

**Dr P S Roy, National Remote Sensing Agency, Hyderabad sent on June 24, 2005.**

**Comments on the proposal entitled**

**Monitoring tiger status and habitat**

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Tiger conservation in India was being referred as one of the most successful conservation initiative under Forestry and Wildlife sector. However, there has been always concern on the lack of audit mechanism for evaluating the impact of conservation. The methods to estimate animal population (total count) are less than ideal.

Preserving the habitat status and its evaluation is crucial for tiger protection. Linking of this component for tiger monitoring is an unique feature of the present proposal. The proposed framework is a departure from the focus on total counts. A strength of the approach is a three stage approach including spatial mapping and monitoring of tigers, prey and habitat in stage I, providing estimates of tiger and prey populations in stage II and an intensive monitoring of tiger populations in PA's and PTR's.. However, in order to make the proposal more comprehensive the following suggestions are made:

Stage 1:

1. Long term data on relative abundance is proposed to be collected at forest beat level through indirect evidences. The methodology does not specify how uniformity of the data quality will be maintained at national level. In practice we must think radically different to generate this information.
2. We need to set up a institutional mechanism for spatial mapping and monitoring of tigers, prey and habitats and all types of water bodies. Collation of authentic data with regular auditing need to organize by an independent research group. The remote sensing based approaches of mapping are not elaborated in the proposal. However such technique will immensely improve habitat quality mapping by providing information on graze/browse quality, landscape characters and human interfaces/disturbances. Degree and causes of fragmentation of the tiger corridors for different tiger habitats need to be assessed.

3. Driving forces for tiger-animal / human conflicts are highly locale specific and analyses for inferring the interactive effects of these local variables should be modeled to provide (a) quantitative indices for assessment of the habitat quality and (b) guidelines for planning towards improving the assessment of the tiger habitat.

#### Stage 2:

1. Advanced techniques of image analysis and pattern recognition for analyzing pug marks and camera trap pictures need to be incorporated. Present methods of evaluation are subjective and prone to errors.

#### Stage 3:

1. Long term population structure is proposed to be determined through regular monitoring on a weekly basis, creation of photo data base and telemetry. We suggest DNA finger printing using tiger scat or other samples for characterizing population pool. In the event of poaching it will be possible to trace origin of the poached animal from recovered remains.

#### General Comments:

1. The proposal in its present form has made a mention of various tasks that would be accomplished in the study. It is suggested that a detailed action plan providing the details of procedural protocols, duly taking into account the variability of different tiger habitats of the nation, should be prepared. Role of various identified agencies participating in these studies need to be clearly defined.
2. Studies such as the assessment of tiger habitats calls for intense and reliable field data to develop appropriate solutions that would ameliorate and sustain the tiger habitat. In this endeavour, a dedicated research cadre would be a significant contributory for collection, compilation and analyses of the data to draw meaningful results for strengthening the tiger habitat of the country.
3. Scope of the project should be enlarged to address the issues for improving and sustaining the habitats. Appropriate solutions need to be developed for solving tiger – animal / human conflicts, involving local peoples' participation. Towards this, a scheme for awarding "Conservation Credits" to the villagers need to be developed as an integral part of this proposal.

