Small Population Biology and the Tools of Recovery
Part I and Part II -- Field trips to Silent Valley and Valparai

Four field trips were undertaken by participants. The output of the field trips is given below.

Silent Valley

Silent Valley is one of the major areas for Lion-tailed macaque with 14 groups over 80 sq. km. area. The history and status of Silent Valley was given by Dr. Amit Mallick, D.F.O. who met the participants and led a trek first in an area adjacent to the national park and then to the site of the previously planned hydroelectric project. The major points are given in the Appendices following this Report.

Regarding Silent Valley itself, it has been well studied by a team from Kerala Forest Research Institute led by Dr. K. K. Ramachandran for some years. Dr. Ramachandran, who was one of the Resource Persons of the workshop and had given a presentation on Silent Valley as well as participated in the modelling exercise, accompanied the field trip and contributed to the information provided by Dr. Mallick. The data from this study is presently under analysis and an extensive Report will be published by KFRI in about 3 months.

Although no Lion-tailed macaques could be sighted that day, participants could appreciate prime natural habitat of LTM and the problems and potential faced by the researchers and managers of the area. Silent Valley National Park is unique in that there is no human habitation or disturbance at all inside the park. The National Park provided a clear image of what tropical rainforest habitat for LTM looks like.

A discussion was held in which both *in situ* and *ex situ* participants participated. During the discussion, DFO described a research activity under consideration. The pro's and con's of this activity and its implications were discussed but there was not sufficient details to permit suggesting anything.

During the discussion, various observational techniques were discussed, particularly radio collaring. Mr. Gledhill appraised the group of some of the work being done on a free ranging group of LTM in St. Catherine's Island in which radio collars had been successfully used. It was felt that it may be useful for some wildlife officer and researcher from India to visit and review this project for its potential as a training site.

Valparai

Valparai is also habitat for Lion-tailed macaque. There are 16 fragmented groups of approximately 250 numbers over 900 sq.km. area. Valparai provided an interesting contrast to Silent Valley in that practically the whole of the area is covered by tea estates which have cut forests in order to clear land for tea planting. A few groups of Lion-tailed macaque still survive in the estates themselves, although in some of the areas the cutting has been so extensive that the animals have to come down from the trees to range from one area to another and have even been sighted crossing the road.

The Valparai area has been well studied by Dr. Ajith Kumar and other researchers. Forest officers who were also participants in the Part I of the Training Workshop accompanied the group and provided information on the habitat.

Participants sighted Lion-tailed macaques in two tea estates, the Pudhuthottam area and the Tata estate. The difference between these two areas in terms of condition of habitat was dramatic although the problems of the groups of LTMs in the two areas were equally severe.

A discussion was held with *in situ* participants only about the problems and prospects of Valparai. A concurrent discussion was held with *ex situ* participants in which the general principles of husbandry of LTM were fully discussed. This was continued in the second week of the workshop in which Part II, or *ex situ* conservation was highlighted. The suggestions and activities decided as a result of the *in situ* discussion follow :

It was clear from the sightings and the visit to other areas of Valparai that the Lion-tailed macaque is not "safe" in most of the areas.

The Lion-tailed macaque in Pudhuthottam estate has a group size of 40 animals in 900 acres of old forest and plantations. Pudhuthottam estate has been extensively cleared and the area of contiguous forest remaining for LTM is insufficient. LTMs could be seen from the main road. The distance between trees is such that LTMs have to come to ground for ranging and their attempts to jump between trees has led to at least one death which has been recorded.

With regard to Pudhuthottam, the discussion took the form of a process in which the options were listed without prejudice or regard to their ultimate feasibility and then eliminated or set aside as the likelihood or feasibility was reviewed. Participants in this discussion were A. Kumar, A. Chinnadurai, Jeya Perinba Kumar, T.V. Manjunatha, S. K. Niraj, M. Selvanayagam, P. Sornappan, K.K. Ramachandran, R. Lacy, J. Ballou, S. Molur (Recorder) and S. Walker (Facilitator).

Options:

1. As the Lion-tailed macaque is under very severe pressure in Pudhuthottam due to clearing of forest tracts, the most desirable option is outright acquisition of the area. It was pointed out that the owner had indicated clearly that he was not willing to sell, however there is a cardamom block of 140 acres which could possibly be acquired at least. There were different reports of the owner's willingness to sell.

2. The second most desirable option was to prevent further tree cutting. No permission for further clearing should be granted. There is a District Level Tree Cutting Committee who has to give permission before any tree can be cut and it seems this group seeks the advice of the Anamalais Conservation Society. In respect of this option to prevent further tree cutting, it was suggested that all trees in the area should be enumerated, marked and numbered.

3. Option three was a suggestion to get special "tree status" (such as in the WLP schedules) for trees under use for food or ranging by Lion-tailed macaques, such as *culinea exelsa, Mimosa* sp., fruit bearing spp, etc. and these trees should not be cut under any circumstances.

4. Option four was that an intiative would be undertaken to bring together the researchers of LTM, the forest officers, estate owners and local conservation NGOs to discuss what each could do to protect Lion-tailed macaque. It was reported that many of the estate owners were supporters of conservation and would definitely cooperate with some of the measures necessary for enhancing the probability of LTM survival in the area. It was the opinion of the group that this initiative should be taken by an NGO, preferably outside the local area. Zoo Outreach Organisation was suggested and agreed to initiate a meeting after discussion with the CCF Wildlife of Tamil Nadu. The meeting will include other areas besides Pudhuthottam.

5. A further option was research and population management. Monitoring of the population is being undertaken by A. Kumar and his team. With regard to population management, translocation of the Pudhuthottham population the group felt that removal of the population from Pudhuthottam would extinguish any hope for the remaining forested area. The Lion-tailed macaque is a flagship species which can, by its presence, provide justification of protection of forested areas.

6. Contingency plans (such as introduction of unrelated males, etc.) should be made to maintain the genetic viability and fitness in the long term, to compensate for the inevitable decline in numbers of LTMs resulting from discontinuity of the forest. Although the modelling exercise indicated that gradual decline will lead to almost certain extinction it is not advisable to remove the LTMs which act as a flagship species, providing some protection to the forest itself.

Tata Tea Estate

The habitat in the Tata Tea Estate is considerably better than in Pudhuthottam but the group size has stagnated at 15 animals and there is only one adult male in the group. If the male should be lost due to any reason the survival of this group will be considerably more threatened than at present. The discussion group felt that a contingency plan should be drawn up and the preliminary steps in its implementation taken up so that it can be immediately put into effect if the single adult male LTM should die or disappear.

The need for frequent monitoring of this and of all fragmented populations in the area by the forest department was stressed. Other management strategies were discussed, including requesting the estate owners not to cut fruit bearing and other trees good for Lion-tailed macaque.

During the visit to Tata Tea Estate a man was apprehended cutting a tree near the LTM area and other stumps were noticed in the area giving rise to worry about small but relatively secure bit of forest fragments. The need for a closer interaction with the estate owners was again stressed.