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Wildlife Institute of India



Knowledge Support to Development of Guidelines, Specialized Field Studies and Training on Human Wildlife Conflict mitigation in India

Project Supported under the India-German
Technical Cooperation



FINAL REPORT

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**Knowledge Support to Development of Guidelines,
Specialized Field Studies and Training on Human
Wildlife Conflict mitigation in India**

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Wildlife Institute of India

Chandrabani, Dehradun

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List of Acronyms

HWC: Human-Wildlife Conflict

WII: Wildlife Institute of India

NAP: National Human-Wildlife Conflict Strategy and Action Plan
SOP: Standard Operating Procedure

UK HWC SAP: Uttarakhand State HWC State Strategy and Action Plan

MAP: Management Action Plan

CLA: Coordinating Lead Authors (CLAs)

LA: Lead Author

IFS: Indian Forest Service

SFS: State Forest Service

SFD: State Forest Department

FD: Forest Department

NTG: National Technical Group

Background

Human-Wildlife Conflict (HWC) is defined as the 'interaction between humans and wildlife where negative consequences, whether perceived or real, exists for one or both the parties and negatively impacts conservation of wildlife populations, their environment and well-being of neighboring humans. In India, managing HWC in and around wilderness areas has become a major challenge for forest managers, scientists and decision-makers. With an extensive network of protected areas (PA), a fast developing economy and large rural population, the PAs do not remain untouched of human presence. As the wild habitats become conservation islands surrounded by human-dominated landscapes, a close interface between large mammals such as tigers, elephants, lions and other wildlife results in serious conflicts.

While studies on HWC have been conducted in some PAs in the country and there are few site specific success stories and best practices, the problem is yet to be tackled at the State or National level in a holistic manner. The knowledge on magnitude, context and extent of the problems across states remains vague along with a lack of understanding on the efficiency and consequences of available management strategies. Following a national workshop on the management of HWC in India conducted by the Ministry of Environment, Forest and Climate Change (MoEFCC), the Wildlife Institute of India (WII) was identified as the major institution that could collaborate with various State Forest/ Wildlife Departments and initiate participatory research on HWC and demonstrate practical solutions to reduce its impacts.

Under the Indo-German bi-lateral cooperation, HWC was selected as one of the prioritized topics for future Technical Cooperation; subsequently MoEFCC and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, are jointly implementing an Indo-German Technical Cooperation project “Human Wildlife Conflict Mitigation in India (HWC)” supported by the German Federal Ministry for Economic Cooperation and Development (BMZ). Under this technical cooperation project, the WII initiated a project entitled “Knowledge Support to Development of Guidelines, Specialized Field Studies and Training on Human Wildlife Conflict Mitigation in India” with the financial support from the GIZ.

The primary aim of the project was knowledge support to development of guidelines, specialized field studies and training on Human Wildlife Conflict mitigation in India. In order to achieve this aim, the following measures were planned:

- (a) Supporting the development of national strategy and action plan & SOPs, leading the state-level HWC mitigation guidelines for Uttarakhand, and supporting in Karnataka and West Bengal, in a participatory manner engaging all key stakeholders.
- (b) Support to MoEFCC on database on human wildlife conflict in India.
- (c) Specialized field studies and pilot measures at the project pilot sites in Karnataka, West Bengal and Uttarakhand.
- (d) Implementation of training and other capacity development measures engaging key stakeholders

Work done : The project team at WII comprised of three faculty members including Director, WII (Team Leader), Dr S. Sathyakumar, Scientist-G (Nodal officer and Co-Investigator) and Dr C Ramesh, Scientist – C (Co-Investigator), and three Project Scientists (two based at WII HQ, Dehradun and one at MoEFCC HQ, Indira Paryavaran Bhawan, Delhi). Additionally, 23 faculty members and professional fellows, and 10 scientific and research staff also contributed to various outcomes of the project such as development of plans and guidelines, and capacity building activities (Annexure I and II). The project duration was June 2018 to April 2021, however due to Covid-19 pandemic and related lock-downs, the WII team continued to work beyond project term till December 2021. The team did writing workshops and follow-ups with authors of UK HWC SAP and Division level HWC MAP during this period.

Various activities done and status of outcomes at the end of project term has been listed, project measure-wise in following pages.

Project Measure A: Supporting the development of national strategy and action plan & SOPs, leading the state-level HWC mitigation guidelines for Uttarakhand, and supporting in Karnataka and West Bengal, in a participatory manner engaging all key stakeholders.

A 1 Summary of activities under this project measure.

1. WII faculty members and project team coordinated and contributed to development of various sections of National Human Wildlife Conflict Mitigation Strategy and Action Plan (NAP), and Guidelines & Operating Procedures for select species.
2. *Inception cum Planning Workshop* was held at WII in August 2018 where the framework, species to be included and potential authors for the National Human Wildlife Conflict Mitigation Strategy and Action Plan (NAP) and Guidelines and Operating Procedure (OPs) for select species were discussed.
3. As a follow-up to abovementioned workshop, a *Writing Workshop* to further develop the outline and contents of the NAP, and Guidelines & OPs was held at WII in October 2018. This focused primarily on cross-cutting themes of NAP, and Guidelines & OPs viz., Occupational Health and Safety, People's Participation, and Legal and Institutional Framework and Ethical Considerations.
4. List of potential authors was compiled for NAP, and Guidelines & OPs, and was sent to MoEFCC for approval. Authors' name for NAP and SOPs were finalized with MoEFCC and GIZ, and authors were officially contacted and made part of writing process.
5. A "Half-day meeting of Coordinating Lead Authors (CLAs) of NAP" was co-organized with GIZ on July 17, 2019 in MoEFCC Paryavaran Bhawan, Delhi.
6. WII project team participated in the 'Meeting of the Elephant SOP authors' in Chalsa from July 31, to August 1, 2019 and supported the GIZ team in organising various sessions.
7. A "Two-day workshop on National HWC Strategy and Action Plan, State Strategies and Action Plans and SOPs" was co-organized with GIZ team on September 18 -19, 2019 at Haridwar-Rishikesh, Uttarakhand for discussing progress on NAP and guidelines and OPs. WII project team supported the GIZ team in organising various sessions during the workshop.
8. A meeting of CLAs and LAs for 'Legal framework and challenges' under NAP was held at GIZ office, Delhi on September 30, 2019.

9. CLA for ‘Legislative framework and Challenges’ and guidelines and OPs for Gaur (Sh PC Tyagi, Senior Professional Fellow, WII) participated in the Gaur consultation workshop at SACON, Coimbatore (October 28 – November 1 2019).
10. Sh. PC Tyagi (Senior Professional Fellow at WII) visited MoEFCC and NTCA to collect HWC related case studies to be included in the NAP on November 21-22, 2019.
11. A meeting of Crocodile SOP group authors and WII project team was held at WII on December 24, 2019.
12. Members of WII project team participated in the ‘Regional Forum meeting of the Eastern and North Eastern States to discuss the development of the State HWC Strategy and Action Plan’ on December 27th, 2019 in Kolkata.
13. A ‘Meeting of the Group of CLAs and LAs for Finalization of Sub-zero drafts of Guidelines & OPs for select species involved in Human-Wildlife Conflict in India’ was held at WII on 9th January 2020. The SOP groups who participated were for Rhesus macaque, Wild pig, Sloth Bear, and Blue bull and NAP sub-section on Occupational Health and Safety.
14. A ‘one-day workshop on National HWC Strategy and Action Plan and SOPs’ was held in Delhi on February 27, 2020. Project team and CLAs and LAs from WII (for Indian Gaur, Sloth Bear, Crocodile, Nilgai, Wild pig, Rhesus macaque, Blackbuck and Snake and NAP sub-sections on Legislative framework and challenges and Occupational Health and Safety) participated in the workshop. After the workshop, the WII team did follow-ups with the authors to share key questions and possibilities of pilot-testing the draft SOPs at the project pilot sites.
15. Existing guidelines and orders on HWC mitigation were collected from the internet and select SFDs, and were shared with the authors.
16. Project team and authors from WII participated in the online meeting for discussion on sub-zero Draft of National HWC Strategy and Action Plan- July 28, 2020, organized by GIZ team.
17. Online meetings organized for the authors groups (and NTG members) of guidelines and OPs (bear, crocodile, rhesus macaque, wild pig, blue bull, black buck, snake) were organized in July and November 2020 and zero drafts shared with GIZ team.
18. Consultation Meeting for the development of Uttarakhand State Action Plan, Rajaji Haridwar-Dehradun Landscape Management Plan for HWC Mitigation was organized at Van Bhawan, Dehradun on September 23, 2020.

19. Online meeting for the Development of Uttarakhand HWC State Action Plan and Rajaji Haridwar-Dehradun Landscape Management Plans was organized on October 12, 2020.
20. WII project team and authors participated in the National Workshop on Development of HWC-NAP and Guidelines/ SOPs for Human Wildlife Conflict Mitigation in India/ HWC-NAP Group on October 13, 2020, organized Online via Microsoft Teams by GIZ team.
21. WII project team participated in the Consultation Workshop on State HWC Mitigation Strategy and Action Plan for West Bengal - November 23, 2020 organized by GIZ.
22. HWC related data was collected from Uttarakhand Forests Department (CWLW, Rajaji TR FD, Dehradun and Haridwar DFO offices) for SAP preparation.
23. A Writers' Meeting on Uttarakhand State level HWC Strategy and Action Plan (SAP) and Division level HWC Management Action Plans (MAP) was organized on February 1, 2021.
24. A virtual meeting on Uttarakhand State HWC Strategy and Action Plan (SAP), and Division level HWC Management Action Plans (MAP) was conducted on April 12, 2021.

A 2.1 How participation from Key stakeholders was achieved? (in this section please mention how many stakeholders for government academia, NGOs and private sector were engaged.)

WII organized various workshops and consultation meetings with participation from experts from academia, State Forest Departments and civil society organizations such as NCF, WWF India and WTI. The authors for various policy documents and guidelines were shortlisted from the pool of specialists from key sectors.

A 2.2 How the format of NAP workshop was maintained as participatory workshop?

The participatory workshop format was followed in all the events organized under the grant agreement project. The workshops were organized initially with the support from GIZ team, who helped in the development of agenda and moderate plan, along with organizing various sessions. WII team followed similar formats where a number of participatory sessions were organized to promote inclusion of and inputs from all participants. Regular updates and proceedings were shared with GIZ team after such events.

A 3 Provide status update on related outputs under this project measure.

1. Contributions to the draft on the National HWC Strategy and Action Plan (, developed in consultation with key stakeholders.

WII project team organized/ co-organized with GIZ inception and various writing workshops to develop the plan. The team shared a list of potential authors with MoEFCC and GIZ, communicated with selected authors and did follow-ups with them.

WII project team and other experts from WII contributed to the development of various sections of National HWC Strategy and Action Plan. WII faculty members also coordinated the development of these sections by receiving inputs from other authors (stakeholders).

2. Final drafts of the selected SOPs, as agreed upon with MoEFCC, developed in consultation with key stakeholders and experts.

Final drafts of the selected SOPs/ Guidelines (Bears, crocodiles, snakes, rhesus macaque, blue bull, wild pig, black buck) were shared with the GIZ before completion of project.

3. Draft state level strategy and action plan for Uttarakhand

The development of Draft State Level Strategy and Action Plan for Uttarakhand (UK SAP) was delayed due to *Kumbh Mela* in March-April 2021, and the second wave of Covid - 19 pandemic across the country from April to June 2021. The WII project team developed first draft with inputs from experts from WII, WWF-India and Uttarakhand Forest department during various consultation meetings and workshops. This was shared with the Chief Wildlife Warden, Uttarakhand Forest, GIZ, and comments were sought.

4. Detailed proceedings of the consultation workshops to discuss the state action plan of UK

WII project team, with inputs from GIZ team and UK FD officials prepared a list of stakeholders. The team also took requisite steps to establish a HWC steering and advisory committee for the state. A stakeholder consultation workshop was planned in February/ March 2021, however it could not be conducted due to Kumbh and pandemic related delays.

Project Measure B: Support to MoEFCC on database on human wildlife conflict in India

B 1 Summary of activities under this project measure.

1. Meeting of the CWLWs of State/ UTs was organized on 21-22 September, 2018 at WII wherein HWC was a key topic for discussion.
2. Project team collected the Ex-gratia (for HWC) application format used by various State Forest Departments (around 15), which were compiled and shared with GIZ team working on a Centralized data collection system. This was further compared with current data formats used by apps such as MsSTRIPES and MIKE.
3. A brief write-up and templates (excel sheets) were prepared for centralized online database on wildlife attacks on human (death and injury), livestock depredation, crop raiding, property damage and socio-economic profile of affected households. Project team visited GIZ office from September 11 to 13, 2019 and worked with GIZ team on the session planning for database related discussion during the Haridwar-Rishikesh workshop later in the month. The WII team members planned and moderated the sessions relating to database during the workshop.
4. A draft letter was communicated to the MoEFCC office for secondary data collection from the SFDs. The project team did follow-ups with PCCFs of various SFDs regarding secondary data collection. Project team visited PCCF offices in Patna (Bihar), Ranchi (Jharkhand) and Raipur (Chhattisgarh) in January 2020 and collected available data on HWC incidents in these states, ex-gratia paid and existing/ proposed guidelines and orders for HWC management. The data was also collected/ received from Uttarakhand, Karnataka and West Bengal.
5. A letter was sent to PCCF Uttarakhand regarding relevant documents and secondary data on Human-Crocodile Conflict in the state and project pilot site and initiation of a telemetry study to understand Human-Crocodile conflict in Haridwar Forest Division. As WII focused on activities and documents development for Uttarakhand, WII team members visited various offices and collected information pertaining to project. Data on HWC for last 10 years (2010-2020) and previous Management Plans were collected from Uttarakhand Forests Department (CWLW, Rajaji Tiger Reserve Field Director, and Dehradun and Haridwar DFO offices).

**B 2 Describe the method and process in which the concept for this output was developed.
How the project approach of thematic triangle was adapted?**

The team worked closely with concerned officials at MoEFCC and GIZ in collection, and compilation of information needed to develop the database. The project approach of thematic triangle *viz.*, ‘driver-prevention-damage mitigation’ was followed to develop the format of database, from secondary data and with inputs from experts from various stakeholder sectors during participatory workshop.

B 3 Provide status update on related outputs under this project measure.

1. Compilation of information on current database formats in States

The information was collected from various SFDs and compared with existing apps such as MsTRIPES and MIKE.

2. Participation in trainings on data inputs in Uttarakhand

The WII project team participated in the meetings/ sessions during workshops where format was discussed with experts. However, no such training was organized during grant agreement project duration.

Project Measure C: Specialized field studies and pilot measures at the project pilot sites in Karnataka, West Bengal and Uttarakhand

C 1 Summary of activities under this project measure.

1. A list of potential topics was prepared from inputs by participants of various project workshops and trainings, including CLAs and LAs for National HWC Strategy and Action Plan and various SOPs. This list focused on the gaps of information to develop the Plan and SOPs. The possibilities of conducting various studies to fill these identified gaps were assessed, and concept notes were developed and shared with GIZ team.
2. Five proposals were developed by WII faculty members and submitted to GIZ as part of grant agreement project.
3. As GIZ provided collars and other equipment to Uttarakhand Forest, faculty members and experts from WII either led collaring operations or supported officials from UK FD through capacity building and knowledge support. Elephants were collared by team of experts from elephant cell of WII for both research and problem solving with the UK FD. Leopards were collared, when a situation of conflict (such as animal in human-use area captured) occurred.
4. A consultation meeting for collaring and monitoring of leopards in Forest Divisions of Haridwar and Dehradun, and Rajaji Tiger Reserve was conducted virtually on September 9, 2020.
5. WII grant agreement team visited Dehradun Zoo to look at the facility and availability of instruments/ equipment for leopard collaring in Dehradun Division on September 14, 2020.
6. Seven leopards were collared in Uttarakhand (primarily in Hraidwar-Rajaji-Dehradun landscape) between October 2020 to February 2021. Experts from WII were present in six of such operations.
7. A consultation meeting for the development of Uttarakhand State Action Plan, Rajaji Haridwar-Dehradun Landscape Management Plan and Uttarakhand Cross Sectoral and Multi-Sectoral Forum for HWC Mitigation was organized on September 23, 2020 at Van Bhawan, Dehradun.
8. Online meeting for the Development of Uttarakhand HWC State Action Plan and Rajaji Haridwar-Dehradun Landscape Management Plans was organized on October 12, 2020.

9. A virtual meeting on Uttarakhand State HWC Strategy and Action Plan (SAP), and Division level HWC Management Action Plans (MAP) was conducted on April 12, 2021.
10. A virtual meeting on Uttarakhand State HWC Strategy and Action Plan (SAP), and Division level HWC Management Action Plans (MAP) was conducted on April 12, 2021.
11. One-day workshop and RRT training on Elephant Behaviour, Ecology and Conflict Management including Field craft on elephant monitoring, tracking and rescue operation – December 11, 2020 at Rasiyabad Forest Campus, Haridwar.
12. A Rapid Response Teams training on the use of Modern Technologies and Tools for Human-Wildlife Conflict Mitigation including field craft on Leopard monitoring, tracking and rescue operation was organized on January 13, 2021 at WII.
13. A Training of Rapid Response Teams on Human - Rhesus Macaque Conflict Management and Habitat Management in Uttarakhand was organized on January 28, 2021 at WII.
14. A Training on Snakes and Crocodile rescue and capture for the Rapid Response Teams of Uttarakhand Forest Department was organized on February 2, 2021 at WII.
15. A Training for Rapid and Primary Response Teams on Crowd management and Legal aspects pertaining to Human-Wildlife Conflict management was organized on February 15, 2021 at WII.
16. A Workshop and training on Human-Wildlife Conflict management in Uttarakhand including field craft on monitoring, tracking, capture and post-capture management of leopards and bears, and crowd management was organized on February 17-18, 2021 at Rudraprayag Forest office complex.
17. 150 personnel from UK FD, ranging from Range Forest Officer to foresters and forest guards were trained during these trainings.
18. Other than the above training, faculty members and experts from WII also provided on-field hands-on training on leopard collaring, tracking, data download and visualisation between September 2020 to February 2021. Staff was trained in morphometric data collection and health monitoring of captured animal, listing of tools, information on their usage and maintenance, etc. and protocols regarding sampling and leopard health monitoring were shared with the staff. A total of 18 forest staff and veterinary officers were trained during the such exercises.

19. WII research team also demonstrated the tracking procedure using radio-telemetry and satellite collars in the field for the collared leopards. WII team conducted training for the frontline staff of Haridwar division in triangulation and homing into the signal from collared animal using a receiver and directional antenna and also provided online/offline training on software installation, data download and visualisation of telemetry data for the nominated staff of UK FD between October 2020 to February 2021 (six personnel).

C 2 Describe the process in which the requirement for field studies was identified?

The requirement for studies was identified through literature review and by consulting with experts from academia and management during various workshops organized by WII or co-organized with GIZ. After initial process, the topics were listed and further shortlisted with inputs from authors of National Strategy and Action Plan, and Guidelines.

C 3 Provide status update on related outputs under this project measure.

HWC Management Action Plans for Haridwar, Rajaji and Dehradun, with the overarching landscape plan (the landscape plan will include landscape analysis and the GIS-based landscape plan from the next activity)

1. 1 landscape plan

The first stage of completing the landscape plan was to develop separate Management Action Plan (MAP) for the three areas viz., Rajaji Tiger Reserve, Haridwar Forest Division and Dehradun Forest Division. WII team with inputs from experts at WII and forest managers completed all the three drafts and shared with GIZ. As, the completion of these plans extended beyond the project term (April 2021), due to covid 19, *kumbh* in March-April 2021 and delay in receiving inputs from various experts. Thus, WII could not proceed further to landscape plan.

2. Implementation of-08 trainings to the response teams at Haridwar-Rajaji landscape

WII team implemented 06 trainings for response teams and frontline staff of Uttarakhand forest department during which 150 personnel were trained. In addition, on-field hands-on training was provided to staff of the pilot landscape on leopard collaring, tracking, triangulation,

homing into signal, data download and visualization, morphometric data collection and health monitoring of captured animal, etc. A total of 24 personnel were trained during such training.

3. One forum event

The forum event could not be conducted due to spread of covid in the landscape in March - April 2021. Though discussions with GIZ team in Dehradun and Haridwar forest division, were held regarding the event and a training workshop for key stakeholders of HWC mitigation in the landscape.

4. 15 elephants collared and monitored in UK

The WII team had a very small window to complete this exercise. Four individuals were collared as and when an opportunity arose during the project term. However, the team handling the exercise intended to collar few more individuals, which got delayed due to Covid-19. These collars were handed to WII team by UK FD, and team is also apprehensive about the battery life of remaining collars. These could be refurbished and kept at a central facility by UK FD to be used when next opportunity arises.

5. 15 leopards collared and monitored in UK

Seven leopards were collared in Uttarakhand (primarily in Haridwar-Rajaji-Dehradun landscape) as and when an opportunity came during project tenure (conflict or rescue related situation). WII team was present in six of the occasions. As a result of several trainings and capacity building exercises organized by WII team during project term, UK FD team is competent and capable to do remaining collaring. Similar to elephant collaring exercises, leopard collaring was also affected due to Covid-19.

Project Measure D: Implementation of training and other capacity development measures engaging key stakeholders

D 1 Summary of activities under this project measure.

1. GIZ-WII-grant agreement team and other faculty members and experts, participated and provided inputs in Curriculum Development workshops in Delhi, Uttarakhand, Karnataka and West Bengal, organized by GIZ during September and November 2018.
2. A pilot testing of draft curriculum on Human-Wildlife Conflict mitigation for forest officials was conducted at WII as part of 34th Certificate Course in Wildlife Management during --- December 2018. Under this module, other than classroom lectures and various experiential learning exercises, a field visit was also organized for the trainees to Motichur range of Rajaji Tiger Reserve.
3. A one day module on HWC mitigation and management was conducted for IFS probationers at IGNFA, Dehradun on February 16, 2019.
4. A pilot testing of ‘Curriculum for Human-Wildlife Conflict Mitigation for Forest Officials’ was conducted during March 11-15, 2019 as part of 40th P.G. Diploma Course in Advanced Wildlife Management at WII, Dehradun. The participants also included four GIZ fallows (two trainees each from Uttarakhand and West Bengal Forest Departments).
5. One-week training on ‘Holistic Approach on Human-Wildlife Conflict Mitigation in India’ for Divisional Forest Officers and Assistant Divisional Forest Officers of West Bengal, Karnataka and Uttarakhand was held during July 29 - August 2, 2019, at Chalsa, North Bengal. The training was co-organized by WII. Project Co-PI and staff participated and gave inputs in the training workshop. The Project Team assisted GIZ in the preparations and organising the sessions of the workshop.
6. The Project staff participated, presented and interacted with the various representatives of schools during the workshop on ‘Role of Educational Institutions in Wildlife Conservation and Human-Wildlife Conflict Mitigation’ organized by GIZ at Hotel Regenta Orko’s, Haridwar on September 7, 2019.
7. Project staff provided resource materials for awareness generation on Human-Rhesus Macaque Conflict during September 11 -13, 2019 meeting at GIZ.
8. A one-week training expedition on “Holistic Approach to Human-Wildlife Conflict Mitigation in India” for officers from Uttarakhand, West Bengal, Karnataka was held at Madikeri, Kodagu in Karnataka from September 22 -27, 2019. The training was co-

organized by WII. Project staff participated in the training workshop and provided inputs and support in conducting various sessions.

9. WII project team participated in the workshop ‘Role of Panchayats in Wildlife Conservation and Human-Wildlife Conflict Mitigation in Karnataka’, organized by GIZ on September 27, 2019 in Kodagu, Karnataka. The team supported in the preparations and conducting various session.
10. One Veterinary expert from WII and three from Uttarakhand FD participated in the ‘Advanced Course in Wildlife Chemical Immobilization and Field Practice’ at University of Pretoria (co-organized by SaNParks) from November 3- 9, 2019.
11. The ‘Human-Wildlife Conflict Management’ module was organized during the 35th Certificate Course in Wildlife Management from December 12-17, 2019 at WII.
12. A ‘Training of Trainers on Training Excellence (Teaching methods)’ was organized for faculty members and experts from WII faculty from March 13 to 15, 2020 at Bengaluru. The training was contracted to Dale Carnegie, India.
13. The 'Human Dimensions of Wildlife Management and Conflict resolution' module was conducted for the 41st Post-Graduate Diploma Course organized at WII. The module began on March 17, 2020. However, due to the Covid-19 related lockdown, classes were suspended. Further, classes resumed in virtual mode from April 27 to May 1, 2020.
14. Project staff delivered a session during a ‘3-day Virtual Training at CASFOS Dehradun from 22 to 24 April 2020’ organized by GIZ and CASFOS, and talked about “Human-Macaque Conflict”. The training was conducted for the current batch of trainees from State Forest Services at CASFOS, Dehradun.
15. A fiveday virtual Training of Trainers course on ‘Training Excellence and Human Wildlife Conflict Management’ was organized for the faculty members of State Forest Academies and Rangers Colleges on April 22-23 and 26-28, 2021.

D 2.1 How the key stakeholders for training measures were identified?

The key stakeholders for various capacity building exercises under the grant agreement project for officials and frontline staff from State Forest Departments, particularly from three partner states of Indo-German Technical Cooperation project. This also included faculty members of various Forest Training Academies and institutes across the country. As the faculty members of WII are responsible for running course and trainings for both trainees and officers from various SFDs, one training was organized for them as well.

D 2.2 How the customization of module on HWC under Diploma and Certificate courses was achieved?

First module on HWC of both the courses during project term were organized with guidance and support from GIZ team. WII team also participated in curriculum development workshops organized by GIZ team. Thus, giving an idea to the team on customization requirements and approach. The topics to teach were modified as per current HWC scenario, and participatory methods of teaching were incorporated. Even after the completion of project, the same approach is being followed.

D 2.3 What is the strategy of WII to use participatory and competency-based approach towards implementing the training course after the pilot testing done by GIZ?

WII team successfully organized one module each for Diploma and certificate course during project term, after GIZ' support during first modules. The project team members also were trained in various participatory approaches during first ToT organized for WII faculty members. The team has also modified the module curriculum and approach, to be approved by the TRAC. However, due to pandemic and related restrictions a TRAC meeting for many academic decisions is pending. Despite this, the institute is following the participatory and competency-based approach towards implementing the training after project term. A compulsory refresher course for IFS officers from various SFDs with similar approach has also been approved by the MoEFCC, and being organized at WII between May 16-20, 2022.

D 2.4 Describe the process and product for development of training material undertaken by WII?

As responded to D 2.2, project team and other experts from WII participated in various curriculum development events organized by GIZ and in pilot testings. Thus, contributing to training materials being developed under the India-German Technical Cooperation Project.

D 3 Provide status update on related outputs under this project measure.

1. Contributing to Updating the tested training material for senior IFS officers

WII team contributed as and when involved in the process by the GIZ team.

2. An updated structure and contents of the modules

The structure and content of the module has been updated, and the modules were organized with the updated approach during the project term (and one for certificate course after project term so far). The proceedings for each module was submitted to the GIZ during project term.

3. Identification of the training material needs for the modules

Training material needs were identified during the curriculum development workshops organized by GIZ (in 2018), forest officials/ managers being one of the key stakeholder groups for capacity building requirements. As the courses organized at WII are for officers and staff at various level, the requirements were same as identified during these workshops.

4. Development of specialized training material for the modules

As responded to earlier outputs, specialized training material was developed as part of Indo-German Technical project, wherein faculty members and other experts from WII provided knowledge support.

5. Report confirming pilot testing and implementation of three training courses based on the new curriculum and training material

Reports for pilot testing and training course were submitted to GIZ during the course of project.

6. Report confirming acceptance by the academic committee, of the new curriculum, training material and training methods for the modules at WII

The TRAC meeting for various academic and management decisions at the institute is still pending. Thus, the confirmation can not be produced. However, all the training on HWC at the institute, including relevant modules for diploma and certificate courses are being organized with new curriculum, training material and methods.

7. Up to two participants for the Diploma course, up to 6 participants for the Certificate Course. And up to 5 participants as parallel entry for the HWC Mitigation module, supported under the Grant

One participant for Diploma course, 6 participants for the Certificate Course and 4 participants as parallel entry (each from partner state of Indo-German Technical cooperation project) for the HWC Mitigation modules were supported under grant, as 'GIZ fellows'.

8. Participation on two trainings organized by GIZ

One-week training on ‘Holistic Approach on Human-Wildlife Conflict Mitigation in India’ for Divisional Forest Officers and Assistant Divisional Forest Officers of West Bengal, Karnataka and Uttarakhand was held during July 29 - August 2, 2019, at Chalsa, North Bengal. The training was co-organized by WII. Project Co-PI and staff participated and gave inputs in the training workshop. The Project Team assisted GIZ in the preparations and organising the sessions of the workshop.

9. Supporting up to four veterinary experts from project partner states for International veterinary training

Three veterinary experts from Uttarakhand and one from WII were supported for International veterinary training at the University of Pretoria, South Africa. The participant from WII actually contributed to field activities and training for Karnataka state for GIZ. Thus, was supported.

10. Documentation of 2 ToTs

Two ToTs were organized under the project, reports for which were submitted to GIZ during the project term with quarterly/ half-yearly project reports.

11. A state-wise and institution-wise list of Trained Trainers, indicating their specific skill-sets, and trainings delivered by them post- ToT (no project personnel for further follow ups)

The list of trained trainers were provided with training reports submitted to GIZ (as mentioned in previous point). The first training (organized in March 2020) was followed by first Covid-19 related nation-wide lockdown while the second one was organized during the lockdown in April 2021. After the first ToT, the trained trainers had to switch to virtual training, thus were not able to incorporate participatory methods, while the second ToT was organized towards the end of project term. Thus, no project personnel was available to do any follow-ups.

12. Participation of WII experts in up to two exchange visits organized by GIZ

WII team participated in one exchange visit viz., one-week training expedition on “Holistic Approach to Human-Wildlife Conflict Mitigation in India” for officers from Uttarakhand, West Bengal, Karnataka, held at Madikeri, Kodagu in Karnataka from September 22 -27, 2019.

Annexure I

Contribution of various faculty members, scientific, research and technical staff of WII during the project term

Name	Designation	Capacity building Measures	Leopard/ Elephant collaring	Workshops	Total days
Dr. V.B. Mathur	Director, WII (Former)	2	0	3	5
Dr. G. S. Rawat	Director, WII (Former)	1	0	1	2
Dr. Dhananjai Mohan	Director, WII (Former)	6	0	3	9
Sh. P. C. Tyagi	Senior Fellow (Former)	8.5	0	7	15.5
Dr. A. K. Bhardwaj	Senior Fellow (Former)	6.5	0	6	12.5
Dr. A. K. Gupta	Senior Fellow (Former)	0	0	1	1
Dr. S. P. Goyal	Subject Matter Specialist	3.5	0	8	11.5
Dr. P. K. Malik	Scientist - G (Rtd.)	1	0	5	6
Dr. Y.V. Jhala	Dean and Scientist - G	0	0	1	1
Dr. Ruchi Badola	Registrar and Scientist - G	0.5	0	0	0.5
Dr. S. Sathyakumar	Scientist - G	23	0	11	34
Sh. Q. Qureshi	Scientist - G	4	0	5	9
Dr. Bivash Pandav	Scientist - F	2	13	1	16
Dr. K. Sivakumar	Scientist - F	2	0	2	4
Dr. Parag Nigam	Scientist - F	5	13	2	20
Dr. Kafil Hussain	Scientist - F	5	0	1	6
Dr. K Ramesh	Scientist - E	8	1	7	16
Dr. Bilal Habib	Scientist - E	2	0	5	7
Dr. Gopi GV	Scientist - E	1	0	0	1
Dr. Abhijit Das	Scientist - D	1	0	1	2
Dr. C Ramesh	Scientist - C	35	6	11	52
Dr. Lallianpui Kawlni	Scientist - C	2	3	6	11
Dr. Bindu Raghvan	Professional Fellow	0	0	4	4
Other Staff		0	0	0	0
Shri Lakshinarayanan N	Scientist - Elephant Cell	2.5	13	3	18.5
Dr. Sanath Muliya	Project Scientist	3	0	4	7
Dr. Divya Ramesh	Project Scientist	0	0	4	4
Dr. Priya Gosain	Project Scientist	0	0	4	4
Dr. Sarvesh Rai	Project Veterinarian	0	0	3	3
Dr. Ankush Dubey	Project Veterinarian	1	13	0	14
Ms Sayali Sawant	Research Scholar	1	0	2	3
Mr Ashish Kumar	Research Scholar	0	0	1	1
Mr. Jayjit Das	Research Scholar	0	13	0	13
Mr Sreedhar Vijaykrishnan	Research Scholar	0	5	0	5
Office assistants, cooks, attendants	4 for each event day at WII	-	-	-	100
Junior Research Staff	3 for each event day at WII	-	-	-	30
Grand Total					448.5

Annexure II

Contribution of various faculty members, scientific and research staff of WII in the development of Plans and Guidelines during the project term

Name	Designation	For Period	CLA/LA	Average day/s per month	Total number of days
Dr. V.B. Mathur	Director, WII (Former)	June 2018 to August 2019	PI	3	45
Dr. G. S. Rawat	Director, WII (Former)	September 2019 to November 2019	PI	2	6
Dr. Dhananjai Mohan	Director, WII	January 2020 to April 2021	PI	2	32
Dr. P. C. Tyagi	Senior Fellows	August 2018 to April 2021	Gaur SOG, NAP and Legal framework of NAP, Pilot implementation plan, SAP etc		120
Shri A. K. Bhardwaj	Senior Fellows		NAP, UK-SAP		30
Dr. S. P. Goyal	Subject Matter Specialist		Blue Bull and Blackbuck		50
Dr. Y.V. Jhala	Dean, Scientist - G		Wolf (later dropped)		15
Dr. P. K. Malik	Scientist - G		Occupational Health		20
Dr. S. Sathyakumar	Scientist - G	June 2018 to April 2021	NAP, Bear, Project Coordination	6	210
Dr. Q. Qureshi	Scientist - G	August 2018 to April 2021	NAP, Wild pig and Rhesus macaque	1	33
Dr. K. Sivakumar	Scientist - F	August 2018 to April 2021	Crocodile	1	33
Dr. Parag Nigam	Scientist - F		NAP, Occupational Health		33
Dr. Kafil Hussain	Scientist - F		Wild pig		10
Dr. K Ramesh	Scientist - E	August 2018 to April 2021	NAP, Leopard Collaring		40
Dr. Bilal Habib	Scientist - E	August 2018 to April 2021	NAP, Wolf and UK-SAP	1	33
Dr. Abhijit Das	Scientist - D	Nov 2019 to April 2021	Snakes		3
Dr. C. Ramesh	Scientist - C	August 2018 to April 2021	Crocodile, Blue bull and Snakes and Project Coordination	8	280
Dr. Lallinapui Kawlni	Scientist - C	August 2018 to April 2021	Wild pig, Occupational health	2	66
Dr. Bindu Raghvan	Professional Fellow		Occupational Health		60
Dr. Sanath Muliya	Project Scientist		Rhesus macaque, Veterinary aspects of SOGs		40
Dr. Divya Ramesh	Project Scientist		Wild pig		10
Dr. Priya Gosain	Project Scientist		Rhesus macaque		10
Grand Total					1179



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