Project Title: Participatory conservation of sloth bears in the Community Forest Resources (CFR) Areas of Chhattisgarh, India

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Organization Name: Applied Environmental Research Foundation

Project Location: Uttar Bastar Kanker, Chhattisgarh (INDIA)

Grant Period: July-25 to June-26

Quarter of reporting covered: 15 July-25 to 15 Oct-25

Report Submission Date: 31st Oct-25

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1. Summary of Progress

During the first quarter, our team initiated fieldwork to examine interactions between sloth bears (*Melursus ursinus*) and humans across five villages and a culturally significant hill in the Kanker block of Uttar Bastar Kanker, Chhattisgarh (Central India). A productive meeting with the Divisional Forest Officer (DFO) of the Kanker Forest Division led to official permission to access records of sloth bear attacks from January 2015 to February 2025. The data revealed over 100 recorded incidents involving sloth bears and humans, including nine fatalities.

We conducted structured interviews with 45 residents from Kokpur, Khamdodgi, Krushtikur, Mandri, and Kanagaon villages using a tailored questionnaire to assess local perceptions and experiences about the sloth bears. Among the respondents, five had direct encounters with sloth bears, with two individuals sustaining serious injuries.

Our team also surveyed Community Forest Resource (CFR) areas in Khamdodgi, Mandri, and Kanagaon villages to study the signs of sloth bear and assess habitat conditions. However, persistent monsoon rains limited the scope of our forest surveys. Despite this, we documented several signs of bear presence such as diggings and excavations, collected five scat samples, and observed seed germination from bear scat. Alarmingly, one scat sample contained plastic waste.

Additionally, we explored the cultural significance of sloth bears in Indian ancient text, particularly the figure of Jambuvant, the bear king from the Ramayana and Mahabharata. Cultural remnants linked to these ancient texts can be found at the Jamvant temple near Aurangabad, Maharashtra, and Jambavan cave near Porbandar, Gujarat. Our team plans to visit these sites to learn more about these cultural connections.

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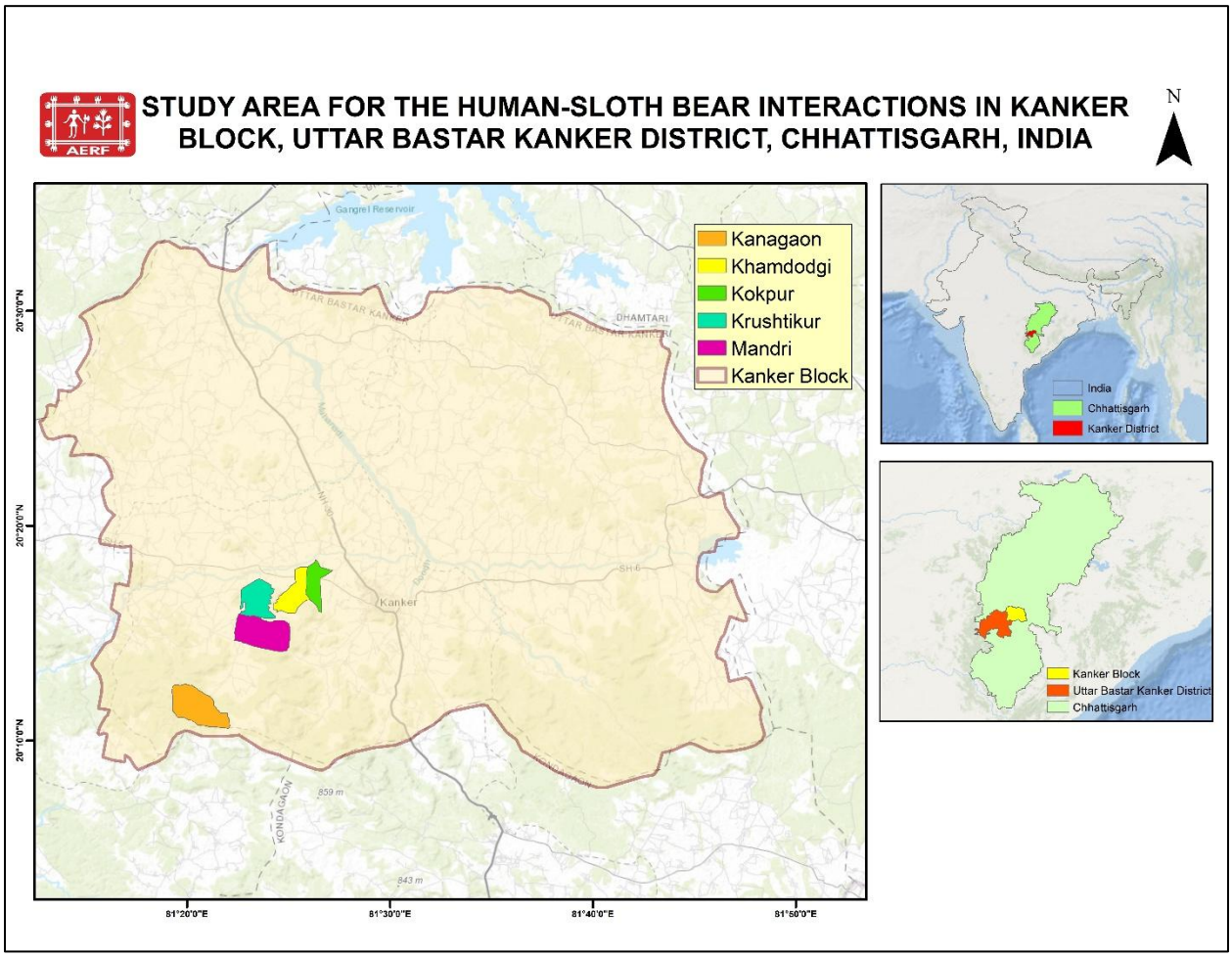
2. Study Area

The initial scope of our project focused on studying the sloth bear-human interactions within two Community Forest Resource (CFR) areas of Mandri and Kanagaon village, the villages that originally inspired the research. However, as fieldwork progressed, unexpected insights emerged, prompting us to expand the study to include a wider range of perspectives. Consequently, we extended our social survey to five villages namely, Kokpur, Khamdodgi, Krushtikur, Mandri, and Kanagaon.

These villages were chosen based on their proximity to the wildlife corridor linking the Sitanadi-Udanti and Indravati Tiger Reserves in Chhattisgarh, as well as the diverse narratives surrounding sloth bear encounters in the region.

Together, these five villages comprise approximately 450 to 500 households, predominantly inhabited by members of the indigenous Gond tribe. Notably, Khamdodgi, Mandri, and Kanagaon have formally secured rights to their Community Forest Resources under India's Forest Rights Act, 2006. The forest landscapes in these areas are characterized by dry deciduous vegetation interspersed with grassland patches, rock boulders, and hilly terrain. Map showing the location of these five villages is as follows:



These CFR areas of central Indian landscape are crucial habitat for globally threatened wildlife such as Sloth bears, Indian leopards, striped hyena, Four-horned antelope and others, and are part of wildlife corridor for the Asian elephants, and Royal Bengal tigers. Also, this CFR Area including many others is part of a crucial wildlife corridor connecting the Sitanadi-Udanti Tiger Reserve (SUTR) to the Indravati Tiger Reserve (ITR). These CFR Areas also support local communities with the livelihood opportunities through NTFPs collection like Haritaki (Terminalia chebula) fruits, Bibhitaki (Terminalia bellirica) fruits, Mahua/Moha (Madhuca longifolia var. latifolia) flowers and seeds, Tendu (Diospyros melanoxylon) leaves to mention a few.

3. Methodology

To begin, we developed a structured survey questionnaire incorporating both closed-ended and open-ended questions. The questionnaire spans several key areas: respondents' socio-economic background, perceptions of sloth bears, past encounters and conflict experiences, cultural associations, attitudes toward sloth bear conservation, and views on compensation following negative interactions. The tool was field-tested and refined multiple times to ensure it captured the necessary dimensions. A copy of the finalized questionnaire is included in the annexure.

Our sampling strategy aims to cover 25% of households in each village, ensuring representation across various paras, *hamlets that collectively form a village*. So far, we have completed 45 interviews across five villages: Kokpur (10), Khamdodgi (5), Krushtikur (10), Mandri (10), and Kanagaon (10).

In parallel, we initiated forest surveys in the CFR areas of Mandri, Kanagaon, and Khamdodgi villages. These surveys follow natural trails frequently used by local community members, allowing us to document signs of sloth bear activity such as diggings, claw marks, pugmarks, and scat. This approach helps identify overlapping zones of human and sloth bear use. However, due to persistent monsoon rains, we were unable to implement grid-based systematic surveys or deploy camera traps within targeted CFR areas.

Additionally, we plan to conduct social surveys in settlements near Kanker city to explore sloth bear-human interactions in semi-urban and urban set-ups, particularly focusing on individuals affected by bear attacks as identified in the forest department's records.

Sloth bear sighted near settlement in Mandri village

4. Activities Implemented

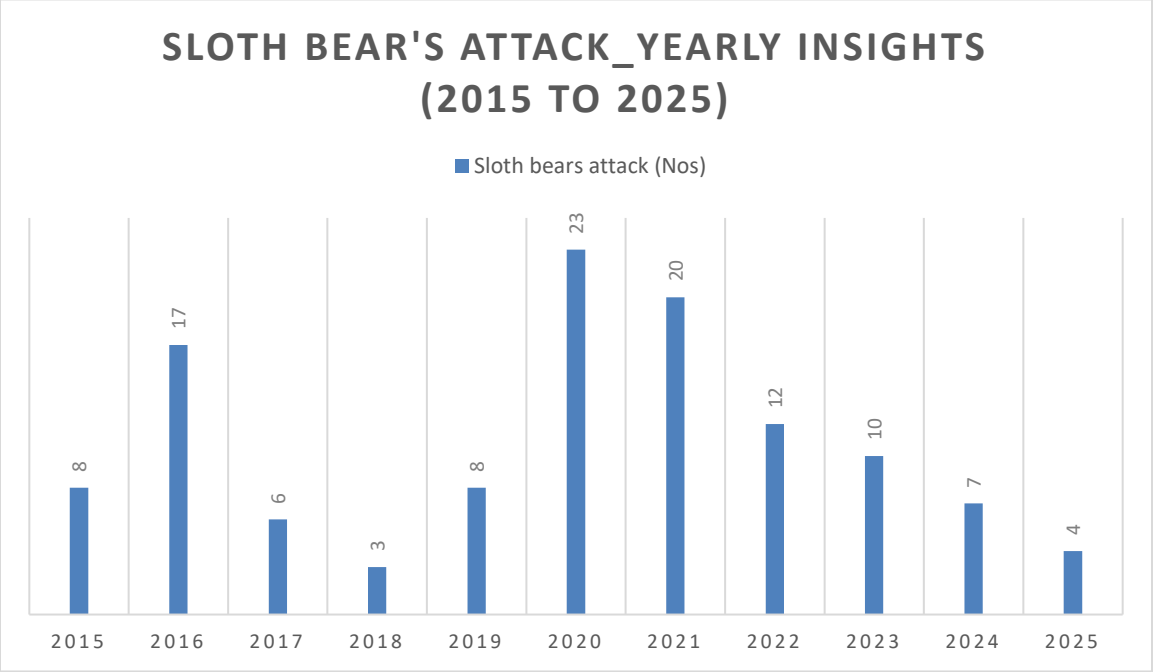
Activity	Planned Timeline	Status (Completed/Ongoing)	Key Outputs/Results	Remarks
1.Conducting social survey to understand the local perception about sloth bear and other wildlife and potential risk areas within CFR areas.	July-Sep-25	Ongoing	We have successfully conducted 45 interviews with members of the local communities.	Since we expanded the scope of the study to include additional villages, the timeline for completing this activity has been extended.
2.Conducting sign surveys to study the sloth bears and other wildlife within project area	July-25 to May-26	Ongoing	Fieldwork has commenced to document sloth bear activity, focusing on signs such as diggings, claw marks, and pugmarks within designated Community Forest Resource (CFR) areas and nearby village settlements.	Adverse weather conditions, particularly persistent monsoonal rains, prevented us from initiating detailed forest surveys.
3.Conducting scat analysis to study the food preferences of Sloth bears	July-25 to May-26	Ongoing	To date, five scat samples have been collected, one of which alarmingly contained traces of plastic waste.	Analysis of the collected scat samples revealed germination of plant species such as Tendu (*Diospyros melanoxylon*) and Chind/ Wild date palm (*Phoenix sylvestris*).
4.Conducting biodiversity survey within CFR areas	July-25 to May-26	Not started	-	Due to the challenges posed by the heavy rainfall, the planned camera trap surveys in CFR areas have been postponed and are now scheduled to begin in November 2025.

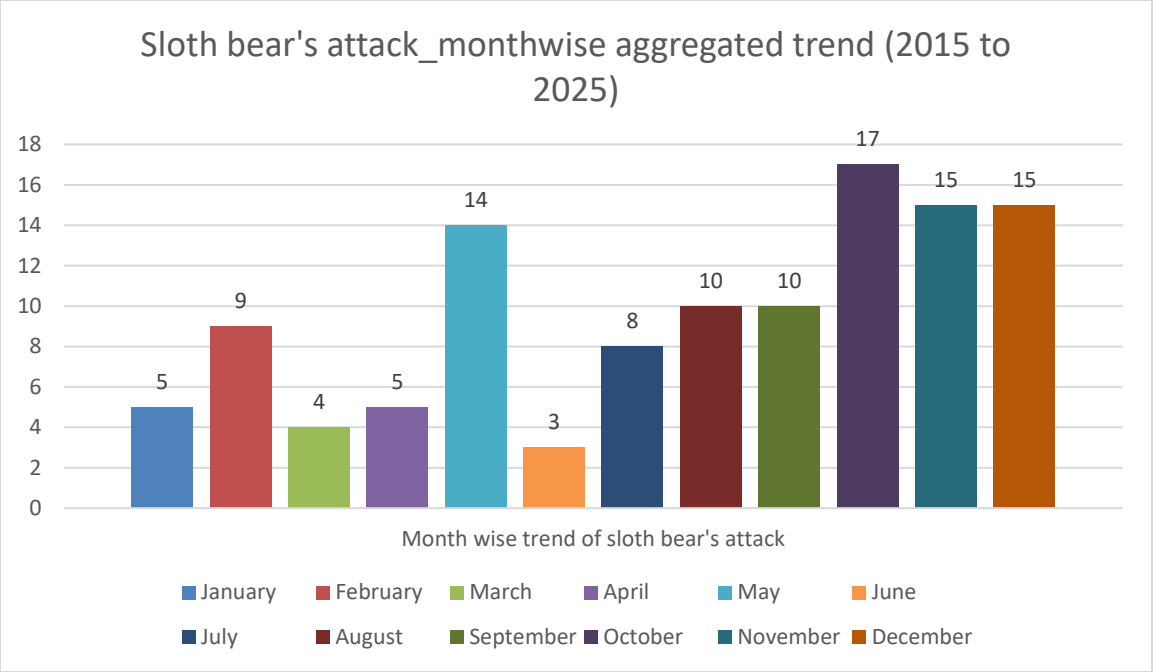
5. Key field observations

5.1 Human-sloth bear unpleasant interactions in Kanker Forest Division

We held a constructive meeting with the Divisional Forest Officer (DFO) of Kanker Forest Division at his office in Kanker, which enabled us to access official records of sloth bear attacks spanning the past decade (2015–2025). Data for 2025 is incomplete and does not represent the full year. Between 2015 and February 2025, a total of 118 sloth bear attacks on humans were documented, including nine fatalities.

A noticeable surge in incidents occurred during 2020 and 2021, the pandemic years, likely influenced by reduced human activity near forest edges initially, followed by increased reliance on forest resources for livelihood. The following graphs illustrate both annual and monthly trends in sloth bear attacks across the Kanker Forest Division.





The highest frequency of sloth bear attacks appears to occur during the post-monsoon to early winter months (October to December), aligning with the harvest season for multiple local non-timber forest produces, increased human activity in forested areas. A secondary spike is noted in May, during the summer, when sloth bears actively explore the region for water. June, marking the onset of the monsoon, shows the lowest number of recorded attacks, likely due to reduced human presence in the forest due to Kharif season's agricultural activities. However, preliminary findings from our social survey suggest that sloth bear interactions within village settlements tend to rise during the monsoon period.

We are currently analysing the spatial distribution of sloth bear attacks to better understand the geographic spread and hotspots of conflict across the Kanker Forest Division.

5.2 Community Perception and Interaction with Sloth Bears in the study area

Note: As the social survey is still underway, we are refraining from sharing quantitative data at this stage to avoid potential bias or premature conclusions. Below are some qualitative insights gathered so far.

Two individuals who survived separate sloth bear attacks described similar experiences. Both noted that the sloth bear secreted a white foam like liquid during the attack, which mixed with their wounds and caused severe irritation. In both cases, the attacks were carried out by a mother sloth bear accompanied by two cubs.

Rice, the region's staple crop, is generally not favored by sloth bears. Occasional raids on rice fields appear to be incidental. In contrast, corn is a known attractant for sloth bears, although no such incidents were reported in Kanagaon village despite the presence of 4–5 corn plots.

A key factor driving sloth bears toward human settlements seems to be the lack of preferred fruit-bearing trees in the forest especially in the monsoon season. This scarcity compels bears to seek alternative food sources such as oil, jaggery, sugar, and corn from the settlements and agricultural fields, local community members shared during the social survey.

Interestingly, Kanagaon village has reported almost no sloth bear-human interactions within its settlements so far, while Dongaripara hamlet in Kokpur village has experienced notably high levels of unpleasant interactions. A comparative study of fruit tree distribution in these forest areas could shed more light on this contrast.

One forest patch in Khamdodgi village, locally known as *Bhalu Gad* or "Fort of the Sloth Bears," might hold a cultural significance as the region is said to lie along the *Ram Van Gaman Marg*, the legendary route believed to have been taken by Lord Shri Rama, according to the Ramayana. We anticipate uncovering deeper cultural connections as our research progresses. One of the most valuable outcomes of the ongoing social survey has been the identification of multiple factors contributing to sloth bear-human conflict within settlements, along with community-driven participatory suggestions for mitigating these encounters. These findings are elaborated in the following sections.


Sloth bear's raid over the corn field based in Kokpur village

5.3 Causes of Human-Sloth bear interactions within human settlements

i. Termite Infestation in Mud Houses

Most households in the region are constructed using traditional materials such as bamboo, tree branches, mud, cow dung, leaves, rice straw, and locally hardened slabs locally known as *Kavelu*. While these homes are well-maintained, they are highly susceptible to termite infestations, especially during the monsoon. Sloth bears, which feed on termites and face a shortage of fruit during this season, are often drawn to these mud structures. This pattern was frequently mentioned by respondents during the social survey.

ii. Edible Oil, Jaggery, and Fruits from households and ration shops

It is been observed that Sloth bears have adapted to consume human-associated processed foods like edible oil, jaggery, and sugar and have been reported entering kitchens in search of these items. Although loud noises from residents usually drive them away, such encounters have instilled fear among villagers in all surveyed locations. In several cases, sloth bears have broken into homes, damaged appliances like refrigerators, and consumed stored food.

Government-operated ration shops, which distribute subsidized oil and sugar, have also been targeted by sloth bears. The ration shop in Krushtikur was previously damaged by a sloth bear, and recent attempts to break into the shop in Mandri have been reported. While these visits pose safety risks, they also raise concerns about bears adapting to processed human food sources.

Many tribal families maintain backyard nutritional gardens with green vegetables and trees like such as papaya (*Carica papaya*), jamun (*Syzygium cumini*), mango (*Mangifera indica*), custard apple *(Annona squamosa*), jackfruit (*Artocarpus heterophyllus*), and guava (*Psidium guajava*). Sloth bears frequently visit these gardens, particularly for jamun, mango, and guava.

iii. Waste dumping sites near hamlets

Some villagers have also observed sloth bears scavenging at waste dumping sites near their homes. During our fieldwork in Mandri, we found bear scat containing plastic, likely ingested while feeding on discarded food. Similar behavior has been documented in Kanker city's dumping grounds. This poses a serious health risk to the sloth bears and contributes to their increased presence within human settlements.

iv. Corn fields

Sloth bears have also been seen to love corn crops. A farmer in Kokpur village reported losing nearly half of his harvest due to repeated nighttime raids by sloth bears. Sloth bears are known to collect and consume corn in a manner similar to humans. Similar incidents have occurred in Mandri village. Interestingly, Kanagaon has not experienced such raids despite having several corn plots, as confirmed by local residents.

5.4 Food and Habitat

During our exploration of the Community Forest Resource (CFR) areas in Khamdodgi, Mandri, and Kanagaon, we identified several signs of sloth bear activity, including diggings, pugmarks, and scat. However, persistent monsoonal rains hindered our ability to carry out comprehensive forest surveys in these regions.

We collected five scat samples, two each from Mandri and Khamdodgi, and one from Kanagaon. These samples contained seeds of Ber/Indian jujube (*Ziziphus mauritiana*), Chind/Wild date palm (*Phoenix sylvestris*) and Tendu (*Diospyros melanoxylon*), with observable germination in some cases, particularly Tendu and Chind. One scat sample from Mandri, found near a village dumping site, contained plastic, suggesting the sloth bear may have consumed waste while foraging.

An intriguing observation involved termite mounds, which are favored by sloth bears for feeding. Many of these mounds were found to be around the tree species such as Karra (*Cleistanthus collinus*), Saja (*Terminalia tomentosa*). While these trees do not produce fruits preferred by sloth bears, they appear to play an indirect role in shaping bear habitat by supporting termite mound formation. We will be documenting more such tree species and other factor that support sloth bear's habitat as our research work progress.

Damages caused to windows and door while sloth bear entering the Kitchen in Kokpur village

5.5 Participatory Policy Inputs

i. Natural Termite Repellents

To reduce sloth bear attraction to mud houses, locals proposed exploring natural termite repellents such as neem (*Azadirachta indica*) oil, karanj (*pongamia pinnata*) oil, and lime-based (locally known as *chuna*) paints to prevent termite infestations in walls.

ii. Waste Management

Sloth bears are increasingly drawn to village dumping sites, raising concerns about plastic ingestion, as evidenced by the Mandri scat sample. Improved waste management practices are essential, and we are currently piloting such efforts in Gadhiya Pahad, a culturally significant tourist site near Kanker City.

iii. Use of Ghanta Kathi (Stick with Bells)

Given sloth bears' aggression to surprise encounters, we recommend the use of *Ghanta Kathi*, a stick fitted with bells, commonly used in Gujarat. Carrying this while entering farms or forests can alert sloth bears to human presence, potentially reducing conflict.

Locals recorded the damages to wall of the mud house while sloth bear having feast on the termites within the wall in Mandri

Claw marks of sloth bear on the walls of mud house in Kokpur village

5.6 Challenges Faced and Mitigation

i. Heavy monsoon rains significantly disrupted forest-based survey activities, including camera trapping. As a workaround, we conducted camera trapping within village settlements, with prior consent from residents to document sloth bear interactions. Rigorous forest sign surveys are scheduled to resume in November 2025, now that the rains have subsided.

ii. Interviewing attack survivors posed another challenge, as we were cautious not to cause discomfort. Instead of using formal questionnaires, we engaged in open, conversational interviews while ensuring all relevant topics were covered. We also refrained from taking photographs unless participants explicitly agreed.

6. Photographs from the field


Germination of Tendu (Diospyros melanoxylon) and Chind/ Wild date palm (Phoenix sylvestris) seeds recorded in the targeted CFR areas


Marks *by the sloth bears over the walls of the ration shop in Mandri Village*


AERF's project team deploying the camera trap to study sloth bear's interaction within settlement

Sloth bears scat found near dumping site, scat contained plastic as encircled

Sloth bear's pugmark recorded in the targeted CFR area

Project team discussing about the sloth bears interaction within settlement with locals

Project team along with local resource person near the diggings (encircled) by sloth bear in targeted CFR area

Project team member mapping the termite mound in targeted CFR area

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7. Plan for Next Quarter

i. Completion of the social survey in the targeted villages

ii. Conducting rigorous sign surveys, scat analysis and the habitat study in the forest areas of any of the two targeted villages.

iii. Preparing the audio-visual material for the awareness session for multiple stakeholders like local community members, CFR Management Committee members, students, etc.

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8. Concluding Remarks

The first quarter of our project has paved a way toward strong foundation for understanding the complex dynamics between sloth bears and human communities in the Kanker block of Central India. Through structured interviews, forest surveys, and scat analysis, we have begun to uncover critical ecological and social patterns that shape these interactions. The documentation of over 100 recorded incidents in last 10 years, including nine fatalities highlights the urgency of developing informed, community-driven mitigation strategies.

The presence of sloth bear signs, coupled with evidence of plastic ingestion, underscores both the ecological significance of these landscapes and the emerging threats posed by human waste and scarcity of fruit trees that are preferred by the sloth bears. The bears' increasing reliance on processed foods and their visits to ration shops and households reflect a concerning shift in foraging behavior, which demands immediate attention.

Importantly, our exploration of cultural narratives such as the figure of Jambuvant, the bear King, has opened new avenues for integrating traditional knowledge into conservation discourse.

As we move into the next quarter, our focus will be on completing the expanded social survey, deepening habitat and scat analysis, and preparing targeted awareness materials for diverse stakeholders. Continued collaboration with local communities, forest officials, and CFR management committees will be essential to ensure that our findings translate into practical, inclusive, and sustainable conservation outcomes.

Sloth bear sighted near Kanker city

9. Annexes

Questionnaire for the social survey on Community perception and interaction with of Sloth Bear Melursus ursinus as follows:

Section A: General Information

1. **Village Name:**
2. **Respondent Name (Optional):**
3. **Age:**
4. **Gender:** ☐ Male ☐ Female ☐ Other
5. **How long have you lived in this village?** ☐ Since birth ☐ Less than 5 years ☐ 5–10 years ☐ More than 10 years

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Section B: Local Environment & Livelihood

1. **Primary sources of livelihood:** ☐ Agriculture ☐ NTFP collection ☐ Livestock rearing ☐ Wage labour ☐ Others (specify)
2. **Main crops cultivated:**
3. **Forest resources you collect/use:** ☐ Mahua ☐ Tendu ☐ Honey ☐ Bamboo ☐ Medicinal plants ☐ Other
4. **Distance of forest from your house:** ☐ <500 m ☐ 500 m – 1 km ☐ 1–2 km ☐ >2 km
5. **Frequency of forest visits:** ☐ Daily ☐ Weekly ☐ Seasonally ☐ Rarely

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Section C: Knowledge & Perception of Sloth Bear

1. **Do you know about the sloth bear?** ☐ Yes ☐ No
2. **Local name(s) of sloth bear:**
3. **Have you seen a sloth bear in person?** ☐ Yes ☐ No
4. **Where do you see them most often?** ☐ Forest interior ☐ Near farms ☐ Near water sources ☐ Around village ☐ Other
5. **How would you describe sloth bears?** (Open-ended)

6. **What do you think sloth bears eat?**
7. **In your opinion, are sloth bear numbers in this area:** ☐ Increasing ☐ Decreasing ☐ Same ☐ Don't know
8. **What would be the reason for the increase or decrease in the numbers:** (Open-ended)
9. **How dangerous do you think sloth bears are?** (Scale: 1–Not dangerous, 5–Very dangerous)

Section D: Encounters & Conflict

1. **Have you or anyone in your family encountered a sloth bear?** ☐ Yes ☐ No
2. **If yes, how often?** ☐ Once in lifetime ☐ Once a year ☐ Multiple times a year ☐ Frequently
3. **Where did the encounter occur?** ☐ Forest ☐ Farm ☐ Near house ☐ Road/path
4. **What happened during the encounter?** (Open-ended; note injuries, damages)
5. **Did the bear damage any property, crops, or livestock?** ☐ Yes ☐ No
6. **Type of damage caused:** ☐ Crop loss ☐ Livestock kill ☐ Honey theft ☐ Other
7. **When do such incidents mostly occur?** ☐ Summer ☐ Monsoon ☐ Winter ☐ During fruiting season (specify)
8. **Any human injuries or deaths in your village in last 5 years?** ☐ Yes ☐ No (If yes, details)
9. **How did you or others respond to the encounter?** ☐ Drove it away ☐ Reported to forest dept. ☐ Did nothing ☐ Other

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Section E: Cultural & Traditional Knowledge

1. **Any stories, myths, or beliefs about sloth bears in your community?** (Open-ended)
2. **Are sloth bears part of any rituals or festivals here?** ☐ Yes ☐ No (If yes, explain)
3. **Do you consider sloth bears important for the forest?** ☐ Yes ☐ No ☐ Don't know
4. **If yes, why?** (Open-ended)

Section F: Attitudes Towards Sloth Bear Conservation

1. **Do you think sloth bears should be protected?** ☐ Yes ☐ No ☐ Not sure
2. **Main reason for your answer:** (Open-ended)
3. **Would you support measures to reduce conflict?** ☐ Yes ☐ No ☐ Depends
4. **Which measures do you think would work best?**
   ☐ Awareness campaigns
   ☐ Better forest protection
   ☐ Compensation for damages
   ☐ Improving crop protection
   ☐ Relocation of problem animals
   ☐ Other (specify)
5. **If forest we want to work with villagers for conflict mitigation, would you participate?** ☐ Yes ☐ No ☐ Maybe

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Section G: Compensation & Support

1. **Are you aware of any government compensation schemes for wildlife damage?** ☐ Yes ☐ No
2. **Have you ever received compensation?** ☐ Yes ☐ No
3. **If yes, how easy was the process?** ☐ Easy ☐ Moderate ☐ Difficult
4. **Suggestions for improving the process:** (Open-ended)

Section H: Closing Questions

1. **Any additional comments on sloth bears or conflict?** (Open-ended)
2. **What message would you give for future generations regarding wildlife?** (Open-ended)

Local deity at sacred site of Gadhiya Pahad/Hill near Kanker city, also a habitat for sloth bear