



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



NMCG-WII
GANGA BIODIVERSITY
CONSERVATION
INITIATIVE PHASE II

PLANNING AND MANAGEMENT FOR AQUATIC SPECIES CONSERVATION AND MAINTENANCE OF ECOSYSTEM SERVICES IN THE GANGA RIVER BASIN FOR A CLEAN GANGA

HALF YEARLY REPORT
JANUARY – JUNE 2022





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Progress Report

January – June 2022

Project Investigators

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SCIENCE-BASED AQUATIC SPECIES CONSERVATION AND MAINTENANCE OF ECOSYSTEM SERVICES IN THE GANGA RIVER BASIN

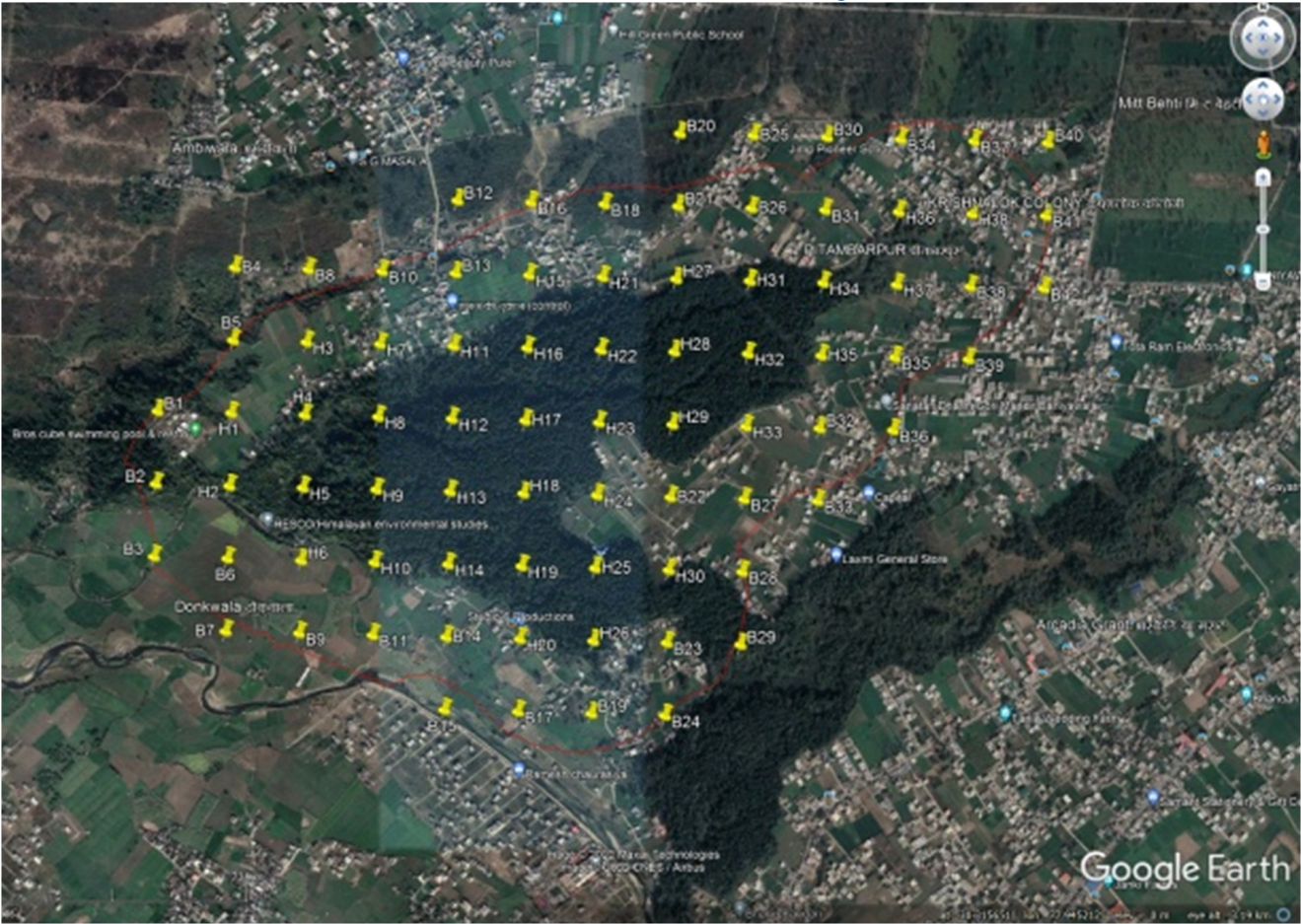
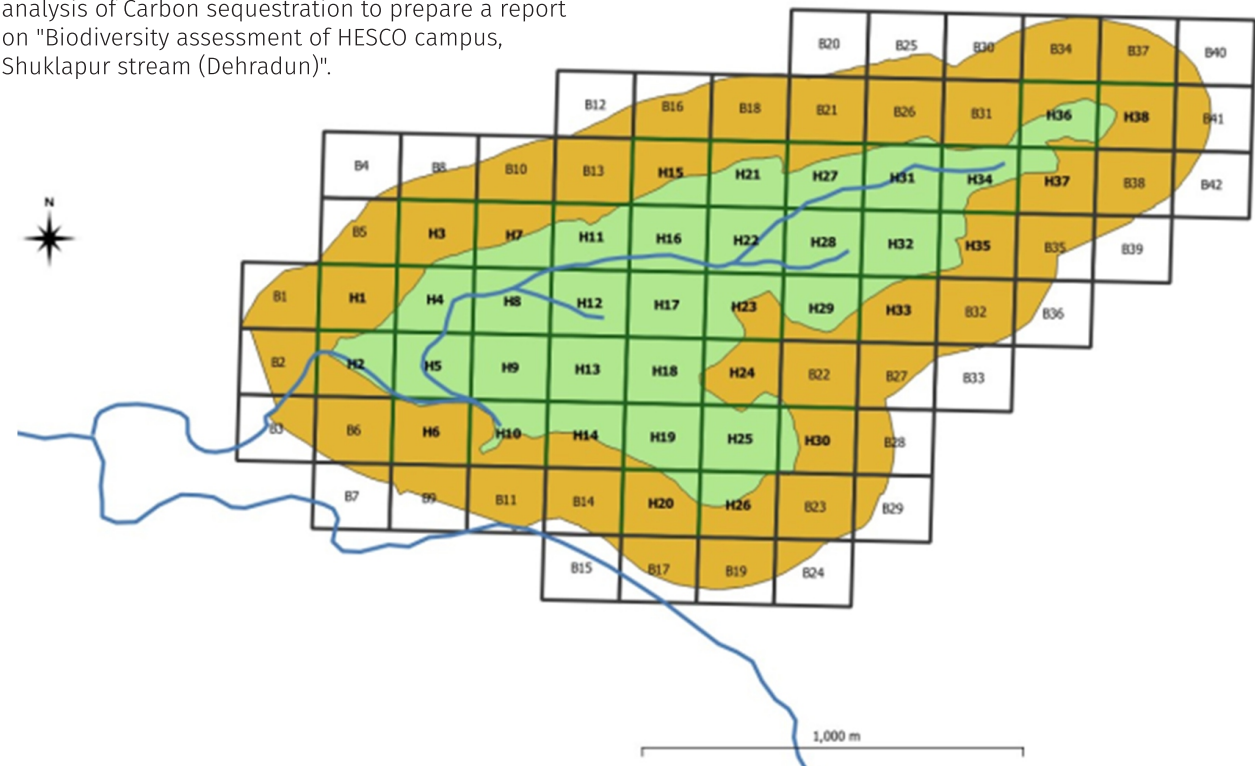
COMPONENT

1

Habitat modification, fragmentation, invasive species, overexploitation, pollution and climate change are some of the looming threats to freshwater diversity. In addition, persistent xenobiotics, nano-particles and micro-plastics pose a toxicological risk to the freshwater ecosystem. This component aims to document the aquatic diversity of the Ganga River basin and the threats to them, for science-based aquatic species conservation planning. Such documentation would aid in the decision-making process and can facilitate the prediction of future impacts under various scenarios. In addition, the loss of individuals as a result of accidental trapping in fishnets, injury by crafts, and poaching also contribute to the decline in the population of the priority species, viz. Gangetic dolphin, otters, gharial and mugger. To address such emergent situations and to abate the loss of individuals, rescue and rehabilitation centres are being strengthened/upgraded at strategic locations along the Ganga River, through this component. Such efforts would aid in effective rescue and subsequent rehabilitation of the rescued individuals.

- Ecological assessments were conducted using the Unmanned Aerial Vehicles (UAV), along the Kosi River in Bihar and Hastinapur Wildlife Sanctuary in Uttar Pradesh. In Bihar, carried out mapping of Diaras, large islands in the Ganga River, using UAV. During the survey, the information on the key aquatic species, their habitat and nesting of stork species were recorded. During the UAV field survey in Hastinapur Wildlife Sanctuary, data on species and their habitat were collected. Carried out data entry and data pre-processing. For data pre-processing, work is in progress for acquiring multi-temporal datasets, smoothing or removing noisy data and outliers, resolving inconsistencies and preparing image data with coordinates and altitude data for the orthomosaic image.
- Carried out habitat-wise post-monsoon vegetation survey of the Gomti river from Kaithi-Rajwari (confluence of Gomti river) to Pilibhit, Uttar Pradesh, and recorded 79 plants species belonging to 70 genera and 31 families. The survey also revealed that the middle stretch from Sahajahanpur to Lucknow harbours maximum diversity. Work is in progress for the ecological assessment of the area. Conducted vegetation survey along the Ghaghra River. Data entry, identification and listing of the plants recorded during the vegetation survey of Ghaghra River are in progress. Prepared the plant checklists based on a) the vegetation survey of the Damodar River and b) the secondary literature review of the Rupnarayan River.
- Carried out a reconnaissance survey for crocodiles in Pilibhit, Uttar Pradesh. The work is in progress to assess the habitat condition for the reintroduction of gharial in Pilibhit Tiger Reserve, Uttar Pradesh. In a meeting with DM, Pilibhit visited the site and discussed the issues related to Gomti river biodiversity conservation.
- Carried out the reconnaissance survey of the Shuklapur stream rejuvenated by HESCO. Prepared the biodiversity sampling grid maps of the Shuklapur

stream near HESCO, Dehradun. Finalised the data collection sheet for the vegetation, avifauna and socio-economic survey of the Shuklapur stream near HESCO. Carried out the literature review for data analysis of Carbon sequestration to prepare a report on "Biodiversity assessment of HESCO campus, Shuklapur stream (Dehradun)".



Grid Maps prepared for Shuklapur stream near HESCO

- Completed post-monsoon fish diversity assessment survey in a 216 km stretch of the Kosi River from Piprahi to Kursela, Bihar. During the survey, collected and preserved the voucher specimens for further identification. A fish market survey was also conducted to assess the fish diversity in the Kosi river. The cataloguing and tagging of voucher specimens of fish collected during the biodiversity survey of the Kosi River and data processing of the data collected during the survey are in progress. The drafting of the content for the 'Fins of Kosi River' is also in progress. Carried out a literature review to gather information on the ichthyofauna of the Gomti, Gandak, and Yamuna rivers. For fish biodiversity assessment, conducted experimental fishing in the Yamuna River from the Hathinikund barrage and adjoining areas of Yamunotri. Carried out the market survey mainly from Hathinikund barrage, Nainbagh, Barkot, and adjoining areas. Initiated preparing an inventory of fish samples collected from Chambal and Yamuna rivers. Work is in progress to analyse the ichthyofauna data collected from the Ramganga River.
- Conducted a reconnaissance survey in Bhensrodgarh and Shergarh Wildlife Sanctuaries in Rajasthan for the conservation of smooth-coated otters. Carried out the site survey for deploying GPS tags on the selected species of waterbirds and water-associated birds in the mainstem Ganga River and wetlands in Western Uttar Pradesh. For the management plan of the Okhla bird sanctuary, a field survey and bathymetry profiling was done for biodiversity assessment. During the vegetation survey, a total of 68 plant species were identified, and work is in progress to further identify the unidentified plant species. Carried out data analysis to estimate the depth profile and the data was further used to prepare a depth profile map. Prepared the Land Use and Land Cover (LULC) data file to prepare the LULC map of the Okhla bird sanctuary. The forest guards of Okhla Bird Sanctuary were also trained to identify the waterbirds of the Ganga basin.
- Biological samples of select aquatic species were collected from the Yamuna, Ramganga and Kosi rivers for the genetic study. Work is in progress to assess the

gene flow, DNA extraction, quantification and PCR amplification of the collected biological samples. A training programme was organised on 26th May 2022 for forest officials of Bhagalpur, Bihar, on "Biological samples collection for genetic study and biodiversity conservation". Twenty-three forest officials were trained during the training programme.

- An ecotoxicology report of Haiderpur Wetland was drafted to incorporate it into the Management Plan. Prepared maps of the drainage and depth profile of Haiderpur Wetland. Work is in progress on the draft Management plans of Haiderpur Wetland and Turtle Wildlife Sanctuary. A meeting was conducted with the Chief Conservator of Forest and District Forest Officer (Western UP Region) to discuss the finalisation of management strategies and budget for the Haiderpur Wetland Conservation Action Plan.
- For the ecotoxicology survey, biotic and abiotic samples were collected from the Ganga River Ganga River and its tributaries, including Yamuna, Gomti, Gandak, Ghagra, Kosi, Ramganga, Chambal and Son rivers to analyse their physico-chemical parameters. The work is in progress for the laboratory analysis of sediment samples- a) to estimate pH, electrical conductivity, nitrogen, total organic carbon, organic matter, sodium, and potassium content, b) to estimate Polybrominated Diphenyl Ethers (PBDEs) by developing gas chromatography method, c) to estimate Persistent Organic Pollutants (POPs) using sample extraction, and d) for solid-phase extraction. During the National level spearhead training programme for the National Service Scheme (NSS) on 'Biodiversity Conservation of Ganga River and its Tributaries' from 14th to 16th June 2022- a) arranged a visit of the participants to the ecotoxicology lab and briefed them about the activities conducted in the lab, b) provided a hands-on session on water quality monitoring during the field visit to Asan Conservation Reserve on 15th June 2022 and c) provided technical assistance.
- Carried out the activities for the regular winter and summer management of- a) Ganga Aqualife Rescue and Rehabilitation Centre in Narora, Uttar Pradesh, b) Kachua Punarvaas Kendra, Sarnath, Uttar Pradesh and c) Carnivore Turtle Rescue Centre, Barhi, Bhind, Madhya Pradesh. Conducted a meeting with the Conservator of Forest, Haldwani, Uttarakhand, to discuss establishing a Rescue Centre. Carried out the release of turtles from Kachua Punarvas Kendra Sarnath, Uttar Pradesh, to the Ganga River. Prepared a release report of turtles from Kachua Punarvas Kendra Sarnath, Uttar Pradesh, to Turtle Wildlife Sanctuary, Uttar Pradesh. Prepared the capacity building programmes for veterinarians and Para-veterinarians of the Rajasthan Animal Husbandry Department. Conducted meetings and discussions with the Forest Department of Rajasthan and Animal Husbandry Department of Rajasthan to conduct workshops for veterinarians and Para-veterinarians. Work is in progress to plan the rescue and rehabilitation workshop at Pilibhit Tiger Reserve. Organised a three-day training workshop from 21st to 23rd June 2022 on "Rescue of Aquatic Species: State Level Capacity



Building Workshop" for the frontline staff of the Forest Department of West Bengal and Wildlife Crime Control Bureau. Coordinated and liaised with the PCCF & HOFF, Uttar Pradesh and Chief Wildlife Warden, Uttar Pradesh, to discuss establishing the transit facilities along the Ganga River and its tributaries in Uttar Pradesh. Conducted meetings with PCCF & CWLW,

APCCF-Wildlife, APCCF & Director, Sunderban Biosphere Reserve and Joint Director, Sunderban Biosphere Reserve, West Bengal. Coordinated release ceremony of the "Uttar Pradesh Biodiversity Strategy and Action Plan 2021-2030" on 27th January 2022, in partnership with the Uttar Pradesh State Biodiversity Board at PICUP Bhawan, Lucknow.



- A review meeting was chaired by the Hon'ble Minister of Jal Shakti, Shri Gajendra Singh Shekhawat, on 6th April 2022 at New Delhi. The Hon'ble minister launched a book "Ganga ki kahani Prahariyon ki jubani".
- The 6th monitoring committee meeting was held on 11th April 2022, under the Chairmanship of Shri G Asok Kumar, Director General, NMCG, through hybrid mode. Coordinated with the SPMG and Jal Nigam for the visit of Shri G Asok Kumar, Director General, NMCG, to Dehradun on 10th April 2022. Assisted DG, NMCG, in his visit to HESCO, Dehradun, Uttarakhand, to gain insight

into the Shuklapur stream rejuvenated by HESCO.

- For the visit of Hon'ble Minister Shri Bhupender Yadav, MoEF&CC and other senior officials from the MoEF&CC to WII on 29th April 2022, showcased the work done under phase I and phase II of the NMCG-WII project. Prepared "Conservation Action Plan" for Project Dolphin, through consultative meetings with the research scholars and scientist working on the dolphins in India. The Conservation Action Plan was presented to the Hon'ble Minister Shri Bhupender Yadav, MoEF&CC.
- Prepared a movie, "Biodiversity Conservation and Ganga Rejuvenation" summarising the work done under Phase I and Phase II of the NMCG-WII project. Compiled for Nadi Utsav activities conducted in the Ganga River Basin. Prepared information brochures on the tributaries for dissemination amongst the stakeholders. Prepared a booklet, "Hydrophytes of the Ganga River" which provides information on the aquatic and semi-aquatic plants in the Ganga basin. Prepared a report on the collaborative work done with the Nuclear Power Corporation of India Limited (NPCIL) since 2016-17. Prepared information standees on project activities, such as- a) Ecological assessment: a systematic approach to river and biodiversity conservation planning, b) Important insights from the ecological assessment of the Ganga River basin, c) Strengthening conservation measures through rescue & rehabilitation, and d) Ganga Avlokan.



CAPACITY BUILDING OF THE FOREST DEPARTMENT AND OTHER STAKEHOLDERS IN MANAGING AQUATIC AND WETLAND RESOURCES COMPONENT

2

Successful implementation of the conservation action plan will depend on the capacity of the stakeholders trained in monitoring of aquatic biodiversity, management planning of wetland, rescue and rehabilitation protocols. Further, to detect any changes in habitat features and species assemblage in future, the capacity of different stakeholders including forest departments, animal husbandry departments, veterinarians and volunteers from concerned areas will be extremely critical. With this background, this component aims to developing capacities of stakeholders for effective conservation of the Ganga.

- Established Bal Ganga Prahari Corners- a) at Government Girls Inter College (GGIC) Bharpoor, Devprayag, Uttarakhand and b) at Rajkiya Balika Inter College, Devprayag, Tehri Garhwal, Uttarakhand. Conducted meetings with teachers of Jwalapur Inter College, Haridwar, Uttarakhand, to discuss the activities that need to be conducted at the Bal Ganga Prahari corners.



- Organised sensitisation and awareness workshops for the students of- a) Rajkiya Balika Inter College, Devprayag, Uttarakhand and Government Girl Inter College, Devprayag, Uttarakhand, b) Government Middle School, Valmiki Nagar, Bihar, c) U.H.S. Middle School in Lakshmipur, Bihar, d) Saraswati Vidya Mandir Inter college and GIC Model School, Devprayag, Uttarakhand, e) Omkarananda Public School, Devprayag, Tehri Garhwal, Uttarakhand and f) GIC, Chamrada Devi, Bharpur, Devprayag, Uttarakhand. During these workshops, participants were engaged in various activities, communicated the importance of conserving the biodiversity of Ganga and its importance and were sensitised about Bal Ganga Prahari Programme, Bal Ganga Prahari Corner's concept and vision and their role as guardians in conserving Ganga and its biodiversity.



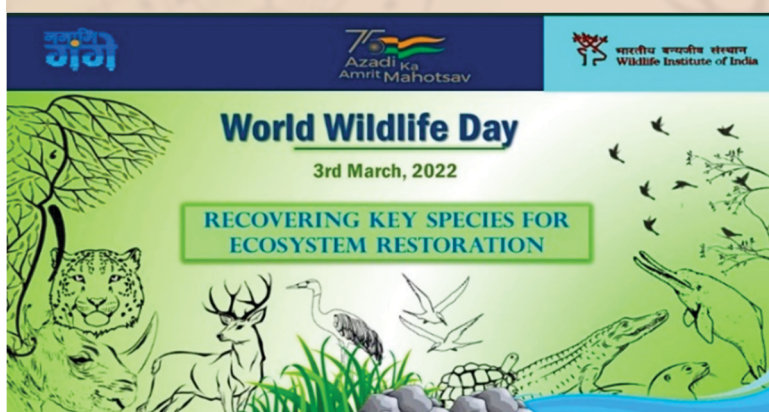
- Liaised with the Forest Department of Rajasthan to conduct the training workshop for Spearhead teams, including forest officials of Rajasthan, Ranthambore Tiger Reserve and Mukandara Hills Tiger Reserve. Drafted letters to establish spearhead teams for Madhya Pradesh, Haryana and Delhi forest officials. Organised a National Level Spearhead Training Programme from 14th to 16th June 2022 at Wildlife Institute of India, Dehradun, for the Volunteers of National Service Scheme (NSS) on "Biodiversity

- Organised a Skill Development Programme for Bal Ganga Praharis of 6th to 12th standard in Rajkiya Inter College, Ganga Bhogpur, Pauri Garhwal, Uttarakhand. One hundred thirty students participated in the programme. Organised two days calligraphy workshop for Bal Ganga Praharis from 30th to 31st May 2022 at the Wildlife Institute of India, Dehradun. The objective of the programme was to inculcate the importance of protecting, conserving and restoring the Ganga River and its biodiversity through the art of fine writing.
- Based on the theme "Draw your women role model", drawing and painting competitions were organised on 9th June 2022 by Gender Advancement for Transforming Institutions (GATI), in collaboration with ENVIS Resource Partner and WII-NMCG Training team in WII Auditorium. A total of 31 students from 11 schools have participated in the programme.



Conservation of Ganga River & Its Tributaries". Seventy-five volunteers from different universities and colleges of the Ganga and basin states participated in the training.

- Organised events to celebrate- a) World Wildlife Day on 3rd March 2022 for the students of Government Middle School, Valmiki Nagar and by launching an online and videography contests for school students on social media; b) Earth Day 2022 on the theme "Invest in our Planet" in Universal Academy school,

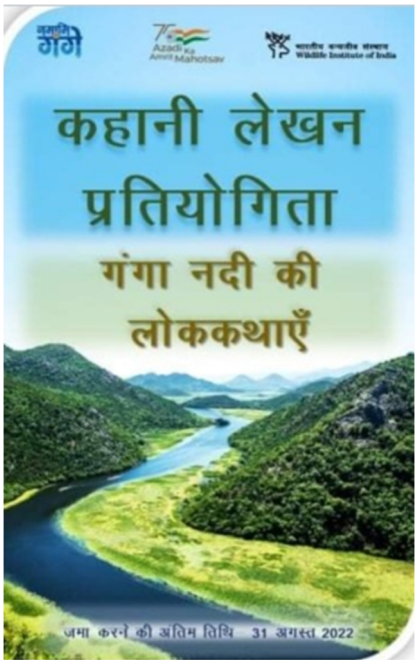


Dehradun, where 160 students participated, c) International Day for Biological Diversity on 22nd May 2022, at Govt. Girl Inter College, Devprayag, and Govt. Girl Secondary School, Khadkhari, Haridwar, where 196 students and 15 teachers participated, d) World Turtle Day on 23rd May 2022 at GIC, Nagni, Tehri Garhwal, where 145 students participated, and e) World Otter day on 25th May 2022 at Omkaranand Public School, Devprayag, Uttarakhand, GGIC, Devprayag, Uttarakhand and Utkramit Madhyamik Vidhyalaya, Lakshmipur Bagha, Valmiki Nagar, Bihar and released posters of three otter species (smooth-coated otter, Eurasian otter and Asian small-clawed otter).

- On the occasion of World Environment Day- a) organised a plantation drive at Rooms Village, Rudraprayag, Uttarakhand, b) cleanliness drive at Matai Village, Chamoli, Uttarakhand, c) plantation drive at the campus of H.N.B.G.U, Uttarakhand for the students of Hemvati Nandan Bahuguna Garhwal University, d) cleanliness drive for locals of Dehghat, Almora, and e) online quiz on biodiversity and environment.



- Organised an event on the occasion of "World Crocodile Day" for the volunteers of NSS of Ganga River states at Ganga Avlokan, Chandighat, Haridwar. During the programme, Shri Sunil Aggarwal, Councillor, Haridwar released three posters on crocodilian species, gharial, freshwater crocodile and the marsh crocodile. These posters spread awareness about the importance of conservation, protection and threats to Crocodiles. Poster for the story writing competition was launched on 6th May 2022.



- Catch the Rain Campaign was launched in June to promote the stakeholder's participation in the conservation of rainwater, rivers, streams, wetlands, peatlands, ponds and other water bodies. As a part of the campaign, various activities related to water conservation, traditional water harvesting techniques of Chal Khal and water recharge were carried out at- a) Rumsi, Rudraprayag, Uttarakhand, b) HESCO, Shuklapur, Dehradun, c) Nagni, Tehri Garhwal, Uttarakhand near Hanvel River and d) with women folks of Palash village.



- Participated in an exhibition themed "Vigyan Sarvatra Pujate" organised by the Ministry of Culture, GOI, held at Gurukul Kangri Vishwavidhyalaya, Haridwar, from 24th to 26th February 2022. The exhibition

showcased publications of the NMCW-WII project and conducted Bal Ganga Praharis Programme based activities and events on Ganga Biodiversity conservation. Students from different schools and colleges actively participated in these activities.



- A state-level training programme for stakeholders on biodiversity conservation was organised in the state of Bihar at Bettiah, West Champaran district, from 8th to 9th March 2022. Local communities, NGOs and media personnel participated in the programme. The training programme was focused on various conservation and management initiatives for the Gandak river and community participation.
- A sensitisation workshop on the conservation of the

Ganga River and its biodiversity was organised for the college students and lecturers of Government Degree College, Devprayag, Tehri Garhwal, Uttarakhand. A total of 30 students participated in the programme. Conducted an interactive session on the Ganga River and its biodiversity for the school students and teachers of Sahyadri International School, Pune, Maharashtra, during their exposure cum educational tour at Ganga Avlokan, Chandi Ghat, Haridwar, Uttarakhand on 27th March 2022.

DEVELOP COMMUNITY-BASED AQUATIC SPECIES CONSERVATION AND OUTREACH PROGRAMMES FOR THE GANGA RIVER BASIN

COMPONENT

3

River conservation decision is a societal one, owing to trade-offs between competitive use of river's resources between maintaining ecological integrity as well as for sustaining the communities. Aligning local livelihoods with conservation goals is known to create a larger constituency of support for conservation, for which site-specific strategies needs to be developed. These communities should also be made aware about the role of an ecologically intact Ganga basin in enhancing the quality of life. The local communities residing along the banks of the Ganga River have high interests in conservation of the Ganga and its aquatic diversity. These local communities have shown their support to conservation initiatives for the Ganga River and some of the members of communities are now part of the Ganga Prahari cadre of trained volunteers. This component aimed to extend this trained cadre at the basin scale. The component also develops high-quality, science-based awareness and outreach material on Ganga River conservation.

- 75 sites were identified in Ganga River Basin to establish Jalaj. Model of each Jalaj is site specific and will act as a centre for linking people and livelihoods with rivers and their biological diversity as well as make masses aware of cultural and biological values of Ganga River Basin.
- Ganga Praharis participated in the monthly meeting of the District Ganga Committee, Haridwar, Uttarakhand, Mirzapur and Varanasi districts, Uttar Pradesh. Social surveys were conducted with local communities and government departments regarding institutionalisation of Ganga Prahari cadre and livelihood programmes by facilitating their registration as societies, SHG, linking them to NRLM and other programmes of GoI and states. Need assessment through market survey and meetings was conducted and site specific livelihood development strategies were developed. A Ganga Prahari Nature Conservation Society was registered in District Bhagalpur, Bihar and two Ganga Prahari societies have been registered in District Varanasi, Uttar Pradesh. Formal agreements were signed with Gram Pradhans to pledge and ensure their continuous support for conservation activities in and around their villages.
- Visit of DG NMCG Shri G. Asok Kumar to Jalaj Varanasi was facilitated and coordinated. Direct dialogue with Ganga Praharis and DG NMCG was organised. Visit of Deputy Commissioner of Police (Traffic) Varanasi to the Dolphin Jalaj Safari in Village Dhaka, Varanasi, Uttar Pradesh was also organised, wherein he was sensitised about the Gangetic dolphins by the Ganga Praharis. Visit of a representative from the Ministry of Home Affairs to Ganga Avlokan was facilitated and he was briefed about the project objectives, activities and progress.
- A state-level training programme on biodiversity conservation was conducted for stakeholders including NGOs, Media and Ganga Praharis. Ganga Prahari Darshan Nishad was honoured by Chandrashekhara Foundation, Varanasi for his work in

the field of Ganga and environment conservation on World Environment Day.

- More than 20 trainings on green livelihood skills such as handicraft, sewing stitching, mat and basket weaving, tie and dye, applique work, block printing, incense stick making, organic colour and prasad making, nursery development, baking and food processing, millet processing and use, rural technology etc. were conducted for Ganga Praharis and local people, to ensure their participation and stake in conservation and link local livelihoods with conservation processes.
- Information to develop microplans was collected in villages in Bhagalpur, Bihar using focus group discussions and personal interactions with panchayat members and local people.
- Strategic plantation activities were conducted in and around villages, around wetlands, common areas and along the river banks. Awareness activities (n= 147) were conducted in Ganga River basin to sensitise and mobilize the various stakeholders such as local communities, fisher folks, boating communities, village and nagar panchayats, state forest departments, district administration, NYKS, local youth and women groups, SHG members, students and teachers of schools and colleges etc. Stakeholders were also made aware through celebrating special days such as World Wetland Day, World Environment Day, World Migratory Day etc.
- Knowledge products such as Baccho Ka Akhbaar, story and poem books were distributed to school students to sensitise them towards aquatic conservation. Wall paintings and slogans were commissioned at ghats, common villages area, along roads to pledge the support of people for conservation of aquatic biodiversity, reduce pollution, use of electric and energy efficient cremation grounds etc.
- Republic Day, International Women's Day, International Day of Women and Girls in Science, International Day for Biological Diversity, World Turtle Day, World Otter Day, Ganga Dussehra etc. were observed. International Yoga Day was observed at 75 sites to commemorate Azadi Ka Amrit Utsav.
- A six-day virtual talk series with eminent women speakers from diverse fields was held on the topic 'She the river: shaping the new tomorrow', in collaboration with GATI to celebrate International Women's Day 2022. Apart from this, 11 awareness activities were conducted at various field sites in Uttarakhand, Uttar Pradesh, Bihar and Jharkhand.
- Regular and continuous interactions with local people and other stakeholders were conducted. Cleanliness drives (n=58) were conducted along the Ghats, in and around wetlands, in and around villages, wherein, Ganga Praharis, local communities, fisher and boating folks participated. Participation of Ganga Praharis in livelihood development and conservation related programmes of other agencies and departments was facilitated. Consultative meetings (n= 211) were held

to understand the role and association of various stakeholders, such as local communities, village panchayats, district administration, state forest departments, school and college teachers and administration etc., in conservation of Ganga River and its tributaries as well as develop strategies to mainstream conservation in their mandate.

- Project personnel participated and provided inputs in programmes organised by other agencies, such as the celebration of International Day of Forests by Prayagraj Forest Division, the pond rejuvenation programme organised by the Ganga Task Force, Spearhead training workshop for Ganga Doot and Ganga Praharis organised by NYKS.
- Ganga Praharis participated in an discussion, consultation, awareness and cleanliness programmes, plantation and training programmes organized by other organisation such as Ganga Task Force, NYKS, NGOs, Ganga Vichar Manch, District Ganga Committee, District Administration. Ganga Praharis also informed State forest Department officials regarding animal in distress and assisted in their rescue and rehabilitation. Orientation and training programmes were conducted for newly identified Ganga Praharis. Trained Ganga Praharis with technical support from WII and in supervision of State Forest Departments rescued aquatic as well as terrestrial species such as gharial, Gangetic dolphin, species of turtle, Indian skimmer (*Rynchops albicollis*), juvenile black-winged kite (*Elanus caeruleus*), and a common rat snake (*Ptyas mucosa*), Indian cobra (*Naja naja*), Indian rock python (*Python molurus*).
- Ganga Praharis participated in an anti-poaching operation conducted by the Forest Department in District Bhagalpur, Bihar. Ganga Praharis assisted the WII team with water sample collection from the Ganga River in District Muzaffarpur and rivers Ganga and Gandak in District Patna in Bihar. Ganga Praharis in District Bhagalpur, Bihar and District Sahibganj, Jharkhand conducted a bird survey at Shankarpur Diara and Tapua, respectively. Ganga Praharis conducted ecological monitoring of birds on a river island in Village Karehada Uparhar, District Prayagraj, Uttar Pradesh and Jallarjheel, Sahibganj, Jharkhand. Ganga Praharis participated in a one-day training programme on dolphin estimation techniques by CAMPA-WII Dolphin project team at Sahibganj, Jharkhand. Ganga Praharis in West Champaran, Bihar reported a dead mugger caught in the fishing net in Tirhut canal to the Bihar Forest Department. Ganga Praharis rescued a swamp deer in Nizampur, District Muzaffarnagar, Uttar Pradesh, who was chased and injured by feral dogs. The Forest Department was informed immediately. Ganga Praharis rescued a gharial from fishing net in District West Champaran, red sand boa (*Eryx johnii*) in Bhagalpur (Bihar) and common cat snake (*Boiga trigonata*) in Muzaffarnagar, (Uttar Pradesh), and all the incidences were held after informing and involving state forest departments. Ganga Praharis participated in an event organised by Ministry of Fisheries, Animal Husbandry and Dairying in Varanasi, Uttar Pradesh. 50,000 fishlings of Rohu

(*Labeo rohita*), Catla (*Catla catla*) and Mrigal Carp (*Cirrhinus cirrhosus*) were released and a cleanliness drive and yoga session were conducted.



- In Uttar Pradesh, established five *Jalmala Samwad* at the- a) Public Inter college, Wallipur, b) Public Inter College Lambua, c) Government Inter College, Sultanpur district, d) Purva Madhyamik school in Ganga Gram Dhakua, Varanasi and e) Mahabodhi Inter College, Sarnath. Organised awareness programmes in three colleges and also trained teachers about the outdoor interpretation centres and their role in conserving the Ganga River and its biodiversity. Conducted site surveys and identified schools to establish "*Jalmala Samvaad*" along the Ramganga and Yamuna rivers and materials for display were prepared accordingly.

- Designed new activity for Ganga Gyan Kosh (knowledge box) and compiled text for the flyer on "Threats of Plastic Pollution". For social media awareness, drafted content and prepared "Comic Strips" on different aquatic species. Drafting and updating the content for- a) booklet on saving water and b) activity book for children. Regularly updating social media with information on the Ganga river and its biodiversity.



- An exposure tour was organised for the team to inculcate the role of conservation education and interpretive facilities developed at Sabarmati Ashram, Gujarat Ecological Education and Research (GEER) Foundation, Kankaria Zoo and Kidz City, Kewadiya Zoo, Statue of Unity Viewing Gallery and Vikram A. Sarabhai Community Science Centre (VASCSC).



- Organised a two-day skill training workshop for Ganga Praharis and local women in Sarnath, Uttar Pradesh, on puppet making and their role in creating awareness for biodiversity conservation and Ganga rejuvenation. A total of 27 women participated in the training. To raise awareness, puppets were distributed to Kankaria Zoo. A One-day skill development workshop was organised for Ganga Praharis on "developing communication skills" so that they can act as Guides for visitors. Nineteen Ganga Praharis participated in the workshop.



- Participated in an exhibition themed "Vigyan Sarvatra Pujyate" organised by the Ministry of Culture, Government of India from 22nd to 28th February 2022 in New Delhi and Dehradun and showcased research activities and publications.



- In a spearhead training organised by NYKS, sensitised participants about the biodiversity of Ganga River, the role of youth in conservation education, the importance of the Wildlife (Protection) Act, 1972 and its six schedules. Organised sensitisation and awareness workshops on Ganga River, its tributaries and biodiversity conservation- a) at Government Inter College, Haripur, where 75 students



participated in the workshop, b) at Government Inter College, Bhimawala and Government Inter College, Katapathar, where around 100 school students participated in the workshop and c) at Aadarsh Vidya Mandir, Mount Abu, where around 180 students and six teachers participated, d) at Sophies school in Mount Abu, where 200 students participated and e) for forest guards and Range Officers of Bhagirathi basin.

- Organised events to celebrate- a) World Wildlife Day 2022 on the theme “Recovering key species for ecosystem restoration” for Forest guard trainees and school students at Asan Conservation Reserve, Dehradun, b) International Women's day at Ganga Darpan Interpretation Centre on theme "Gender equality today for a sustainable tomorrow" c) World Water Day online under the theme “Groundwater” by creating one-minute video challenge posted on social media platform, d) Earth Day at Ganga Darpan Interpretation Centre, Sarnath with rural children, e) Turtle Day and Earth Day at interpretation



Centre, f) World Birds Migratory Day 2022 in an online awareness webinar, g) World Biodiversity Day on the theme “Building a shared future for all life” at Rajkiya Madyamik Vidhyalaya, Tajewala, h) World Environment Day 2022 on theme “Only One Earth” with the students of Nursing college, Abu Road. On World Environment Day occasion a *pokhra* (pond) in Benipur (Varanasi) was cleaned with help from volunteers, participated in the Arogya Van initiative inaugurated by the Governor of Rajasthan at Brahma Kumaris Headquarter Mount Abu and a nature walk and plantation drive was organised by SPAWN at Kanpur zoo safari. Celebrated World Refill Day and World Crocodile Day.



NMCG

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