

**Title of the Project:- Study on leopard (*Panthera pardus L.*) presence, identification of conflict zones and developing suitable mitigation measures on human-leopard interactions in the urban areas of Jabalpur and Indore, Madhya Pradesh**

**Why this Project:-**

During the last decades, data advocate many wildlife populations have recovered largely because of protection from over exploitation and the emergence of technology and application of wildlife management with the increase in wildlife population locally, human-wildlife conflicts have also increased. When large cats live in proximity to humans, some amount of conflict between them is inevitable.

The increasing human population, changing land use practices, soaring demands from our urban population and more recently fast expanding economic activity have started straining the delicate balance at which leopard survive.

Initially this proposal was submitted for the urban area of Jabalpur only. The urban area of Indore is also included in the proposed study based on the recommendations made by Research project evaluation Committee members of Office of Principal Chief Conservator of Forest (Wildlife), Madhya Pradesh Forest Department. It was observed that, leopards are entering inside the housing complexes, residential colonies, university complexes of both Jabalpur and Indore in regular interval. The sudden venturing of leopards inside the human habitation has created tremendous pressure on the forest department of both Jabalpur and Indore. To address this complex conservation issue and also to augment domain knowledge on source sites of straying leopard in the urban areas, the present study has been proposed.

**Research methodology: -**

**Identification of source sites of stray leopards and their causal factors of straying in and around the urban areas of Jabalpur & Indore:**

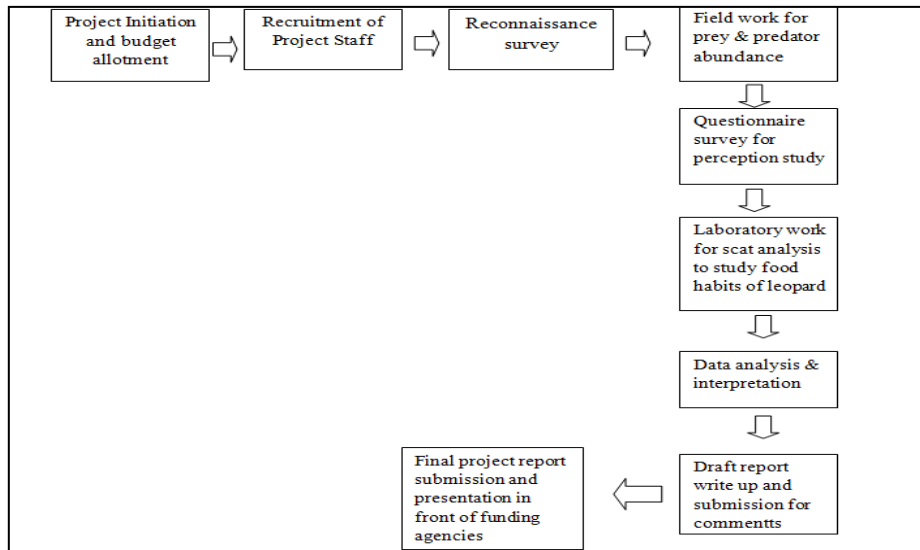
- Reconnaissance surveys and sign surveys for occupancy estimation
- Camera trapping for leopard abundance estimation
- Kill monitoring and Scat Analysis for food habits study

**Developing suitable strategy to reduce man-leopard interaction amicably in the urban landscape:**

- Identification of leopard-human interaction zones using secondary data collected which will be analyzed using Arc GIS 10.3.
- Perception of people towards human-leopard interaction
- Developing Habitat Suitability Model Map for leopard land-use pattern

**Study Design :-**

- Project Initiation and budget allotment
- Recruitment of Project Staff
- Reconnaissance Survey
- Field work for prey & predator abundance
- Questionnaire survey for perception study
- Laboratory work for scat analysis to study food habits of leopard
- Data analysis & Interpretation
- Draft report write-up and submission for comments
- Final project report submission and presentation in front of funding agencies



### Objectives of Research:-

1. To identify source sites of stray leopards and their causal factors of straying in and around the urban areas of Jabalpur and Indore.
2. To study perception of people towards human-leopard interaction.
3. To develop suitable strategy to reduce man leopard interaction amicably in the urban landscapes

### Activities Undertaken:-

Draft report submitted to PCCF Wildlife letter no/AED/1980 dated 14/08/23.

**Cost of the Project:-** 43.07 lakhs

### Outcome of Research:-

- A total of 17.6 (+5.4) leopards were found in Jabalpur while a total of 23 (+4.8) leopards were found in Indore.
- The number of herbivorous species were also assessed in the wildlife sanctuaries, urban forest and nature reserves like Dumna, Thakur Tal of Jabalpur and RalaMandal, DevGudaria, Choral of Indore.
- The Jabalpur range was found to be the primary location of human-leopard negative interactions. The Madanmahal beat at this said range was identified as the zone with the highest intensity of negative interactions, along with Bargi range. The areas extending from Dumna to Bhita and Temar have been identified as experiencing a medium level of human-leopard negative interactions.
- In Jabalpur, Dumna Nature Park was identified as the primary leopard habitat, along with a sizable unprotected area near Jabalpur Airport. However, anthropogenic disturbances and developmental projects pose risks to these habitats. Forest patches in the study area could potentially serve as leopard movement corridors, but they face depletion due to various developmental projects.
- In Indore, the Ralamandal Wildlife Sanctuary provides habitat for leopards, but surrounding areas have experienced fragmentation due to construction and urbanization. Highways, road expansion, industrial development, and agricultural expansion pose threats to identified corridors in the area
- Analysis scat samples from Indore and Jabalpur revealed that the Chital was the most significant contributor to the leopard's diet in both urban areas. Feral dogs were also found to

be highly preferred by leopards in urban areas, which could explain their frequent presence near human settlements

- The study also examined the diet of leopards in Indore and found that livestock is included in their diet. The high incidences of cattle lifting in Indore suggest that leopards may prefer targeting livestock as they are easier to catch and pose lower risks compared to wild prey. This preference for livestock could be attributed to inadequate livestock herding practices in Indore
- Under the project Psychological survey was conducted on total 2827 families of 73 villages in Jabalpur and 2255 families of total 48 villages of Indore.
- At the beginning of the project, one-day workshop was also organized on “Coexistence with Leopard” in presence of Jabalpur Forest Department, subject expert team of Sanjay Gandhi National Park at Mumbai and various government, non-government along with SFRI team.

**Deliverable technologies developed in each project for stakeholders, forest professionals, field foresters and other beneficiaries-**

- This study will be a great help to Forest Department in effectively mitigating the issue of negative interaction between humans and leopards as it involves:
- Development of suitable strategies to reduce man-leopard negative interactions along with organizing awareness programs for different stakeholders.
- Psychological study result was for the understanding and willingness of the people for sharing their space with leopards.

