

PROTOCOL FOR TIGER RE-INTRODUCTION
NATIONAL TIGER CONSERVATION AUTHORITY
(Adapted from the IUCN Guidelines for Re-introductions)

Capture and Translocation of tigers could be undertaken to address the following two Goals:

Re-introduction means an attempt to establish a tiger population in an area which was once part of its historical range, but from which it has been extirpated or become extinct.

Re-inforcement/Supplementation: addition of tigers to an existing population to enhance its long-term viability.

AIMS AND OBJECTIVES OF RE-INTRODUCTION

a. Aims:

The principle aim of any re-introduction should be to establish a viable, free-ranging population in the wild, of tigers which has become locally extinct in the wild. It should be re-introduced within the tigers' former natural habitat and range and should require minimal long-term management.

b. Objectives:

The objectives of a re-introduction may include: to enhance the long-term survival of wild tigers in a manner that they could potentially perform their ecological and evolutionary role.

At no times should tiger translocations be viewed as an alternatives to, or compromise on habitat connectivity's for sustaining and promoting natural dispersal between populations.

TEAM CONSTITUTION

The Team will consist of representatives from Wildlife Institute of India, State Forest Departments, Qualified Veterinarian and a Qualified Wildlife Biologist. The Team leader would be responsible for coordination between the various bodies and provision should be made for publicity and public education about the project. The provisions of the Wildlife Protection Act shall be adhered to at all times. The proposal, progress, and activities of the translocation exercises should be transparent and communicated through appropriate forum and media so as to gain public support.

The National Tiger Conservation Authority (NTCA) will keep an oversight on the translocation process and may also depute a representative as and when considered necessary.

PRE-PROJECT ACTIVITIES

BIOLOGICAL

Feasibility study and background research

- An assessment should be made of the taxonomic status of tigers to be re-introduced. They should preferably be of the same evolutionary significant unit as those which were extirpated, unless adequate numbers are not available. Potential source/founder populations should be identified, assessed and prioritized based on a) genetic and geographical closeness to the proposed reintroduction population, b) Impact of removals on the host/founder population (assessed by a PVA if necessary). Preference should be given to tigers obtained from wild stock for reintroduction. If appropriate wild stock is not available then captive stock should be considered. An investigation of historical information about the loss and fate of individuals from the re-introduction area, as well as molecular genetic studies, may be undertaken in case of doubt as to individuals' taxonomic status.
- In the absence of genetic data tigers from the nearest population that likely had habitat connectivity in the historical past with the area where reintroduction is to be made should be the preferred founder population.
- A Population and Habitat Viability Analysis will aid in identifying significant environmental and population variables and assessing their potential interactions, which would guide long-term population management and reintroduction. Population and management plans for the long term (>25 years) should be prepared on the basis of the above analysis. It should be clear from the onset of the reintroduction program that some reintroduced populations will require continuous management and/or supplementation for long term viability. Commitments from the concerned authority and funding support for this sustained effort are a prerequisite for reintroduction.

Choice of release site and type

- Site should be within the historic range of tigers. For an initial reinforcement there should be few remnant wild individuals. For a re-introduction, there should be no remnant population to prevent disease spread, social disruption and introduction of alien genes. In some circumstances, a re-introduction or re-inforcement may have to be made into an area which is fenced or otherwise delimited, but it should be within the species' former natural habitat and range.
- The re-introduction area should have assured long-term protection (whether formal or otherwise).

Evaluation of re-introduction site

- Availability of suitable habitat: re-introductions should only take place where the habitat and landscape requirements of tigers are satisfied, and likely

to be sustained for the for-seeable future. The possibility of natural habitat change since extirpation must be considered. Likewise, a change in the legal/ political or cultural environment since species extirpation needs to be ascertained and evaluated as a possible constraint. The area should have sufficient carrying capacity to sustain growth of the re-introduced population and support a viable (self-sustaining) population in the long run.

- Identification and elimination, or reduction to a sufficient level, of previous causes of decline: could include disease; over-hunting; poisoning; competition with or predation by introduced species; commercial poaching, habitat loss; and adverse effects of earlier management programmes;,. Where the release site has undergone substantial degradation caused by human activity, a habitat restoration programme and/or programmes to resettle humans should be initiated before the re-introduction is carried out.

Suitability of release stock of Tigers

- It is desirable that source tigers come from wild populations. If there is a choice of wild populations to supply founder stock for translocation, the source population should ideally be closely related genetically to the original native stock and show similar ecological characteristics to the original population.
- Removal of individuals for re-introduction must not endanger the wild source population. Stock must be guaranteed available on a regular and predictable basis, meeting specifications of the project protocol.
- Individuals should only be removed from a wild population after the effects of translocation on the donor population have been assessed, and after it is guaranteed that these effects will not be negative.
- To minimize impact on the founder / host population, preferably tigresses between the age of 2-3 years (Sub-adults) who have become independent of their mother but are yet to establish their own territories should be targeted. This cohort also has the highest reproductive potential and therefore ideal for starting a new population. Male tigers become sexually mature at the age of 2 years but rarely can they breed till 4 years of age in the wild. This age group (2-3 years) is ideal for translocation for reintroduction as their removal from the host population will not result in male turnovers and subsequent infanticide episodes. All effort should be made not to translocate established breeding individuals from the host population. Potential individual tigers that are to be translocated should be monitored prior to their capture to ascertain their social status, health, and behavior.

Release of captive tigers

- Tigers rely heavily on individual experience and learning as juveniles for their survival; they should be given the opportunity to acquire the necessary information to enable survival in the wild, through training in their captive environment; a captive bred individual's probability of survival should approximate that of a wild counterpart.
- Care should be taken to ensure that potentially dangerous captive bred

tigers that might be a danger to local inhabitants and/or their livestock are not released. All tigers should be equipped with radio collars and monitored intensively. If the newly released tiger shows behavior that is likely to cause problems for the local people, it should be removed immediately.

SOCIO-ECONOMIC REQUIREMENTS

- Re-introductions are generally long-term projects that require the commitment of long-term financial and political support.
- Socio-economic studies should be made to assess impacts, costs and benefits of the re-introduction programme to local human populations.
- A thorough assessment of attitudes of local people to the proposed project is necessary to ensure long term protection of the re-introduced population, especially if the cause of species' decline was due to human factors (e.g. over-hunting, over-collection, loss or alteration of habitat). The programme should be fully understood, accepted and supported by local communities.
- Where the security of the re-introduced population is at risk from human activities, measures should be taken to minimise these in the re-introduction area. If these measures are inadequate, the re-introduction should be abandoned or alternative release areas sought.
- If tigers pose potential risk to life or property, these risks should be minimised and adequate provision made for compensation where necessary; where all other solutions fail, removal of the released individual should be considered.

PLANNING, PREPARATION AND RELEASE STAGES

- Construction of a multidisciplinary team with access to expert technical advice for all phases of the programme.
- Identification of short- and long-term success indicators and prediction of programme duration, in context of agreed aims and objectives as per the PVA and population management plan.
- Securing adequate funding for all programme phases.
- Design of pre- and post- release monitoring programme so that each re-introduction is a carefully designed experiment, with the capability to test methodology with scientifically collected data. Monitoring the health of individuals, as well as the survival, is important; intervention may be necessary if the situation proves unforeseeably unfavourable.
- If release stock is wild-caught, care must be taken to ensure that: a) the tigers are free from infectious or contagious pathogens and parasites before translocation and b) the stock will not be exposed to vectors of disease agents which may be present at the release site (and absent at the source site) and to which it may have no acquired immunity.
- If vaccination prior to release, against local endemic or epidemic diseases of wild stock or domestic livestock at the release site, is deemed appropriate, this must be carried out during the "Preparation Stage" so as to allow sufficient time for the development of the required immunity.
- Appropriate veterinary measures as required to ensure health of released

stock throughout the programme. This is to include adequate quarantine arrangements, especially where founder stock travels far or crosses international boundaries to the release site.

- Development of transport plans for delivery of stock to the site of re-introduction, with special emphasis on ways to minimize stress on the individuals during transport.
- Determination of release strategy (acclimatization of release stock to release area; behavioural training - including hunting and feeding; group composition, number, release patterns and techniques; timing). Preferably "Soft release" should be the norm.
- Development of conservation education for long-term support; professional training of individuals involved in the long-term programme; public relations through the mass media and in local community; involvement where possible of local people in the programme.

POST-RELEASE ACTIVITIES

- Post release monitoring is required of all tigers. This most vital aspect may be by direct (e.g. telemetry/Satellite tracking) methods as suitable.
- Demographic, ecological and behavioural studies of released stock must be undertaken.
- Study of processes of long-term adaptation by individuals and the population.
- Collection and investigation of mortalities.
- Interventions (e.g. supplemental feeding; veterinary aid) when necessary.
- Decisions for revision, rescheduling, or discontinuation of programme where necessary.
- Habitat protection or restoration to continue where necessary.
- Continuing public relations activities, including education and mass media coverage. Evaluation of cost-effectiveness and success of re-introduction techniques. Regular publications in scientific and popular literature.
