanctioned an expenditure of 120 million rupees for implementing the proposed scheme even before the Task Force was appointed.

### **Dealing with the Collapse of Protection: Mission Drift Due to Eco-Development Projects**

The most glaring failure of the TTF has been its inability to take a clear and categorical stand against continuation of the various Eco-development Projects (under the original World Bank-GEF model as well as its local variants such as Samanvit Gram Vaneekaran Yojana (SGVY) of the Indian Government.

The undermining of Indian nature reserve protection during the last one decade has been driven primarily by these profligate eco-development pro-

jects. The collapse of protection has resulted also from a general decline in caliber of administration on account of complex social factors and an increase in corruption. These negative features have been substantially reinforced by the successively larger multilateral aid projects promoted by agencies such as the World Bank-GEF combine and European Union. Typically such projects involve rapid infusion of huge sums of money over short periods into the hands of a few reserve officials. These projects have usually led to massive corruption, mismanagement of habitats and distraction of staff away from protective duties towards rural development activities. This distraction has left tiger habitats wide open to poaching and other negative impacts, precisely at a time when human access and fragmentation have multiplied.

Despite recognizing this problem in its analysis, TTF has strangely allowed the continuation of eco-development projects that are already in the pipeline, merely satisfying itself with a gentle admonition to the government to be more careful in the future. It appears that the pressure from a powerful combination of Ministry officials and its consultants has prevailed over TTF in this regard. The fact that the only scientist member of TTF also used to head a technical panel of the GEF, which originally spawned these eco-development projects, may also have been a contributory factor. Furthermore, in its "Fringe Agenda" section, the TTF report appears to expect nature reserve managers to virtually turn into rural development specialists. It is likely that they will take on such responsibilities in greater numbers at the cost of tiger protection.

In this context, I agree with the dissenting member's comment that TTF has taken on too many fringe agenda issues and ended up doing a disservice to the tiger's cause. I also concur with his assessment that the numerous social injustices and deprivations that exist in the fringe villages around tiger habitats in India result from overall social failures of development: they should not be simple-mindedly blamed on tiger conservationists.

The sections of TTF report that deal with anti-wildlife trade operations and field protection needs are rather poorly

done. Just as one example, the report suggests that the proposed anti-wildlife crime bureau (which deals with trade issues) should be handled by a forester instead of a police officer from the Home Ministry more competent to deal with this issue. The reason offered for this illogical recommendation appears to be a need to maintain current hierarchical order within the Ministry of Environment, an agency that has failed substantially to curb the burgeoning tiger trade. The TTF report also gives a short shrift to practically addressing the very real problem of State Government's role in field protection: particularly the issue of political interference in the posting of competent officials to nature reserves.

### Condoning Recent Failures of Project Tiger and the Ministry of Environment

The Prime Minister appointed the TTF because the country perceived there is a serious tiger crisis. The responsibility for this failure has to be borne both by the Central Government (Ministry of Environment, Project Tiger) and the State Governments. The TTF report, by and large, simply passes the blame on to State Governments. Even while assigning such blame, it appears to indulge in a curious partisanship. The State of Rajasthan is severely chastised while the State of Madhya Pradesh is let off gently. Failures of the latter state government, such as those in Panna and Indravati, and the fact that the show-cased Kanha reserve still has many un-relocated villages after 30 years of well-funded 'management' are ignored.

While examining the Project Tiger's past critically, TTF chooses to ignore the lapses of the current directorate and the Ministry of Environment. For instance, TTF report has failed to note that at the landscape level, tiger habitats have begun to fragment severely under new 'industry-friendly' project clearance procedures put in place by the same Ministry of Environment. Despite claims of the Project Tiger directorate about its access to 'real-time landscape level data in the GIS domain', the fact remains that the directorate has totally failed to either notice or intervene to stem the impact of its parent Ministry's industry-friendly policies on tiger habi-

tats. Nor does the report recognize that no new village relocation initiatives have emerged in last four years, and, much of the earlier initiatives in relocation (including Bhadra, Nagarahole and Kuno-Palpur) have been executed under the previous director.

In the case of tiger extinction in Sariska, it should be noted that while the state government of Rajasthan has taken action against several officials, the Ministry of Environment has not taken action against a single official owning up its share of the responsibility. The TTF report totally fails to fix responsibility for current failures of the Project Tiger, while professing much indignation about past failures.

### Consequences of the Report

Despite paying homage to sound ideas such as decentralization, greater involvement of state governments, and need for prioritizing non-governmental participation in tiger conservation, the TTF report basically entrusts responsibility for implementing its recommendations on two institutions run by Ministry of Environment and Forests: Directorate Project Tiger and the Wildlife Institute of India (WII). Thus, TTF continues the same top-down, bureaucratic tiger conservation approach that it criticizes throughout its own report.

The Directorate of Project Tiger and WII are essentially two weak institutions, whose numerous failures are all too well known within the conservation community in India. Their Institutional capacity and track record do not vouch for an ability to effectively implement the wide-ranging agenda TTF has set out for them. Thus the Institutional mechanisms set forth at the beginning of the TTF report compromise the scope for implementing the varied agendas that follow. Although the report has several positive features, this basic structural weakness ensures that these are unlikely to be implemented.

In the final analysis, TTF report may lead to a few good things: perhaps a more open attitude towards research and science, at least in the long run. Another positive outcome could be a more serious examination of the entire issue of carrying out village relocations out of critical tiger habitats as a time

bound, multi-Ministry effort. Perhaps the most important contribution of the TTF report could well be the improvement of public debate about wildlife conservation in India. The decision to make the report accessible to public scrutiny on the Internet is a bold move, for which the TTF must get credit. This may even result in important - perhaps unintended and unforeseen - gains for tiger conservation in the future. Overall, however, I remain concerned that in its preoccupation with joining all the possible dots, the Tiger Task Force may have lost the cats.

### References

- Karanth K.U. and Nichols J.D (Editors). 2002. *Monitoring Tigers and their Prey: A manual for researchers, managers and conservationists in tropical Asia* (Editors: K.U. Karanth and J.D. Nichols), Centre for Wildlife Studies, Bangalore, India.
- Karanth K. U., Nichols I D., Seidensticker J., Dinerstein E., Smith J.L.D., McDougal C., Johnsingh A. I T., Chundawat R. S and Thapar. V. 2003. Science deficiency in conservation practice: the monitoring of tiger populations in India. *Animal Conservation* 6: 141-146.
- Karanth, K.U., Nichols, J.D., Kumar, N.S., Link, W.A. and Hines, J.E. 2004. *Tigers and their prey: predicting carnivore densities from prey abundance*. Proceedings of National Academy of Sciences, USA 101(14): 4854-4858.
- Robinson I G. 1993. Limits to caring: sustainable living and the loss of biodiversity. *Conservation Biology*, 7,20-28.
- The Tiger Task Force. 2005. *Joining the dots*. Government of India. New Delhi.
- Thompson W (Editor). 2005. *Sampling Rare or Elusive Animals: concepts, designs and techniques for estimating animal population parameters*. Island Press, Washington DC.
- Wikramanayake E. D., Dinerstein E., Robinson J. G., Karanth K.U, Rabinowitz A., Olson D., Matthew T., Hedao P., Conner M., Hemley G. and Bolze D. 1999. *Where can tigers live in the future? A framework for identifying high priority areas for the conservation of tigers in the wild*. In *Riding the Tiger: Tiger conservation in human dominated landscapes* (Editors: I Seidensticker, S. Christie and P. Jackson), Cambridge University Press (Pages 255-272).