Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Terms of Reference: Development of a Toolkit to design, implement and monitor effective and efficient preventive measures for human wildlife conflict mitigation at selected Project locations in India

Project number/ cost centre:

16.2078.0.001.00

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0. List of abbreviations

AVB	General Terms and Conditions of Contract (AVB) for supplying services and work 2018
BMZ	German Federal Ministry for Economic Cooperation and Development
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HWC	Human Wildlife Conflict
MoEFCC	Ministry of Environment, Forest and Climate Change
ToRs	Terms of reference

1. Context

Biodiversity is fundamental to sustain ecosystem processes, functions and the continued delivery of ecosystem services, which are the foundation of livelihood security, health and overall well-being of human societies. Conservation of biodiversity, including wildlife, is essential for India, not only because the consequences of biodiversity loss and the resulting loss of ecosystem services have a far-reaching impact on livelihoods and overall well-being of human communities, but also because of the cultural heritage where coexistence is the natural way of living. This situation in India, however, is changing. Increasing human population and consequent demand for natural resources is leading to degradation and fragmentation of natural habitats, thus creating a situation where the humans and wildlife are competing for the same resources. The shift from 'co-existence' to 'conflict' has the potential to undermine the existing and future conservation efforts, and also to hinder achievement of both Sustainable Development Goals (SDGs) and Biodiversity Targets. Mitigation of Human wildlife conflict in India, therefore, is an urgent and important issue. It is necessary to address the issue in a holistic manner, and co-create the mitigation solutions, with full engagement of all the relevant stakeholders.

The Indo-German Technical Cooperation (TC) Project on “Human-Wildlife Conflict Mitigation in India’ is commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and is being implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in partnership with the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India, and the State Forest Departments of Karnataka, Uttarakhand and West Bengal. The project measures are being implemented at the national level, and in three project partner States, viz. Karnataka, West Bengal and Uttarakhand.

The project aims at providing technical support at the National level and in selected partner States for effective implementation of Human Wildlife Conflict mitigation measures. In order to achieve this objective, the project focuses on three Output areas: Support in development of strategy and action plan, SOPs and database; Pilot application of a holistic approach and instruments for the mitigation of human wildlife conflict in partner States; and Facilitating capacity development of key stakeholders for mitigating human wildlife conflict in India. The project takes the approach of harmonious coexistence, by ensuring that both – human and wildlife – are protected from conflicts. This approach follows the modern wildlife conservation principles to balance the needs of people with the conservation of nature.

The project is being implemented under three Output areas as follows:

- Output 1: developing a national strategy to mitigate human wildlife conflict, SOPs for managing HWC for key species, and support to states for developing state-level level action plans
- Output 2: pilot application of mitigation instruments for the management of human wildlife conflict at local level in few selected states
- Output 3: facilitating capacity development of institutions and individuals for mitigating human wildlife conflict at National level and at state-level.

For more information and updates on the project, please follow this link http://indo-germanbiodiversity.com/projects-human+wildlife+conflict+mitigation.html

The Project has conducted a baseline study at the three pilot sites, to assess people’s awareness levels vis-à-vis wildlife behaviour and their perceptions towards existing mitigation measures. This

report will be made available to the consult at the beginning of the contract. Project is working towards achieving the following specific indicator by the end of the project: *In selected pilot areas, satisfaction with the measures to reduce conflicts has risen by 50% in potentially affected men and by 75% in potentially affected women.* An overview is presented in **Annex 1**

1.1. Project Results framework

Achievement of the overall project objective will be measured against the following indicators:

1. At least three measures for the mitigation of human wildlife conflicts agreed upon in the three state action plans are implemented in the three supported states.
2. In three Indian states, Forest Departments have provided monitoring data on human wildlife conflicts via a national knowledge platform following a uniform standard, have each organised a discussion forum on human wildlife conflicts (e.g. identifying drivers, preventive measures, reduction of impact of conflict, etc.) and have formulated 1 recommendation on conflict mitigation for the national strategy.
3. In selected pilot areas, satisfaction with the measures to reduce conflicts has risen by 50% in potentially affected men and by 75% in potentially affected women.
4. The curricula of a national training institute (e.g. Indira Gandhi Forest Academy or Wildlife Institute of India) as well as the training courses offered by three state level training institutes contain modules for the reduction of human wildlife conflicts.

1.2. Specific Indicators for Project Output B (relevant to this assignment):

1. A toolkit with instruments for the mitigation of human wildlife conflicts with the thematic focus areas (i) identifying the drivers, (ii) preventive measures and (iii) reduction of impact of conflicts, has been developed. (Source of verification: Documentation of the instruments on identification of drivers, preventive measures, and reduction of impacts)
2. In each of the selected states, there is a management action plan at the level of a Forest Division, which integrates the instruments of the toolkit for the mitigation of human wildlife conflicts. (Source of verification: Evaluation of the action plans)
3. In 3 Forest Divisions one pilot measure each is implemented on the basis of the management action plans (Source of verification: Evaluation reports on implemented measures, comparison of the contents between pilot measures and action plans)

1.3. Relevant ongoing activities in the project:

The project had compiled the existing situation on HWC in India which is available in the form of a report. The project has also drafted a competency framework and curriculum for key stakeholders, which is being used by partner training institutions in India for delivering training measures. A ‘Human Wildlife Conflict Mitigation National Strategy and Action Plan’ and Standard Operating Protocols for key species and issues are also being developed by the project.

Project has conducted a baseline study, to understand the socio-economic situation, existing effectiveness of mitigation measures and people’s perceptions, at selected location on the project pilot sites in the three states. Based on the preliminary assessments on the ongoing mitigation measures at the pilot sites, key focus of the project under the output B on the project pilot sites is to

strengthen the State Forest Department personnel by providing equipment and training support towards building a 'Early warning and Rapid Response' system. The equipment being procured by the project is telemetry equipment such as radio collars, camera traps and drones to help the RRTs in receiving information, as well as specialized vehicles for translocation and medical emergencies of elephants, leopards and also rescue vehicles for rapid movement of the RRTs themselves.

As the next step, the project wants to support 'HWC Mitigation toolkit' which will serve the purpose of a handy field manual cum reference guide for the field operations. This is planned to be achieved by first conducting a detailed and systematic evaluation of the existing mitigation measures in India, and then to conduct detailed feasibility studies for key potential mitigation measures focussing on the three States- Karnataka, Uttarakhand and West Bengal, culminating in comprehensive and user-friendly HWC mitigation toolkits to facilitate the work of the wildlife managers.

1.4. Objectives and Scope of the Assignment

The project is seeking support from an agency to develop a toolkit on Preventive measures for HWC mitigation with customizations for three States- Karnataka, Uttarakhand and West Bengal.

The purpose of the toolkits will be to facilitate a common understanding on and a ready reference for key information, processes and methods required for effective and efficient implementing HWC mitigation measures. The toolkit will serve as a handy field manual cum reference guide for the field operations.

All the tasks in this assignment need to be implemented in a highly participatory manner with consultations at the National, state and local levels, involving key stakeholders.

While assessing each mitigation measure, the consultant must keep in mind the overall approach of the project 'Harmonious co-existence between humans and wildlife".

All material and processes should follow a holistic approach, addressing the following three dimensions of HWC mitigation:

- Addressing the drivers
- Preventive measures
- Reducing the impact of HWC

As the topic of human wildlife conflict is an extremely sensitive subject, for each task in this assignment, the consultants would be required to work in close consultation with the Project and must adhere to the advice on procedures etc when provided by the Project on specific issues. The consultants will also be required to cooperate with other experts, engaged by the Project for specific related tasks.

The assignment needs to be conducted in a highly participatory manner with consultations at the National, state and local levels (project pilot sites), involving key stakeholders.

The products and process in this assignment must provide gender-segregated information and make special efforts to design and implement awareness and communication measures in a way that women at the pilot sites exhibit evidence-based raise in their awareness levels on animal behaviour and human wildlife conflict mitigation measures.

2. Tasks to be performed by the contractor

The contractor is responsible for providing the following services:

The contractor is responsible for planning, developing, implementing and monitoring tasks leading to development of a Toolkit on Preventive measures for Human Wildlife Conflict Mitigation in India, as per the detailed provided in this document, under direct supervision and in close cooperation with the HWC Project.

Following is an outline of the task to be performed:

Task group: Systematic assessment of human wildlife mitigation measures in India

This task is National in its scope. includes the following sub-tasks and steps:

Task 2.1 Further refine the criteria for assessment of HWC mitigation measures:

- Review Project documents and other available information from the HWC Project, viz. the baseline study report and other information, followed by discussions with the HWC team to get clarity on the overall approach and philosophy of the Project. An overview of the Project pilot sites is provided in Annex 1.
- Submit the updated workplan (2 weeks of starting the contract)
- Further refine the set of criteria and indicators (Annex 2) provided for assessing the impact of mitigation measures. This should be shared with other experts / presented at a suitable forum to receive feedback and inputs from other experts, and subsequently revised and updated.
- Participate in meetings and field visits, with the HWC team, for discussions, consultations and final agreements on the criteria with the Project partners and other key stakeholders.
- Support the HWC Project in finalizing the monitoring and evaluation plan for this assignment, for fortnightly progress monitoring
- Finalize the work plan and event calendars, in consultation with the HWC team.

  Deliverable 1: Finalized set of criteria and indicators for assessment of HWC mitigation measures

Task 2.2 Conduct the assessment of the selected mitigation measures in India using the finalized criteria and indicators

- Undertake field visits, interviews, meetings and consultations, and other similar methods for receiving information and data from the field to assess the effectiveness and wildlife-friendliness of existing HWC mitigation measures.
- It is envisaged to have at least six field missions of one week each to optimize availability of experts from different disciplines required for assessing the mitigation measures. Field missions can be clubbed together depending on the availability of experts and GIZ team
    - One field mission each will intensively cover Haridwar landscape in Uttarakhand, Kodagu landscape in Karnataka, and North Bengal landscape. These three field missions to the Project locations will be longer, because these field missions will also

gather prior information for eventually conducting feasibility assessment under the task 2.3.
    - Remaining three field missions will be as follows:
        - Forth field mission covering Jharkhand, Odisha, Chhattisgarh, Assam, Bihar, Nagaland
        - Fifth field mission covering Kerala, Tamilnadu, Maharashtra and Goa
        - Sixth field mission covering Himachal and UP

- Following is a tentative list of mitigation measures to be included in the assessment. This list will be finalized during the kick-off meeting:
    - Elephant- proof trench (EPT)
    - Barricading using old railway rails, hanging electric fence, solar fencing, etc
    - Bio-fencing using species such as agave, bamboo, cactus etc
    - Use of bio-repellents like chilli ropes, chilli curtains, chilli smoke, chilli dung cake
    - Use of bees, and sounds in different methods and combinations
    - Early warning systems such as SMS alert system, radio collars, Use of seismic sensors for early detection of elephants, thermal and acoustic sensors
    - Visual deterrents and powerful lights
    - Community crop protection technique
    - Use of predator proof corrals for protecting livestock
    - Use of alternative & unpalatable crops like lemon, chilli, capsicum, beetle nut that are not favored by elephants/ other species
    - Population control of species in conflict
    - Translocation of animals in conflict

- For the assessment, questions need to be asked in line with the report format provided in Annex 2*. (**This checklist is only indicative at this stage, and the consultant is required to finalize this checklist together with the Project, at the kick-off meeting after commencement of the contract)*

Deliverable 2: Report on systematic assessment of existing and potential HWC mitigation measures in India
Deliverable 3: Finalized set of criteria and indicators for prioritization of HWC mitigation measures

Task group 2: Feasibility Studies and Operational Planning for implementation of prioritized mitigation measures at the Project pilot sites – Kodagu in Karnataka, Haridwar-Rajaji in Uttarakhand and Gorumara landscape in West Bengal

Task 2.3 Conduct feasibility studies on potential mitigation measures, and develop detailed operation plan for top three prioritized measures for each of the three Project Pilot sites

As part of the continuous efforts to mitigate human wildlife conflict, various agencies and government departments are working on several mitigation measures on an experimental basis and/or in the process of planning their implementation. The Project intends to support such efforts by conducting detailed feasibility studies of selected measures to prioritize mitigation measures.

- Conduct one field mission each to conduct feasibility studies at the Project Pilot sites, viz. Haridwar landscape in Uttarakhand, Kodagu landscape in Karnataka, and North Bengal landscape
- The contractor will be required to enlist mitigation measures, in close consultation with the Project, to be studied for their feasibility in following categories:
    - Technical feasibility
    - Legal feasibility
    - Financial feasibility
    - Impact of wildlife and people
    - Possible scenarios for cross-sector coordination and cooperation
    - Opportunities for engaging local communities

- After the feasibility study is done, mitigation measures will then be prioritized, in close consultation with the respective State Forest departments, based on the criteria developed.

- The top three prioritized mitigation measures at each of the pilot site, will be further elaborated to develop their detailed operational plan for further implementation and monitoring.

  Deliverable 4: Report on Feasibility study of selected measures and detailed operational plan for prioritized measures for Haridwar-Rajaji Landscape.
  Deliverable 5: Report on Feasibility study of selected measures and detailed operational plan for prioritized measures for Kodagu Landscape.
  Deliverable 6: Report on Feasibility study of selected measures and detailed operational plan for prioritized measures for North Bengal Landscape.

Task 2.4 Participate in workshops and meetings organized by the Project for receiving inputs and feedback from key stakeholders, and put together all the results in the form of a toolkit

Project will organize meetings and workshops, throughout the assignment, in close consultation with the contractor, where interim/ final results of the studies and draft plans will be shared with key stakeholders. The contractor will be required to

- Effectively participate in all the meetings and workshops, ensuring that key relevant experts form the team attend the meetings.
- Develop a draft format for the Toolkit at the beginning of the assignment, and further refine it with inputs from the Project and feedback received form key stakeholders during the meetings and workshops

Deliverable 7: Mitigation Toolkit on Preventive measures in a format as agreed with the Project

Task 2.5 Final consultant report

Present the tasks completed as per the ToR, along with the following annexure: All documents produced under the assignment viz., products under deliverable 1-11; documentation on field visits, meetings etc, lists of organisations & people met with during the field visits, meetings etc; sample interviews used and/or focus group themes; references (sources and publications consulted); Photos and videos from the field surveys as image files

Deliverable 8: Final consultant report

Certain deliverables, as laid out in the table below, are to be achieved by certain dates during the contract term, and at particular locations:

Deliverables	Deadline
Finalized set of criteria and indicators for assessment of HWC mitigation measures (D1)	2 weeks of starting the contract
Report on systematic assessment of existing and potential HWC mitigation measures (D2); Finalized set of criteria and indicators for prioritization of HWC mitigation measures (D3)	20 weeks
Report on Feasibility study of selected measures and detailed operational plan for prioritized measures for Haridwar-Rajaji Landscape (D4); Kodagu Landscape (D5); and North Bengal Landscape (D6)	40 weeks
Mitigation Toolkit in a format as agreed with the Project (D7)	55 weeks
Final report (D8)	60 weeks

3. Concept

In the bid, the bidder is required to show how the objectives defined in Chapter 2 are to be achieved, if applicable under consideration of further specific method-related requirements (technical-methodological concept). In addition, the bidder must describe the project management system for service provision.

Technical-methodological concept

Strategy: The bidder is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1). Following this, the bidder presents and justifies the strategy with which it intends to provide the services for which it is responsible (see Chapter 2).

The bidder is required to present the actors relevant for the services for which it is responsible and describe the **cooperation** with them.

The bidder is required to describe the key **processes** for the services for which it is responsible and create a schedule that describes how the services according to Chapter 2 are to be provided. In particular, the bidder is required to describe the necessary work steps and, if applicable, take account of the milestones and contributions of other actors in accordance with Chapter 2.

The bidder is required to describe its contribution to knowledge management for the partner and GIZ and promote scaling-up effects (**learning and innovation**).

The bidder is required to consider **gender equality** as a cross cutting theme in the entire assignment and present it explicitly in their proposal.

Project management of the contractor

- The consultant is responsible for selecting, preparing and training the assigned personnel to perform the tasks outlined in this assignment.
- The consultant assumes the associated operating and administrative costs.
- The consultant manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.

The bidder is required to draw up a **personnel assignment plan** with explanatory notes that lists all the experts proposed in the bid; the plan includes information on assignment dates (duration and expert days) and locations of the individual members of the team complete with the allocation of work steps as set out in the schedule.

4. Eligibility of Consulting Firms

- Average annual turnover for the last three financial years should be at least 300,000 EUR, with at least 15 full-time employees working as on December 31 2018.
- Company should have completed at least 2 projects in the field of biodiversity/wildlife/natural resource management planning. Out of these two, at least one project should have been in the States of Karnataka/ Uttarakhand/ West Bengal, in the last three years.
- Technical knowledge and competencies across important issues in Natural Resource Management / Biodiversity/ Wildlife Management in India
- More than 15 years' experience in conducting assessment surveys and feasibility studies in the area of Natural Resource Management / Biodiversity/ Wildlife Management
- Good understanding of the institutional set-up with regard to Forest and Wildlife sector in India
- Experience of implementing assignments with multi-disciplinary teams of experts
- Experience of working in the States of Karnataka, Uttarakhand and West Bengal

The organization must have a strong technical backstopping and should be able to assign the required expertise for implementing the assignment, in case the expert/s originally assigned for the assignment are not able to fulfil the tasks, due to any reason. The organization will need to submit documentary evidence in support on the above criteria fulfilment.

5. Personnel concept

The bidder is required to provide personnel who are suited to filling the positions described, on the basis of their CVs, the range of tasks involved and the required qualifications.

The below specified qualifications represent the requirements to reach the maximum number of points.

Team leader

<u>Tasks of the Team leader</u>

- Overall responsibility for implementing the assignment in line with the ToR.

- Coordinating and ensuring communication with GIZ and other partners involved in the project
- Personnel management, in particular identifying the need for short-term experts within the available budget, as well as planning and steering their work
- Regular reporting in accordance with deadlines
- Ensuring quality and timeliness of all deliverables

Qualifications of the Team leader

- Education/training (2.1.1): University qualification in Environment/ Natural Resources Management/ Willdife/ Ecology/ any other relevant field
- Language (2.1.2): Excellent language skills in English
- General professional experience (2.1.3): 15 years of professional experience in the Environment/Natural Resources Management/ Biodiversity/ wildlife sector
- Specific professional experience (2.1.4): 10 years in developing technical documents such as toolkits or good practices in the field of Environmental / NRM/ biodiversity/ wildlife
- Leadership/management experience (2.1.5): 5 years of management/leadership experience as project team leader or manager in an organization
- Regional experience (2.1.6): 5 years of experience of implementing similar assignments in India, of which 1 year of experience each in Uttarakhand, Karnataka and West Bengal
- Experience of working with the Forest and other sectors (2.1.8): Evidence of implementing projects with Forest Department, civil society actors, and private sector.

Expert 1: Wildlife Expert

Tasks of expert

- Providing key conceptual and technical inputs and steering for systematic assessment of mitigation measures
- Provide specialized inputs on landscape approach and supporting the team in taking a landscape approach for each product and process in this assignment.
- Coordinate with the species and other thematic experts to provide an integrated assessment of the mitigation measures
- Facilitate the team awareness and common understanding on key relevant legal, policy and ethical considerations in HWC mitigation, and ensure that the products developed under the assignment follow the ‘harmonious co-existence’ approach to HWC mitigation and are in line with the existing legal regime in the Country.

Qualifications of expert

- Education/training (2.2.1): Doctorate/ masters in Environment/ wildlife/ biodiversity/ any other relevant field
- Language (2.2.2): Evidence of good command on English and at least one of the following languages: Kannada/ Bengali/ Hindi.
- General professional experience (2.2.3): 5 years of experience of working in human wildlife conflict mitigation in India
- Specific professional experience (2.2.4): 3 years of experience of working on the issues of HWC mitigation using a landscape approach and spatial planning instruments
- Regional experience (2.2.6): 1 year of experience of working in each of the three States: Karnataka, Uttarakhand and West Bengal

Soft skills of team members
In addition to their specialist qualifications, the following qualifications are required of team members:

- Team skills
- Initiative
- Communication skills
- Sociocultural competence
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

Expert 2: Community and Livelihood specialist

Tasks of expert

- Provide specialized inputs on the social and livelihood aspects of HWC and supporting the team in taking a human-centric view for each product and process in this assignment.
- Coordinate with other experts to provide an integrated and balanced assessment of the mitigation measures
- Overall steering of the planning and implementation of stakeholder consultations, interviews, meetings and discussions conducted by the team during field missions and other consultation meetings/ workshops.
- Ensuring that the operation plans for prioritized mitigation measures are socially acceptable, and follow the 'harmonious co-existence' approach to HWC mitigation

Qualifications of expert

- Education/training (2.2.1): Degree in Social Sciences, Anthropology/ Economics/ any other relevant field
- Language (2.2.2): Evidence of good command on English and atleast one of the following languages: Kannada/ Bengali/ Hindi.
- General professional experience (2.2.3): 5 years of experience of working in environment/ wildlife sector
- Specific professional experience (2.2.4): 3 years of experience of working with local communities in India on natural resource management and associated conflicts
- Regional experience (2.2.6): 1 year of experience of working in each of the three States: Karnataka, Uttarakhand and West Bengal

Soft skills of team members
In addition to their specialist qualifications, the following qualifications are required of team members:

- Team skills
- Initiative
- Communication skills
- Sociocultural competence
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

Expert 3: Agriculture expert

Tasks of expert

- Provide specialized inputs on the agriculture and livelihood aspects of HWC and supporting the team in taking a scientific view for all current and proposed agricultural practices at the field sites.
- Coordinate with other experts to provide an integrated and balanced assessment of the mitigation measures
- Overall steering of the planning and implementation of field visits and feasibility studies where the mitigation measures are centred around use of alternative crops, crop and livestock insurance etc.
- Facilitate the team awareness and common understanding on key relevant agriculture policies and good practices, agri-business management approaches, value chain analysis and other aspects required for ensuring that the operation plans for prioritized mitigation measures related to agriculture are economically viable.

Qualifications of expert

- Education/training (2.3.1): Degree in Agriculture/ Agri-business management/crop sciences/ Economics/ any other relevant field
- Language (2.3.2): Evidence of good command on English and atleast one of the following languages: Kannada/ Bengali/ Hindi.
- General professional experience (2.3.3): 5 years of experience of working in agriculture /environment/ wildlife sector in India
- Specific professional experience (2.3.4): 3 years of experience of working with local communities in India on agriculture management and associated issues
- Regional experience (2.3.6): 1 year of experience of working in each of the three States: Karnataka, Uttarakhand and West Bengal

Soft skills of team members

In addition to their specialist qualifications, the following qualifications are required of team members:

- Team skills
- Initiative
- Communication skills
- Sociocultural competence
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

Expert 4: Engineering expert

Tasks of expert

- Provide specialized inputs on the engineering aspects of the mitigation measures being assessed.
- Coordinate with other experts to provide an integrated and balanced assessment of the mitigation measures
- Overall steering of the planning and implementation of field visits and feasibility studies where the mitigation measures are centred around use of technology such as fencing, sensors etc.

- Facilitate the team awareness and common understanding on key relevant engineering and technological aspects required for ensuring that the operation plans for prioritized mitigation measures related to agriculture are technically sustainable and feasible, and will provide the desired results on a landscape level.

Qualifications of expert
- Education/training (2.4.1): Degree in engineering/ any other relevant field
- Language (2.4.2): Evidence of excellent command over English
- General professional experience (2.4.3): 10 years' experience in working on technological solutions in agriculture/ environment/ forest/ wildlife sector
- Specific professional experience (2.2.4): Expertise and experience on at least one the following measures: solar fencing, sensors as HWC mitigation instruments
- Regional experience (2.2.6): one similar assignment implemented in India
- Other (2.2.8):

Soft skills of team members
In addition to their specialist qualifications, the following qualifications are required of team members:
- Team skills
- Initiative
- Communication skills
- Sociocultural competence
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

Short Term Experts Pool 1: Thematic Experts pool with minimum 5 maximum 10 members

The short-term experts are the short-term members of the team, whose role will be to provide specific inputs during the field missions, development of documents etc, viz. (1) species experts for providing species specific inputs on assessment of mitigation measures during field missions and during documentation. The key species of concern at the project pilot sites are elephant, leopard, wild boar, rhesus macaque, Blue bull, Indian Gaur, Crocodile, black bear, and also species in other parts of India such as black buck and Wolf (2) experts to work on specialized topics not covered by the rest of the team and experts, viz. legal aspects, specialized engineering areas.

Tasks of the Thematic Experts pool
- Species specific inputs during field missions and documentation
- Support to and participation in the field missions for providing specialized local inputs
- Documentation/ coordination of specialized tasks in the assignment

Qualifications of the thematic experts
- Education/training (2.6.1): degree in wildlife sciences/ Environment/ Biodiversity/ engineering/ agriculture/ social sciences/ any other relevant field.
- Language (2.6.2): Excellence command over atleast one of these languages- English, Hindi, Kannada and Bengali.
- General professional experience (2.6.3): 5 years of experience in wildlife conservation
- Specific professional experience (2.6.4): 1 year of experience of working on human wildlife conflict issues and mitigation measures.

- Regional experience (2.6.5): 2 years of experience of working in Karnataka/ Uttarakhand/ West Bengal/ Other States with high human wildlife conflict in India

Short Term Experts Pool 2: Field Coordinators with minimum 6 maximum 10 members

The short-term experts are the short-term members of the team, whose role will be to support field missions in specific States/ group of States. They will have an excellent knowledge of the field locations to be visited and the HWC mitigation measures being implemented there. These experts will serve as the crucial link between stakeholder on the field site and the mission team conducting the assessment.

Tasks of the Field Coordinators

- Develop a briefing on the sites in their respective States/ group of States to be visited, prior to the field mission
- Location specific inputs during field missions and documentation
- Support to and participation in the field missions for providing specialized local inputs
- Documentation/ coordination of specialized tasks in the assignment

Qualifications of the Field Coordinators

- Education/training (2.6.1): degree in wildlife sciences/ Environment/ Biodiversity/ engineering/ agriculture/ social sciences/ any other relevant field.
- Language (2.6.2): Excellence command over atleast one of these languages- Hindi, Kannada and Bengali.
- General professional experience (2.6.3): 2 years of experience of working with local institutions
- Specific professional experience (2.6.4): 1 year of experience of working on environment/ conservation/ human wildlife conflict mitigation
- Regional experience (2.6.5): 2 years of experience of working in Kodagu/ Haridwar-Rajaji/ Gorumara-Jalpaiguri/ other States and field sites to be visited by the team

The bidder must provide a clear overview of all proposed thematic experts and their individual qualifications.

6. Costing requirements

Assignment of personnel

Team leader= 50 expert days [Home office= 40 days; travel days= 10]

Expert 1: Wildlife Expert =70 expert days [Home office=20 d; Travel days= 50]

Expert 2: Community and Livelihood Specialist= 70 expert days [Home office=20 d; Travel days= 50]

Expert 3: Agriculture Expert =70 expert days [Home office=20 d; Travel days= 50 d]

Expert 4: Engineering Expert= 70 expert days [Home office=20 d; Travel days= 50 d]

Thematic Expert Pool 1: up to 100 expert days [Home office=40 d; Travel days=60 d]

Thematic Expert Pool 2: up to 100 expert days [Home office=40 d; Travel days=60 d]

Travel

The bidder is required to calculate the travel by the specified experts and the experts it has proposed based on the places of performance stipulated in section 2 and list the expenses separately by daily allowance, accommodation expenses, flight costs and other travel expenses.

Amount of Flights:

Please calculate total 60 flight round-trips:

Number of Flight-trips for Team Leader: 8 round trips (for coordination meetings at Delhi, Kolkata, Bengaluru, other locations as per the plan)

Number of Flight-trips each for Wildlife, Community, Agriculture and Engineering experts: 8 round trips each= 32

Number of flight trips for Expert Pool 1 and 2 = 20

Amount of local travel to be calculated as per the tasks listed in section 2

Amount of Per diem and accommodation

Number of accommodation and per diem days:
Team leader= 10 days
Expert 1: Wildlife Expert= 50 days
Expert 2: Community and livelihood Expert= 50 days
Expert 3: Agriculture Expert =50 days
Expert 4: Engineering Expert= 50 days
Pool of Experts 1 = 60 days
Pool of Experts 2 = 60 days

Costs of meetings/workshops

The consultant will be responsible for organizing the meetings and workshops during field missions including detailed planning, set-up at the venue, moderation and documentation as per the details in section 2 above. The cost of logistics of the meeting including venue, food etc however, will be borne directly by the project. So, the consultant should not build this cost into their budget.

7. Requirements on the format of the bid

The structure of the bid must correspond to the structure of the ToRs. In particular, the detailed structure of the concept (Chapter 3) is to be organised in accordance with the positively weighted criteria in the assessment grid (not with zero). It must be legible (font size 11 or larger) and clearly formulated. The bid is drawn up in English.

The complete bid shall not exceed 10 pages (excluding CVs).

The CVs of the personnel proposed in accordance with Chapter 0 of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages. The CVs must clearly show the position and job the proposed person held in the reference project and for how long. The CVs can also be submitted in English.

If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment.

8. Annexes

Annex 1: Overview of the baseline information collected from the pilot sites
Annex 2: A checklist cum criteria for systematic assessment of HWC Mitigation measures

Annex 1: Overview of the baseline information collected from the pilot sites

The baseline study aimed to document peoples' perception on existing and potential human wildlife conflict mitigation measures, and their communication preferences when it comes to receiving information and awareness content.

The respondents of the study were villagers specially women and youth, representatives of Self Help Groups (SHGs), biodiversity management committees, village forests committees, water & sanitation committee or disaster committee and Sarpanch & Panchayat members. They were interviewed using a structured questionnaire, which collected data on the village profile, the respondent's profile, the human-wildlife conflict mitigation perception, the communication and awareness activities carried out to mitigate the conflict and raise awareness on the causes and solutions to the conflict, and the key challenges faced by the community and suggestion on managing the human wildlife conflict in aiding the mitigation. In total about 960 respondents were interviewed in approx. 64 villages covering three project sites. Schools, colleges/ universities and NGOs were also covered through qualitative discussions.

The Study was conducted in October 2018 in the states of Karnataka, Uttarakhand, and West Bengal. The project pilot sites in these States were as follows: Kodagu forest circle, including the forest divisions of Medikeri and Virajpet in Karnataka; Haridwar forest division and adjoining landscape in Uttarakhand, and Gorumara wildlife division and adjoining landscape in West Bengal.

In total about 960 respondents were interviewed in approx. 64 villages covering three project sites.

Coverage of villages in the project sites

S No	**Project Site**	**Villages Covered** (in numbers)	**Villages Covered** (in percentage)
1	Kodagu, Karnataka	24	37.5
2	Haridwar - Rajaji, Uttarakhand	20	31.3
3	Gorumara, West Bengal	20	31.3
	Total	**64**	**100.0**

Villages have largely been at a distance of 0-5 km from the forests or the plantation with 19 villages from Gorumara, West Bengal falling within the range, 18 from Haridwar, Rajaji National Park and 14 from Kodagu, Karnataka within the 0-5 km range.

Sample size of three project sites for perception baseline study (in number and percentage)

S No	Respondents	Gorumara	Haridwar-Rajaji	Kodagu	Total Sample Size Covered *(in number)*	Total Sample Size Covered *(in percentage)*
		20 Villages	**24 Villages**	**20 Villages**		
1.	Female Community Members	101	108	120	329	34.3
2.	Male Community Members	63	72	70	205	21.4
3.	Youth	42	41	52	135	14.1
4.	Surpanch and Panchayats members	34	60	51	145	15.1
5.	Representatives of Self Help Groups (SHGs), Biodiversity Management Committees, Village Forests Committees, Water & Sanitation Committee or Disaster Committee	60	19	67	146	15.2
	Total	**300**	**300**	**360**	**960**	**100.0**

Gender representation in the perception baseline study (in number and percentage)

S No	Gender	Gorumara		Haridwar-Rajaji		Kodagu		Total	
		in number	in percentage	in number	in percentage	in number	in percentage	in number	in percentage
1.	Female	160	53.3	174	58.0	220	61.1	554	57.7
2.	Male	140	46.7	126	42.0	140	38.9	406	42.3

Farming is the key occupation here followed by agricultural labour. Paddy is the main crop grown and jute is also cultivated. Almost all villagers are tea garden workers, agricultural labourers, or daily manual labourers. Youth are mostly students or have dropped out of school to earn for their families. The highest education status was between classes 9-10 (24.3 percent) followed by classes 6-8 (18 percent), while as high as 13.7 percent are illiterate. The average monthly income ranges from Rs 2000/- to Rs 6000/-. Most of the villagers have rented houses. Firewood is available for cooking, while a few houses have LPG facility. Television is present in almost all the houses but the radio is absent. Most of the respondents owned a cycle.

Human-wildlife conflict incidents have occurred quite frequently in Gorurama. Respondents agree unanimously that natural habitat destruction and less food in the forest area are the leading causes of the human-wildlife conflict. Elephants were the species, which caused the most intense conflict with humans followed by leopards and then, gaurs. In their intensity of conflict with humans, leading to livestock injury and death, leopards were rated the highest, followed by elephants. Due to the human-wildlife conflict, respondents, on an average, said that they are afraid to go out at night and organise functions at night.

As largely seen in the three intervention areas, bursting crackers is the most popular mitigation measure followed by the community. In Gorumara, the community has also constructed fences to keep the wild animals at bay while also calling the forest department officials, on occasions, to manage the conflict. There is a fair understanding that presence of humans and the rise in human settlements near forests has most affected the movement of wild animals and that wild animals have lost their habitat due to increased encroachment in wildlife habitats. The most effective mitigation measure to reduce the impact of human-wildlife conflict was considered to be making people and children aware of the behavior of wild animals, followed by creating awareness on the wild animals and their behaviour.

The most preferred information areas in the village were the weekly markets, religious places and youth or community clubs. As information areas in the village, women preferred the anganwadi centres the most, followed by the panchayat office. Radio was the most popular communication channel for women in the village though as a source of information, in general, it drew a response of only 3.9. As a general source of communication, posters and leaflets were the least popular. The sarpanch was considered most reliable communication source in the village, followed by the schoolteachers.

Poor communication between different stakeholders was felt to be the biggest challenge respondents were facing in human-wildlife conflict, followed by lack of an early warning system and rapid response equipment and infrastructure and lack of proper technology and equipment. Respondents suggested that the focus of the communication and awareness on human-wildlife conflict should primarily be on ways to reduce the conflict, followed by information on rapid response team and information on an early warning system. People feel that effective communication and awareness activities on reducing the human-wildlife conflict in their area would help them to effectively manage human-wildlife conflict. Respondents also wanted better information on compensation schemes to cover their losses owing to the human-wildlife conflict.

HARIDWAR FOREST DIVISION AND ADJOINING LANDSCAPE IN UTTARAKHAND

Largely the community is primarily engaged in farming with the main crops being wheat, rice, and paddy. People largely own land and have their own bank accounts. They live in pucca houses; most houses have television sets and own a motorcycle. Mobility is higher due to this, as compared to Gorumara. For an average household size of approximately 5-6 members, the average income is approximately Rs 10,000. The highest education largely is classes 9-10. Women are not engaged in any work they are homemakers.

Conflicts have been very frequent here. Respondents agree moderately that less food in forest area results in wild animals having to move to human habitation and eventually, conflict while water scarcity in forest is also an important factor resulting in conflicts. There is no clear answer on which animal causes the greatest of the conflicts with some agreement on leopards and elephants. Elephants were the species, which caused the most crop damage, while leopards caused the highest cases of livestock injury and death. Primarily, people burst firecrackers to scare away animals coming into human settlements. Electrocuting was also resorted to but respondents said that it is very harmful for the animals.

Respondents are worried most about their losses and feel that having an early warning mechanism will help to reduce the losses.

Panchayat office is the most preferred information area in the village followed by the anganwadi centre, in general, and specifically for women, too. The sarpanch is the most reliable communication source in the village, followed by forest officials and anganwadi workers for the community in general, and women, specifically, too. Mobile phones are the most popular communication channels in the village, followed by friends/relatives while it is the reverse for women.

Respondents have suggested that the focus of the communication and awareness activities on human-wildlife conflict should primarily be on ways to reduce the conflict, followed by information on rapid response team and information on an early warning system. The community feels that strong communication and awareness activities must include sharing of a list of contact numbers to call in case of a conflict. The community would also like to see more youth and women involvement in communicating on HWC.

KODAGU FOREST CIRCLE INCLUDING THE FOREST DIVISIONS OF MEDIKERI AND VIRAJPET IN KARNATAKA

The villages in Kodagu and adjoining landscape are not very densely populated. More than half of the population is literate and the gender ratio in the village is almost equal. The main sources of income in the household is farming and daily wage labourer. LPG/PNG is the preferred fuel used majority followed by use of firewood. Most of the respondents were in the 31-40 years age group and engaged in farming, which is the key household occupation, followed by household labour. Coffee, paddy and pepper are the most widely grown crops. The highest percentage of respondents – 24.2 percent had studied up to classes 9-10 while 16.7 percent had studied up to classes 6-8. Mobility is good with respondents owning a motorcycle, car and scooter, in descending order, respectively.

Conflicts happen very often in the village and have been increasing in recent years. There is a moderate agreement that less food in forest area results in wild animals having to move to human habitation and eventually, conflict with again a moderate agreement that water scarcity in forest is also an important factor resulting in conflicts. Elephants cause the most conflict causing human injury

and death and crop damage. People are afraid to go out during the night because of the conflict and are in fear of being attacked by wild animals. It is felt that increased encroachment in wildlife habitats has meant the loss of habitat for wild animals; their movement gets affected due to presence of humans/human settlements and lack of food resource for wild animals inside the forest due to livestock grazing impacts their behaviour causing them to move out in search of food.

Here too, the most-resorted-to mitigation measure has been bursting fire crackers, followed by informing the forest department. Respondents feel that raising awareness among the community and children would be the most effective mitigation measure to reduce the conflict, followed by translocation of problem animals to some areas. Reporting to officials has been the most effective action taken by the communities along with fencing, in equal measure, and bursting of firecrackers. While fencing is considered an effective measure, setting up an electric fence to ward off the animals is considered harmful to be a very harmful mitigation measure for the animals. Respondents indicated a need to change the mitigation measures and adopt more wildlife friendly methods. An early warning system, it is felt, will help to reduce their losses while having an effective early warning system is ranked low, pointing to the need to create such a system as an effective mitigation measure. The local community largely supports the rapid response team in their work

The Panchayat office is the most preferred information area for the village, followed by anganwadi centres with mobile phones being the most popular communication source in the village, followed by friends/relatives, for the community, in general, and for women, specifically. Forest officials are the most reliable communication sources here for the community, in general, and for women, specifically, in contrast to the Rajaji National Park and the Gorumara intervention areas, followed by anganwadi workers. Respondents have suggested that youth should be engaged more actively in the communication and awareness activities. As part of the communication and awareness outputs, they feel it would help greatly to have a list of contact numbers to call in case of a conflict. Interestingly, learning non-lethal methods to scare away animals emerged as a response specific only to Kodagu.

General information Across the **three sites**.

- Literacy levels vary between 36% - 56% for women and between 37% - 61% for men.
- Almost 95% of the respondents have bank accounts irrespective of the gender.
- The highest education status for respondents has been between grades 9-10 followed by who have studies up to classes 11-12.
- The main occupation across the three sites is farming at 70.3% followed by agricultural labour at 10.9%.
- With farming being the main occupation, the main source of household income is agriculture across the three sites.
- The main crops have been sugarcane, wheat and paddy, coffee, tea and other cash crops.
- Average household incomes fall between Rs 2000/- to Rs 5000/- per month for 65% of the respondents across the three sites and between Rs 5001/- to Rs 10000/- for 35% of the respondents.
- Villages have largely been at a distance of 0-5 km from the forests or the plantation with 19 villages from Gorumara, West Bengal falling within the range, 18 from Haridwar, Rajaji National Park and 14 from Kodagu, Karnataka within the 0-5 km range.

Causes, frequency and impact of conflict,

- Due to the human-wildlife conflict, respondents, on an average, (7.9) said that they are afraid to go out at night and organise functions at night. They are always in fear of being attacked by wild animals. Primary cause of human wildlife conflict is less food in the forest area, which has resulted in wild animals moving to human habitations.
- On the similar scale, second highest reason is believed to be natural habitat destruction – 7.9, which has forced animals to move out, and therefore, humans and wild animals have come into conflict with each other.
- The frequency of human-wildlife conflict has been very frequent across the three sites.
- Respondents feel that on an average, the problems with the wild animals in their village have been on the rise - around 8 on the 1-10 scale.

Species causing maximum conflict

- The maximum number of conflicts resulting in human injury and death has occurred with elephants, followed by leopards and then wild boars.
- Intensity of conflicts, with reference to crop damage, has been highest with elephants again, followed this time by the wild boar and the nilgai.
- In terms of livestock injury and death, the most harmful animal has been considered the leopard, followed by elephants and the wild boar.

Mitigation measures

- Burning crackers followed by constructing fences is the most widely followed mitigation measure.
- There is a fair understanding that presence of humans and the rise in human settlements near forests has most affected the movement of wild animals and that wild animals have lost their habitat due to increased encroachment in wildlife habitats.
- Raising awareness on animal behaviour and the conflict reasons is considered to be the most effective mitigation measure, followed by creating fences around protected zones to prevent wild animals from coming in to human habitations
- Electrocuting as a mitigation measure is considered a fairly dangerous mitigation measure for the animals by the community. Digging of trenches is considered to be least harmful mitigation measure to manage the human-wildlife conflict.
- Early warning mechanism is believed to be a good measure to reduce their losses due to the conflict but there is insufficient knowledge on what an early warning mechanism comprises.

Effectiveness of communication

- Panchayat office and anganwadi workers are the most preferred and reliable areas and sources of information in the villages followed by forest officers, for the community , in general, and for women, specifically, too.
- On a scale of 1-10, the mobile phone emerged as the most preferred communication channel falling at 8.6 on the scale with almost similar male: female preferences (8.7:8.6), followed by information obtained from friends and relatives standing at 7.6 on the scale.
- Anganwadi workers are the most preferred reliable sources for communication among men (5.3) and women (5.5)

Annex 2: Criteria checklist for Systematic evaluation of HWC mitigation measures:

1. Background information

General:

- Details on the location/ geographical dimensions
- Kind of resource management, livelihood practices in the area
- Details on the protected areas, forests/ other natural habitats, and wildlife in the area
- History: use of resources/ cultural practices / key events and development projects

Conditions:

- Climatic, geographical, ecological, socio-economic, demographic, cultural context
- Natural hazards and recent disasters in the area.
- Climate change vulnerability information for the area, if information is available

Human Wildlife Conflict:

- Brief on the kind of conflict present in the area

2. General description of mitigation measure/s

- Purpose / objectives
- Implementing entity / partners
- Operational details of the mitigation measure/s
- Duration and year/month; since when (if ongoing)

3. Process of implementation

- Actors: Who was/ is involved in the process
- Tools: What implementation tools/ techniques have been used?
- How the mitigation measure/ instrument was implemented?
- Which stakeholders were involved in the decision-making process before, during and after the mitigation measure/s were implemented? In what ways they were engaged?
- How effective was/ is the mitigation measures? How was the effectiveness measured?? wildlife friendliness
- How are communities affected by the mitigation measure (positively/negatively)? How was this impact on communities measured?
- How is the wildlife affected by the mitigation measure (positively/ negatively)? How was the impact on wildlife measured?
- Did the implementation of the mitigation measure generate any negative reaction/opposition/ controversy? Why / why not? If there was any negative reaction/opposition/ controversy?, what was it about? How were the problems solved?
- What particular success/ difficulties did the implementation of mitigation measure met with?

4. Outputs and Outcomes

- What was achieved (or not) in practical terms, with regard to the following :

    a. Reduced incidents of human wildlife conflict
    b. Enhanced efficiency in receiving early warning on the possible conflict situation
    c. Reduced loss of property
    d. Reduced loss of human life
    e. Reduced loss of animal life
    f. Overall livelihood security and sustainability in the area
    g. Influencing policies/ decisions at a broader scale
    h. Changes in the perception of local communities towards conservation in general and wildlife in specific (How the local communities perceive the role of wildlife for their livelihood security? Do they find the mitigation measure useful? What changes in their situation have they observed vis-a-vis HWC?)
    i. Changed perception of other key stakeholders toward wildlife
    j. Is the implementation of mitigation measure still on-going or not. If not, what lead to its discontinuation?

[use examples, direct quotes from local community/ officials/ development workers/etc, indicators, etc to provide clear evidence of results / impacts]

5. Discussion

- What worked and what didn't? why?
- Identify the drivers of success or failure, e.g. change in governance (policies, legal frameworks, SOPs, guidelines), capacity development inputs, commitment / charisma of specific individuals, institutional partnerships, institutional mechanisms, resources, etc.
- Sustainability: What is needed to maximize results and achieve sustainability?
- Replication: Can the ‚mitigation measure'/ ‚process' be easily replicated? How? (What changes are needed? Which factors have to be taken into account to allow replication?)
- Cost-effectiveness: what is the added value of this mitigation measure; if possible, include cost-benefit analysis or economic valuations.
- If possible, compare to alternative solutions, i.e. the interventions without a participatory approach
- If possible, compare to similar mitigation measures implemented in other settings

6. Recommendations / Conclusions (maximum 150 words)

- Summarize key lessons learned and priority areas of action
- Any forward-looking reflections, next steps and or immediate follow-up activities
- Generalities from the case

Annexes

1) Photos, satellite images, maps, graphs and other visuals
2) Statistics

3) Related links
4) Related publications