CBSG/RSG South Asia 3rd Annual Joint Meeting :

Participant Presentations

The themes of the CBSG/RSG meeting held in Karl Kubel Training Institute November 28-30, 2005 were Troubled Translocations, Rehabilitation Guidelines, and Substandard Zoos.

Translocation: Experiences from the Anamalai Hills
M. Ananda Kumar*

Good reasons exist for translocations, such as to solve problems caused by conflict, over-abundance of animals, and management and conservation. There are several approaches to translocation, including :

• Policy and management level which depends on the availability of proper guidelines and government orders

• Landscape level which takes into consideration historical changes (introduction of plantation crops and recent changes in land-use); current land use management such as simultaneous clearing of *Eucalyptus* patches, chronic degradation of rainforest fragments and resource availability

• Species level, which brings species specific issues and facts into play, such as population connectivity and densities, habitat use and preference, ranging patterns, external pressures, influences, and its effect on species and behaviour. An example from two localities is given in the Table below :

Bonnet macaques

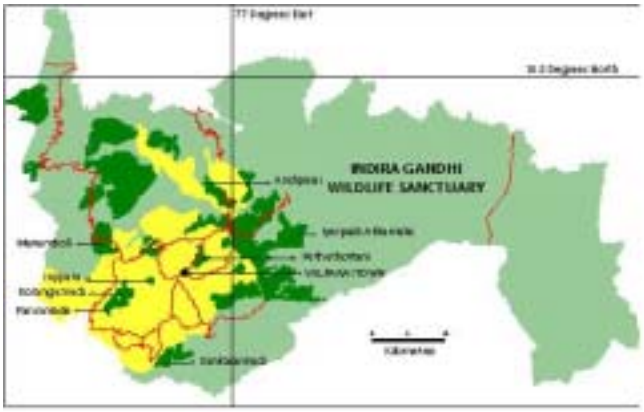
	Aliyar	Attakatti
No. of feeding centers	10 (until 2002)	3
No. of monkeys	60 (2 troops)	300+ (3 troops)
Surr. bonnet groups	7	5
Complaints lodged	Several	Several
No. of translocations	3	3

The problem of bonnet macaques in these localities persists

The consequences of translocations are (or can be)
• Temporary relief
• Possible danger of disease spreading to other groups
• Shifting problem to other areas
• Attractive habitat invites other nearby groups thus increasing the problem.

What can be done to solving the problem?
• Stop feeding monkeys – easier said than done but education – interviews, lectures, signboards, newspaper articles, etc. can make a difference.
• Behavioural understanding of monkeys towards provisioning food by people.
• Sterilization is the method of choice by some persons but there are problems and this method may not work in the Anamalai hills because of a high concentration of several groups close to human areas as well as the economics of sterilization as well as ethics, as perceived by other persons.

Does translocation resolve human-elephant conflict?
• At the Policy level there is poor knowledge about the regulations for translocation of elephants. There is also poor communication and partnerships and there is limited ecological and behavioural data available on elephants from the Anamalai hills.



• At the Landscape level people have historically used the plateau where there is an important migratory and movement route. The conflict is mostly around Valparai area but intense conflicts are in the middle of the plateau where there is less or no forest cover. There were changes in land use until recently with high human density and scattered habitations. Also there are highly degraded rainforest fragments. Finally, resource distribution and availability for elephants is not known

• At the species level the Anamalai-Parambikulam elephant reserve has 6% of total elephant population (2nd largest). The animals move between the PAs. The adult male to female sex ratio is 1:15. Much damage has been done to noon-meal centres and ration shops. Most of the property damages are due to family herds, not solitary adult males. The most intensive damage is done in October and February. Human deaths: average 2.7 deaths/year for 10 year (1994 – 2004) period.

Elephant deaths in the Anamalai region
1. One Adult female was captured in top slip area and sent to Varagaliyar camp in late 2003.
2. At least two adult females died due to electrocution
3. One juvenile died in 2002 (reason is not known)
4. One adult male died during tranquilizing in 1996
5. Harassment of elephants by people
6. Only two births since 2002

Resolution of human-elephant conflict in Valparai is related to these factors:
• Conflict may be dependent on weather patterns and changes in land-use

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• Some recommendations can be tried to reduce humanelephant conflict
• Changes or strict imposition of felling regulations and law enforcement to prevent major land use changes
• A major corridor along Naduar river requires improvement
• Experimental mitigation methods needs to be carried out immediately
• Translocation of elephants is not necessary

Options: translocation or habitat improvement? It may not be possible to translocate a whole group but may have restrict to selected individuals. Areas for rehabilitation are very few and no history of LTM presence. Also the highly specialized social systems may be difficult to re-create if disturbed.

Alternatives to translocation include habitat improvement, including establishment of canopy connectivity wherever necessary and improvement or establishment of connectivity between fragments to facilitate migrations

Why translocation is not an option : Conclusions
• Trapping all animals is difficult
• Upsets social systems and behaviour of animals

Recommendations
• Guidelines should be prepared in consultation with various groups and made available
• Translocation of animals should be undertaken only if other measures fail
• Translocation should be planned based on a thorough understanding of species ecology and behaviour in relation to pressures associated with it
• Reintroduction or rehabilitation of animals into new areas warrants investigation of new areas
• If translocation of individuals or groups is necessary previous research, concerned field biologists and experts opinions and their involvement should be considered

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Troubled Translocations in Maharashtra

Dr. A. V. Belsare *

This presentation concerns the failure of translocations as a solution to leopard conflicts, and the protocol followed prior to translocation

Study of man/leopard conflict in Junnar forest division The problems were livestock predation, rescue of trapped animals and post capture treatment.

Methods of dealing with leopard problem took into consideration leopard biology and social structure. Leopard is a highly territorial species with a well defined social structure. The younger animals occupy territory.

The most common strategy was to “trap and translocate”. In this case “translocate” means “dump.”

This method is not recommended for several reasons. For one thing there is the homing instinct which not only cats but even snakes, eagles, bears, lizards, frogs, and wolves exhibit. Thus translocation or dumping is just a transfer of conflict and a high probability of population increase.

The transfer of conflict because leopards, like snakes, like to live close to people. They are know to feed commonly on dogs. There are many stray animals in croplands. A Bio-implantable transponder was tried to identify each leopard and it was thus possible to collect important data for understanding the failure of translocation. For example, on 16th March 2003 a leopard was captured at Mangrul, JFD and one 23rd March 2003 the animal was microchipped: 00-063B-5957. In February 2004 animal 00- 063B-5957 was translocated to Radhanagri on 1st Feb 2004. The following day there was a human attack and subsequent trapping.

Another translocated leopard was indentified and trapped after it invaded a marriage hall in Thane. The animal was sent back to the Manikdoh Rescue Center.
Leopards are easy to catch even if they are not guilty ! It is important that it does not go the cheetah’s or tigers’ or snow leopard’s way. We need to reduce conflict.

Recommendations
1. Decrease unnecessary trapping
2. Educate media and public on leopard issue in a positive manner to reduce pressure to trap
3. Science based policies required

Procedures to be followed prior to translocation
1. Quarantine
2. Health assessment i.e. hematology,biochemistry,fecal testing, Radiographs and T.B.testing
3. Complete physical examination including morphometry

To quote an expert : “ The successful handling of animals with drugs, capture in the wild and restraint for various purposes can ultimately be performed successfully only by those who, at least to a large extent, put the animal first; by those who are guided by a code; by those who have an awareness of the value of animal life; and by those who set their sights on the welfare of all animals with which they work…” A.M.Harthroon, The Chemical Capture of Animals,1976

Acknowledgements
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Biodiversity Parks Project — Recreating Lost Ecosystems in Delhi

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Ever increasing process of human settlement along the river Yamuna since mogul invasion into India, Delhi had lost much of its green cover that once were home to myriad living forms. The post independence period saw an escalated rate of urbanization resulted in further loss of the forest cover and the faunal elements that dwelled therein. The Ridge and the river Yamuna – two natural physical features and life supporting systems of Delhi were the most effected. The concept of Biodiversity Parks has emerged out of the strong need of conserving the native biodiversity and make public aware of varied natural heritage. Biodiversity conservation in the urban areas has been long ignored by academics, administration, and the Government. Realizing the need to strike a balance between development and conservation of biodiversity in Delhi region, the Centre for Environmental management of Degraded Ecosystems, University of Delhi and DDA initiated the Biodiversity Parks Programme in 2002.

The Programme began with the establishment and development process of the Yamuna Biodiversity Park in Wazirabad, North Delhi in the floodplains of river Yamuna. This Park is spread over an area of 157 acres and an additional 300 acres is expected to be added soon. The mission of the Park is to serve as a repository and heritage of biodiversity of Yamuna river basin with ecological, cultural and educational benefits to urban society.

The soil of the land where the Yamuna Biodiversity Park is being developed is highly sodic with pH of as high as 9.8. With this challenge and the decision to not use chemicals to reduce the alkalinity of the soil, bioremedial actions were taken up by utilizing the ameliorative actions of some grass species and legumes. After an initial setback the plants that have been planted are establishing and the green cover is increasing as time progresses. Today the average p^H is 8.4. In a short span of two years, the plant species richness increased from 90 species to 600 species.

The landscaping done simulates slightly undulating topography with mounds, valleys and two wetlands – one deep and another shallow. The deep wetland is 2 ha in spread while the shallow one is 1.8 km long stream-like that runs through major ecosystems that are being developed. These wetland perform the much-needed ecological functions of storage of rainwater, ground water recharge and water purification. Since the winter of 2004-05, as many as 3500 individuals of migratory ducks belong to 11 species have been recorded from these wetlands.

The overall bird diversity increased from 27 species (Dec 2002) to 179 species (December 2005). The mammalian diversity includes 3 species of bats, 7 species of rodents, 1 species of insectivore, 2 species of mongoose and 1 lagomorph. Besides these wild species, feral dogs and cats are also found in good numbers that keep the rodents population under check. The reptiles include 2 species of turtles, 7 species of snakes and 1 species of agamid. The butterfly diversity includes 23 species while the odonate diversity is represented by more than 20 species. Since October 2005, more than 5000 students from college and schools from Delhi and the surroundings visited the Park. The staff of the Park has conducted 45eEnvironment awareness programmes while interacting with students.

Objectives of Yamuna Biodiversity Park

— To replicate 30-35 ecosystems together with their floral, faunal and microbial communities
— To develop a mosaic of wetland that serve as bird sanctuaries and preserve aquatic genetic resources
— ·To conserve keystone and other threatened species
—·To preserve the biodiversity of habitats that are likely to lost due to future urban development activities
— To promote education on environmental awareness and nature conservation
— To serve as nature reserve and field laboratory for short- and long-term ecoystem research
— To promote ecotourism and act as a culture center for urban society

Important Milestones

June 2002 — Project initiated
July 2002 — Habitat improvement programme undertaken
December 2002 — First wetland (shallow) completed
March 2003 — Aquatic vegetation established
June 2003 — Plantation of natural communities started
November 2003 — Nature interpretation centre completed
June 2004 — Second wetland (deep) and visitor area landscaping completed
December 2004 — Grassing and plantation of legumes as bioremedial inputs in 75% of area achieved
June 2005 — 20 plant communities under development, more than 20,000 plants planted
November 2005 Herbal Garden and open air Butterfly Park established

Plant communities that are being developed at Yamuna Biodiversity Park

1. Mixed deciduous with bamboo
2. Mixed deciduous without bamboo
3. Sal dominated mixed evergreen
4. Sal dominated mixed deciduous
5. Teak dominated mixed deciduous
6. Thorn forest
7. Grassland
8. Scrub forest
9. Shallow wetland community
10. Deep wetland community
11. Semi-evergreen low-lying forest
12. Broad-leaved mixed forest
13. Marshy community
14. Riparian community
15. Island community
16. Sacred Grove community
17. Energy plantation
18. Herbal garden
19. Bamboosetum
20. Peripheral/Avenue plantation

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Monkey menace

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Monkey menace nowadays is evident at many places in India and Himachal Pradesh is also one of them. Capital of the state, beautiful Shimla is the most prominent site in this respect. The day-to-day increasing man-monkey conflict does not require any elaboration for the people who are suffering but any measure that can offer some relief may of value. Multiple reasons can be assigned as the etiological factors for this alarmingly increasing man monkey conflict like decreasing forest cover, overpopulation, feeding of monkeys by people, adaptation of the monkeys to human habitats… etc. but whatever may be the reason, something constructive needs to be carried out which is in favour of animals, humans and environment.

Apart from direct effects of conflict like harassment, biting, scratching, crop raiding, property damage etc., indirect but potential hazard of zoonoses cannot be ruled out. Infact in terms of zoonoses and public health the terms like animal (wild, domestic) health and human health cannot be completely separated from each other because zoonotic pathogens do not recognize these man made boundaries. So rather than creating a conflict between human and animal welfare, both should be exploited in favour of each other. (An article of Dr. Iqbal Malik says that screening of over 2,000 Rhesus captured from Himalayan foothills and imported to USA during late 1970s revealed that over 40% of macaques tested positive for at least one potentially harmful pathogen e.g. *Shigella*, *Salmonella* and Herpes B.) Increase in man-monkey conflicts and contacts will enhance the opportunities for transmission of these potential pathogens, which can create public health problems. Also Tuberculosis, Dengue, Rabies etc. are the diseases that need to be considered seriously.

To check monkey menace, the plans, which are already in progress and under consideration include ban on feeding of monkeys by people, planting fruit trees in the forests, translocation or shifting of problem animals to other areas, sterilization… etc. Over 3,400 monkeys have already been shifted from Shimla Rampur and Kalka Shimla national highway. But translocation has not served the purpose, rather it has resulted in shifting of the man-monkey conflict. The territory vacated by the translocated animals again gets occupied by other troop of monkeys from surrounding areas and problem of man–monkey conflict increases. This results in increase in the monkey bites too. The residents of the locality where the monkeys are released resent and complain about the shifting of problem into their area. Translocation does not seem to be an economically viable option too. Also it is not sure that those animals will not return back to their old habitat or will not suffer starvation if new area does not offer them enough food or favourable conditions. Shifting of animals without proper screening for the diseases before shifting can also result in transmission of diseases to other areas.

As overpopulation is also one of the reasons, sterilization is also the option to viewed upon. If sterilization is to be carried out, the next option is to employ an appropriate method. If the various methods of sterilization are broadly classified as surgical and non- surgical, of course surgical ones cannot be the methods of choice, because of postoperative complications and follow-up in wild animals, as these animals can spoil even small surgical wounds themselves by biting, scratching, tearing etc. and pull out their internal organs threatening their own life. Out of various non-surgical methods of sterilization in males, Burdizzo castration will be very easy, quick and cheap but is with the disadvantage of behavioral alterations. Gossypol feeding as contraceptive also carries heavy risk of hypokalemic paralysis.

While considering which sex is to be targeted for sterilization, one fact should be born into mind that even if there is a very small number of unsterilised males in a population, they will be sufficient to make pregnant majority or almost all females of that population. So to check the rate of increase in population it will be better to sterilize females, however sterilization of males along with females will have an added effect. Females once sterilized will not contribute towards increase in population; irrespective of the fact whether they mate with sterilized or unsterilized male.

Non- surgical methods, which can be used for female sterilization can be either chemical sterilization or immunosterilization. Both these methods lack detailed research in monkeys so small scale pilot trials need to be carried out before large-scale implementation. Chemical sterilization can be easy, inexpensive and irreversible method but ban on quinacrine sterilization in humans in India 2003 onwards is a matter of concern.

Immunosterilization using PZP (porcine zona pellucida) vaccine with incomplete Freud's adjuvant seems to be even better and easier option. However the fear of cross-reaction in the closely related species should be ruled out. At places where primates in conflict with human beings are endangered species, where permanent sterilization cannot be opted for, biodegradable implants for contraception can be used. Oral contraceptives although easy to administer, pose problems like dose regulation, sex selection etc, do not seem to be very practical.

To conclude, before deciding on what to be done to solve the man-monkey conflict, one thing must be kept in mind that every concept, every measure, every procedure (may it be translocation, ban feeding, sterilization...), has it's own advantages and disadvantages but need of the day is to come up with the solution in such a manner where advantages overweigh disadvantages in terms of both animal as well as human welfare.

Refrences:

Various newspapers, journals and internet sites Action plan for control of stray animal menace, Ministry of environment and Forests, Govt. Of India Books of wildlife, medicine and contraception

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