

ANNUAL REPORT 2020-21



Aaranyak

Nourishing Nature to Secure our Future

Aaranyak's Mission

Our mission is to foster conservation of biodiversity in Northeast India through research, environmental education, capacity building and advocacy and legal and policy reform to usher a new era of ecological security.

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Aaranyak is a registered society working towards nature conservation in North East India, since 1989. Our strength lies in applied research in biological, environmental and social field and our geographical area of interest is the North Eastern India and Eastern Himalayas. Aaranyak is steered ahead by young professionals dedicated and committed to the cause of conservation. Aaranyak is recognized as a Scientific and Industrial Research Organization (SIRO) by the Government of India.

Know More About Us -

www.aaranyak.org

You can also follow us on Facebook, Instagram and Twitter

**Aaranyak Society Registration No -
3096 of 1989-90**

Donations made to Aaranyak in India carry tax exemption under section 80G of the Income Tax Act 1961. Registration under the Foreign Contribution Regulation Act 1976 entitles Aaranyak to receive foreign contribution to work in the field of biodiversity research and conservation.



CONTENTS

01	From the desk of Secretary General and CEO	15	Habitat Research & Conservation	41	Complementing Conservation Efforts	62	Seminars/Workshops/Conferences attended by Aaranyak
03	Acknowledgements	21	Education, Outreach & Communications	45	Impacts	67	Trainings/Workshops Organised/co-organised by Aaranyak
05	Background	29	Livelihood & Social Entrepreneurship	47	Success Stories	69	Membership Position With Other Organisations
06	Executive Committee Members	35	Legal & Advocacy Campaign	51	Road Map for 2021-22	71	Publications
07	Species Research & Conservation	37	Human Wildlife Conflict Mitigation	57	A brief account of Other Activities	75	Find Us
				61	Awards	78	Financial Report
						83	Staff List





FROM THE DESK OF SECRETARY GENERAL AND CEO

It was a forgettable year for the entire mankind when human life was under tremendous stress and human activities in many spheres were totally disrupted as the world was focused on fighting the deadly COVID-19 pandemic investing huge resources, time and energy. Almost all meaningful human activities took a backseat as human beings often locked themselves inside the four walls with hope to dodge the all invading virus.

Obviously, it was an unprecedented year of tough and emerging challenges rather the toughest year in the 32-year-long memorable journey of Aaranyak since its inception on September 9, 1989 as a research-based, science-driven conservation organisation that works in tune with the avowed mission to 'conserve nature to secure our future',

As the Covid-induced lockdown forced closure of our offices across the state and our scientists /field staffs/ research staff and even administrative and finance staff had to resort to the new normal – working from home safety – we had to redesign our operations under the given circumstances as we knew very well that it was not the time to just sit idle at home and wait for the pandemic to ease. Even though wildlife conservation has been our priority and it remains so always, we realised that it was time to reach out to various stakeholders who are key to sustenance of our conservation efforts, at this time of crisis with our limited resources.

We took initiatives to develop and maintain a positive spirit amongst conservation workers even during the restrictions imposed by COVID-19 pandemic. For instance, the Natural Resource Management Team of Aaranyak was working closely with the under-privileged households of four villages in Karbi-Anglong, aiding them with daily wages during the outbreak of COVID-19. As such, the people were engaged in planting saplings in a degraded community forest. Participating villagers were provided financial support during the pandemic. These villagers are our key stakeholders in conservation efforts.

Team Aaranyak reached out to thousands of families located in our various project sites during the pandemic by providing food materials, face masks etc., and also counsel them how to deal with the situation so that they realise that we care for our stakeholders at the time of distress.

Out of its concern for safety of wildlife during the pandemic when forest and police forces overburdened with pandemic related responsibilities, provided two Bajaj Pulsar motorcycles and 500 units of face cover to Golaghat District Police in Assam to complement their efforts not only to check COVID but also to provide safeguards to rhinos and other wild animals in Kaziranga NP within Golaghat District.

To keep the conservation efforts going under the new normal, Team Aaranyak devised a webinar series called "Eco Talks" to flag various conservation issues and perspectives by its experts and scientists during the period. The efforts paid rich dividends in respect of valued interactions/ sharing and views among experts over the prevalent bio-diversity conservation trends and emerging dimensions. I am sure the experience will help Team Aaranyak to give new dimensions to our research-based biodiversity conservation efforts in tune with the global trend.

Aaranyak has grown considerably in stature and expertise, and the experience has taught to take the community into confidence and work in tandem with concerned government agencies to achieve conservation goals. We have focused on this aspect of having a happy and cooperative family of stakeholders, the grassroots community through various initiatives to create livelihood for them tapping their traditional skills even as we learn from their traditional knowledge on conservation of wildlife and nature. We just want to create a mutually beneficial situation to sustain conservation. The laudable support we have received from our members spread over the entire Northeast landscape has been a major source of strength.

Obviously, we are more committed to implementing conservation initiatives under programmes with pro active engagement in the community besides complementing official agencies involved.

Team Aaranyak reiterates the top priority to secure potable water and pure oxygen that are lifeline for the entire animal kingdom by contributing towards conservation of green cover, wildlife habitat and human well-being through sustained efforts. If forests, wetlands and other habitats are not conserved, getting potable water and oxygen to secure our progeny would be a Himalayan task in the highly sensitive Eastern Himalayas in near future. It will be very prudent on part of the people of the region to get proactive in conservation of natural resource base, especially the water and air so as to facilitate a clean and green environment for all of us besides enabling other lifeforms to thrive for the sake of maintaining the ecological balance.

Having said so, we are extremely concerned about the unwarranted and random depletion of ground water table in the urban areas because of haphazard and unplanned urbanisation and there is urgent need for introspection on part of the planner and policy makers to stem the rot before it is too late.

Besides our over 100 valued full-time workers, continuous support and cooperation from our well-wishers, members, patrons and government agencies have been of top most importance in sustaining our continuous green journey. The appreciable level of commitment and dedication exhibited by the Team Aaranyak must continue in the years to come.

We have never overlooked the need to maintain a competitive professional environment in the organisation so that the team members could keep upgrading their skills and scale greater heights in their career every passing year. That is why the periodic assessment of all our research and conservation activities to facilitate need-based reshaping of ongoing activities to chart out the future roadmap for the organisation remain well equipped and dynamic to face the new challenges that may crop up in our journey.

Our researchers and conservationists have made us proud by securing national and international recognition by accomplishing challenging conservation initiatives under the banner of Aaranyak which over the years has completed over 400 projects in different parts of India as well as South and South East Asia. We always strive to expand the pool of highly skilled, enthusiastic conservation workers of North East India capable of shouldering the responsibilities thrown up by new challenges. We want to excel as a team so that our efforts continue to attract many more committed conservation workers to make our organisation stronger and more effective in taking on conservation challenges.

We have only ONE EARTH to live on, so we have to let it thrive as much as possible.

(Dr. Bibhab Kumar Talukdar)

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BACKGROUND

Aaranyak is a non-profit, non-government organisation which has been in existence since 1989, when a group of passionate young environment enthusiasts came together and vowed to protect the region's rich biodiversity. We at Aaranyak strives to contribute towards biodiversity conservation and ensure human well-being through applied research, conservation education, legal and policy advocacy, community conservation, and capacity building.

We work on a range of wildlife species and their habitats, and environmental issues and climate change, with local communities and Government agencies to design appropriate conservation strategies and aid in informed conservation decisions. Aaranyak's work is primarily carried out under 14 divisions and one programme: Avifauna Research and Conservation Division, Conservation Livelihood Division, Elephant Research and Conservation Division, Environment Education and Capacity Building Division, Gangetic Research and Conservation Division, Geo-spatial Technology and Application Division, Herpetofauna Research and Conservation Division, Legal and Advocacy Division, Media Production and Communications Division, Primate Research and Conservation Division, Rhino Research and Conservation Division, Tiger Research and Conservation Division, Threatened Species Recovery Programme, Water Climate and Hazard Division, and Wildlife Genetics Division.

Over the last 33 years, Aaranyak has grown in stature and has carved a niche in the field of biodiversity conservation. We are a close-knit team of environmental scientists, researchers, community workers, educators and environmental legal specialists. Our efforts towards bridging the gap between research and adaptive management of wildlife and forests have won us many accolades from around the globe. Of these, the noteworthy accolades are- Receiving the RBS 'Earth Guardian Award 2011', "Indira Gandhi Paryavaran Purashkar" in 2012 by the Ministry of Environment, Forests and Climate Change, Govt. of India, and "Institutional Award in the field of Science and Technology" in 2017, by Government of Assam.

AARANYAK'S EXECUTIVE COMMITTEE



Ranjan Bhuyan
President



Dilip Chetry
Vice President



Bibhab Kr. Talukdar
Secretary General



Jimut Prasad Sarma
Finance Secretary



Bibhuti Prasad Lahkar
Program Secretary



Partha Jyoti Das
Organizing Secretary



Alolika Sinha
Publicity Secretary



Udayan Borthakur
Executive Member



Koushik Barua
Executive Member



Ashok Dey
Executive Member



Jayanta Kr. Sarma
Executive Member



Photo - Udayan Borthakur



Photo - MP/CD, Aaranyak

Researcher installing camera-trap in grassland habitat

The species conservation programme of Aaranyak that was initiated more than 20 years ago, covers research on both high-profile and lesser-known species. Our goal is to build science based evidence and contribute to the knowledge pool so as to make informed conservation decisions. Our work broadly ranges from the ecological research on species' population and habitat, research on conservation genetics and wildlife DNA forensics, conservation breeding and restocking/reintroduction of species, habitat restoration, use of advanced technology such as GIS and remote sensing, and understanding the impact of various factors on species and ecosystems. For aiding species conservation, these research works are supplemented by community-based conservation approaches, supporting the law and enforcement efforts of the competent authorities, supplementing livelihoods of the local communities of high-value conservation areas and conservation education. We strive to design and implement appropriate conservation strategies through our work to promote wildlife conservation and safeguard the well-being of people. Our species research work spans across the following-

MONITORING LARGE CARNIVORES AND THEIR PREY SPECIES USING CAMERA TRAPS

The large carnivores such as the tigers are considered as an umbrella species and its conservation has a cascading effect on conservation of other species as well as their habitats. We have been monitoring the population of large carnivores and other terrestrial mammals in Manas Tiger Reserve (MTR), covering an area of 1400 km² and another 400 km² in Meghalaya using the camera trap technique to understand their status and conservation threats. Besides, we are using the novel technique Random Encounter Model (REM) to estimate ungulate density in the western forest complex of Manas Tiger Reserve. Through camera trap approach, we could identify 48 and 37 individuals of tigers and leopards in MTR, with total effort invested over 8388 trap-days across 876 km². There has been fourfold increase in the tiger density from 0.80 to 4.38/ 100 km² in Manas National Park (core of MTR) since 2011, contributing to the global endeavour of doubling the tiger numbers (TX2) by 2022. Further, we confirmed the presence of Himalayan Goral, and Golden Cat for the first time in the MTR through photographic records. We have recorded 19 terrestrial mammals, including six

SPECIES RESEARCH & CONSERVATION

ungulates and four felids using intense camera trapping surveys for the Ripu-Chirang forest complex of MTR (present day Raimona National Park). This is the first-ever comprehensive list of the mammals of the area.

GENETIC TOOLS TO STUDY LEOPARD AND RHINO POPULATION

As a part of the ecological and genetic monitoring of leopards in North Bengal, we undertook the first ever genetic population estimation of leopards (*Panthera pardus*) in eight Protected Areas of the region. We sampled the Singalila, Neora Valley, Jaldapara, and Gorumara National Parks; Mahananda, Senchal, Chapramari Wildlife Sanctuaries, and the Buxa Tiger Reserve. During this study, we evaluated the feeding habit



Photo - MP/CD, Aaranyak

Collection of leopard scats for genetic studies

of leopards in the North Bengal landscape as well. Further, we have generated reference DNA database of translocated greater one-horned rhinoceros (*Rhinoceros unicornis*) population of Manas National Park and Tiger Reserve.

USING GIS TOOLS TO AID CONSERVATION

Application of advanced tools such as the GIS & Remote Sensing plays a key role in advancing our knowledge. We studied the distribution of the Hoolock Gibbons in the Sadia area of



Photo - GTAD, Aaranyak

GTAD staff doing land use cover field work for Byrnihat industrial area demarcation



Photo - MP/CD, Aaranyak

Annual Waterbird Census at Pobitora WLS on 6th February 2021

Eastern Assam and prepared a distribution map. Besides, we mapped the surveyed routes of Golden Langurs in Chakrashila Wildlife Sanctuary.

AQUATIC AND WETLAND DEPENDENT SPECIES

The Brahmaputra River system in Assam is one of the strongholds of the Ganges dolphin. Aaranyak has been working to conserve the species since 2005. In one of the initiatives to safeguard the species, a Dolphin Conservation Network (DCN) was formed involving the local youths. This year we mostly focused on prioritized dolphin hotspots in Assam in collaboration with the Wildlife Institute of India. We monitored dolphins and their habitat in 26 dolphin hotspots (DCN sites) using the standardized protocol, engaging a trained group of 52

DCN members from October 2020 to March 2021. A total of 609 kms of river stretches were surveyed with an average effort of 3 km per replicate per site. The highest number of dolphins was recorded near Kashashila; and the highest calf to non-calf ratio was found in Nimati. The average dolphin encounter rate was 0.85 ± 0.091 per km during this reported period. The Greater Adjutant Storks- an Endangered bird known to have a breeding population in Assam, nests on tall trees near human habitation and wetlands nearby. During the nesting season, the newly hatched chicks often fall-off from the nests in tall trees. During this breeding season, a total of 40 injured stork chicks/adults were rescued and rehabilitated in the wild.

As part of long-term water bird monitoring and documentation initiative, Aaranyak organised Annual Water Bird Census in collabor

ation with Guwahati Wildlife Division. A total of 24,000 waterbirds belonging to 58 different species were recorded during the census.

REINTRODUCTION OF THE PYGMY HOGS

The Pygmy hogs are the smallest suids, which are on the brink of extinction. This conservation dependent species is habitat specialist, occurring in tall dense grasslands, and remain confined to only a few protected areas of Assam. The conservation management of these hogs include captive breeding, reintroduction into the wild, and monitoring of the existing population and its habitat. We have two breeding centres in Assam, which produced a total of 11 litters with 38 hogs, of which 32 (82%) of the young were reared beyond the age of three months. A total of



Photo - Aaranyak

Pygmy hogs were released into wild in 2021

77 (30 males and females) are maintained in captivity till 31st March, 2021.

The Manas National Park (MNP) in Assam is the only place which have a wild pygmy hog population. To establish a population of hogs in the western part of the park, a reintroduction was planned. According to the plan 14 (6 males, 8 females) pygmy hogs were reintroduced in two batches, comprising of seven individuals in each batch during May, 2020. Reintroduced hogs were monitored for two months (May-June 2020) by deploying 89 camera traps in 150x150m grid cells, investing 90 person-hours. The Pygmy hog population in Manas is monitored through sign survey regularly, and during this period an area of about 18 km² was surveyed, investing 224 person-hours. The survey recorded hog's

signs in the Panbari (western range of MNP) and Sidajhar grasslands. Based on this, 61 camera traps were installed in 150x150m grids for 45 days, with an effort of 45 person-hours in 1.4 km² area in Sidajhar, where we could successfully photo capture the hogs using camera trap. The surveys in Orang National Park, where the Pygmy hogs were successfully introduced a couple of years ago, showed encouraging presence of the hogs established through indirect signs and photo captures.

THE ASIAN ELEPHANTS

The Asian elephants are wide ranging species that needs contiguous forested landscape for their movement. The Indo-Bhutan transboundary landscape,

popularly known as the TRAMCA landscape is a potential habitat that harbours a viable population. However, ecological information pertaining to its population density, movement patterns from the landscape were scanty. We used indirect dung count method to estimate the current population size of elephants and gain an insight into the movement routes used by them across the landscape. Similarly, a landscape-wide, long-term ecological study on Asian elephants was conducted in the forested areas of Northern West Bengal to develop a conservation action plan for the species in the region, which will aid the management in safeguarding the species. This study identified a new elephant corridor, as well as developed a vulnerability map along the railway tracks from Alipurduar junction to New

Jalpaiguri junction, indicating the critical locations of train-elephant collision.

Further, human-elephant conflict in Assam is increasing and undermining the conservation efforts to safeguard the species. A novel threat in the form of deliberate electrocution is on rise, which accounted for more than 90 elephant deaths in the last four years. We conducted a state-wide survey around the elephant habitats to identify the occurrence pattern of illegal electric fences used by the local communities to ward off elephants, which eventually kill the animals. This study helped us identify and prioritise the areas that need immediate attention to mitigate the threat and aid in protecting the elephants and human well-being. Of late, the



Photo - Udayan Borthakur

A rescued leopard in North Bengal



Photo - Ankur Nahok

An elephant herd crossing the NH-37 near kaziranga National Park

cases of elephant poaching from Manas Landscape have highlighted another threat to the species. We have been collating data on elephant death records from this landscape and sharing the information with the Wildlife Crime Control Bureau for further action.

HERPETOFAUNA

The northeast India is rich in herpetofauna, but studeis pertaining to this group is limited from the region. Our team has been conducting extensive surveys in Arunachal Pradesh and Assam, which resulted in finding new distribution records for the species such as *Rhacophorus tuberculatus* from Kohora River Basin of Karbi Anglong and first distribution record of *Bufo gargariznas* from India which was recorded from Dibang River Basin, Arunachal Pradesh. Further, we conducted predicted habitat distribution modelling for 10 selected amphibians from Northeast India.

GREATER ONE-HORNED RHINOS

The one-horned rhinoceros, of whose 80% of the global population occurs in Assam, is mostly concentrated in Kaziranga National Park. During the winter months, the rhinos often stray



A one-horned rhino in its grassland habitat

Photo - Udayan Borthakur

out of the park which expose them to various threats, including poaching. We have set-up a surveillance system comprising a field team to record the stray-out routes to facilitate its safe returns to the park. As poaching of the rhinos mostly to be used as traditional Asian medicine is one of the biggest threats, we

have been working tirelessly by engaging multi-stakeholder to curb it. This has successfully aided the government agencies to apprehend poachers and convictions. To determine the link between arrests and conviction ratio for rhinos in Assam, we initiated a data sourcing task.



Rhacophorus tuberculatus

Bufo gargarizans

Photo - Aaranyak

THE KAZIRANGA LANDSCAPE AND THE KOHORA RIVER BASIN

The Kaziranga National Park along with the adjoining Karbi-hills in Assam is a prime habitat and is home to many threatened species. Human-use lands and the National highway 37 separates the National Park from the Karbi hills. We conducted a study to understand how this human-use area is used by different animals as they move across the landscape, to identify the most vulnerable areas of road- kills. Through this study we could identify the prime locations of animal movement in a stretch of 60-km in the highway,

which will aid in making informed conservation decision. Moreover, we conducted systematic survey in the Kohora River basin to generate baseline information. The survey recorded the presence of 155 avian species and 90 species of butterflies.

COMBATING WILDLIFE CRIME

The biggest challenge to safeguarding species is the ongoing illegal wildlife trade which is still rampant in this region. The pangolin, a small mammal is one of the most tarded species globally. We did scope research to

understand the illegal trade routes of Pangolins from Northeast India to Myanmar, which has given many insights on the issue. Besides, a rapid survey was conducted on wildlife trade of red pandas and lesser-known species including endemic birds in Western Arunachal Pradesh.



HABITAT RESEARCH & CONSERVATION

Photo - Udayan Borthakur

Habitat loss and degradation impinge on biodiversity, and human well-being, and is identified as one of the primary threats to our extant biodiversity. The burgeoning human population and the demand for land resources, is further endangering the natural habitats, more so in northeast India which has a far-reaching impact on wildlife conservation and protection. We are working with several stakeholders such as the local communities, the government line departments and the enforcement agencies through land use-land cover mapping, habitat enrichment and revival, and management of alien invasive plants across Assam to restore habitat. This year we primarily focussed on identifying the changes in habitat, aiding recovery of native grassland ecosystems, and forested areas, conducted studies on wetlands and rivers, and many more.

HABITAT MAPPING AND RESTORATION

We conducted land-use land cover (LULC) mapping and change detection analysis using multi-temporal satellite imageries of Nagaon and Baksa Forest divisions and Ripu-Chirang-Phipsso-Manas Forest Complex in Western Assam to understand the changes in natural habitats. Based on this first-hand information, we revived two degraded



Photo - Aaranyak

Installing a camera trap at tree top for minimizing threat risk in Raimona National Park, BTR, Assam

wetlands in Nagaon, affecting approximately 8 hectares, followed by plantation of native elephant fodder plants as the areas are frequented by wild elephants.

REVIVING THE SUB-HIMALAYAN GRASSLAND HABITAT BY ENGAGING LOCAL COMMUNITIES

The sub-Himalayan grasslands ecosystem of the MNP, which supports multiple rare and threatened obligate species, are understudied. To generate ecological information on this

data-deficient habitat, three experimental plots were set up with multi factorial design such as clipping, cutting, uncut, early-burn, late-burn, and no-burn. Soil nutrients such as NPK and CEC were tested and study on seed bank were conducted. To supplement the study, climate data are also collected from automatic weather station. These studies will help us understand the ecology of the grasslands and consequently aid in informed conservation decisions. Moreover, the grassland habitat

in Manas is vulnerable to invasion by invasive alien plants (IAPs). To arrest invasion by IAPs, a survey in prime pygmy hog habitat (~6.45 km²) within this broad grassland habitat was conducted using 200m X 200m grid cells. With application of tried and tested method of manual uprooting of IAPs we could facilitate in recovery of approximately 2 km² of grassland habitat in Manas National Park. Native woody plant species encroachment of grasslands is leading to habitat shrinkage for grassland-obligate species. Thus, a total of 1548 trees were girdled and 2468 trees were mulched from an area about 1 km² spending 2500 person-hours. Similarly, in Orang National Park, another abode of grassland-specialist species, *Chromola odorata* and *Mimosa diplotricha*, and other woody species were removed from a 1km² block about spending 880 person-hours.



Debarked *Bombax ceiba* trees to arrest its growth

Photo - Aaranyak

ECO-RESTORATION IN KOHORA RIVER BASIN

In Kohora River Basin (KRB), we collected baseline data on vegetation type using quadrat sampling method covering an area of 36 km². A participatory conservation approach in a 30 km² area, cornering biological

corridors in the Kaziranga Karbi Anglong Landscape in the Kohora River Basin has been initiated. In another initiative to restore degraded habitat as well as support the local communities in the trying times of COVID 19 pandemic, around 6000 saplings were planted by the communities in the Jilangso area

of KRB. Besides, the community nursery at Chandrasing Rongpi Village, Karbi Anglong produced 15000 saplings. More than 6000 saplings were distributed and planted on homestead land and the premises of community institutions in the Kohora River Basin as a part of the eco-restoration programme.



Photo - Aaranyak

A waterbody in the city with huge anthropogenic pressure

AQUATIC HABITATS, ENVIRONMENT AND BIODIVERSITY

Our habitat conservation work expands to aquatic habitats as well. We launched a new project titled 'Dying rivers of Assam: A study on degradation of selected rivers and riverine ecosystems in the Brahmaputra Valley for developing a community-based action plan for their rejuvenation' with an objective to study the status of eco-hydrological degradation of selected rivers and aquatic habitats in the Brahmaputra Valley, Assam. We collected water samples from 15 sites located on seven degraded urban rivers and wetlands in Guwahati and analysed in the Laboratory of the Department of Environmental Sci-

ence, Gauhati University, and the Assam Pollution Control Board. Besides, a field reconnaissance was carried out in Lakhimpur District by interacting with villagers on various aspects of the Rangadi catchment's ecohydrological health. The Brahmaputra River system harbours Ganges dolphin population. A habitat study in prioritized dolphin hotspot areas were undertaken to understand the anthropogenic pressure on the species habitat. The study inferred that the prime habitats in the form of fishing nets in Jhanjimukh (5.608±0.56 fishing net/km) and Malibari, gill nets in Chandordinga and Jhanjimukh,

mosquito nets in Majuli, and motorized boats in Dhubri and Nimati. The Greater Adjutant Stork, with a stronghold population in Assam occur in the non-protected, human-use areas, and mostly forage around wetlands and swampy areas. During the last survey conducted, we identified seven foraging grounds as major habitats for the stork in Kamrup District of Assam. The identified foraging grounds are Digheli Beel, Bhoka Beel, Pondoba Beel, and Singimari Beel, which occur near the breeding colony of Dadara (a village in Kamrup district). The other two sites are the garbage-dumping ground at Boragaon, located on the bank of the Deepor Beel in Guwahati and

the Jeng Beel in North Guwahati. A map was prepared to depict the distance of the foraging grounds from the breeding colony of Dadara-Pachariya village complex. The maximum distance was of Jengbeel at 15.48 km, followed by Deepor Beel (11.85 km), while the nearest was Singimari Beel at 0.9 km.

We undertook a study to understand the change in bankline and others parameters of several rivers using GIS tools. We mapped the river bankline migration, erosion and deposition in the Dibang-Lohit rivers around the Dibru-Saikhowa landscape. We also conducted an analysis of the bankline migration of the Rangadi for the period 1970-2019 and estimated erosion deposition area, sand casting and riverbed mining.



Photo - ERCD

A researcher monitoring tree saplings in one of the habitat restoration sites

THE ANNUAL FLOODS IN RHINO-HABITAT

The prime rhino habitats Kaziranga National Park and Pobitora Wildlife Sanctuary in Assam are annually inundated by the monsoon flood, which rejuvenates the habitats making them suitable for rhinos and other wildlife. We used GIS and Remote Sensing tools to study the temporal occurrence of flood inundation extent for the year 2020 in and around both the protected areas to help in planning and policy making for overall habitat management and



Photo - Aaranyak

A team of scientists and researchers investigating a waterbody

wildlife population conservation. Besides, we also prepared flood inundation map of Assam for the year 2020.

STUDY OF HOOLOCK GIBBON HABITATS

The Baghjan oil field blowout in the district of Tinsukia was a massive disaster which impacted the ecosystems, wildlife and human livelihood. To gain an understanding of its impact on Hoolock Gibbon habitat- which is a highly threatened primate, we conducted a rapid survey in Bherjan-Borajan-Padumoni forest complex (situated in the Berekuri area) and Dibru-Saikhowa National Park.

ENVIRONMENT POLLUTION

We have initiated a GIS based Demarcation Map of Comprehensive Environmentally Pollution Index (CEPI) area of Byrnihat (Assam) for Assam Pollution Control Board. This study is a part of evaluating emission and effluents from industrial areas in regular intervals for assessing their pollution indices across country, following orders of National Green Tribunal (NGT) for assessing impact of industrial areas on localized environment for planning intervention.

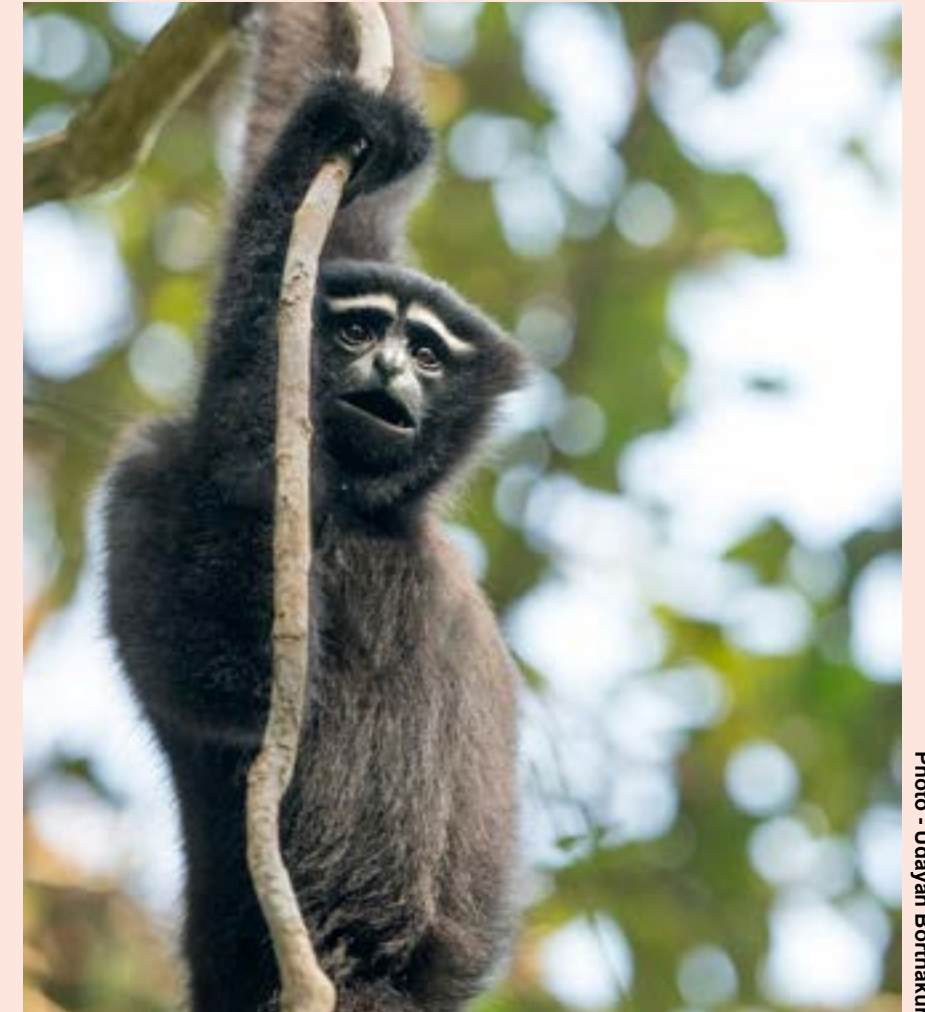


Photo - Udayan Borthakur

A male Hoolock Gibbon in its habitat



Photo - Aaranyak

A survey in industrial area by a team of Aaranyak for Pollution Control Board



Photo - Dilip Chetry

An outdoor outreach activity among students to generate awareness

The research-based environmental education, outreach and communication is indispensable towards protection and conservation of environment, wild-life and other natural resources. Since its inception, Aaranyak has been proactively involved in promoting conservation of the rich biodiversity through conservation education, outreach and communication tools. The approaches and strategies of this process are dynamic and progressive which correlates research findings and ongoing ground practices while enabling people to explore environmental issues, solve problems and take action to improve the environment through developing requisite skills and capacities. Under this broad thrust area, Aaranyak has succeeded in reaching out to different stakeholders effectively using multiple approaches, tools and techniques to address different prioritized ecological, environmental and socio-environmental issues; those issues ranging from environmental and sustainability education to combating wildlife crime, enhancing species and habitat conservation, climate change and natural resource management. Direct community consultation, awareness-sensitization, training-workshop, development of Information Education Communication (IEC) materials as well as

policy document, exchange of dialogue with GOs/CSOs and neighbouring countries are some of the regular interventions in this line. We primarily work with school students, local communities, government line departments, officials of law enforcement agencies, media, and policy makers to engender a conservation-sensitive behaviour.

CONSERVATION EDUCATION TO RAISE AWARENESS

Through our two major outreach initiatives- "Rhino Goes to School (RGTS)" and "Friends of Rhinos" to safeguard the greater one-horned rhinos, we sensitised more than 3300 students of 28 schools. The RGTS programme is designed with an aim to educate school children of the fringe villages of rhino-bearing areas on conservation needs and the potential role they can play in rhino conservation. The format of this programme generally comprises of audio-visual presentation on ecology and conservation of rhinos, and interaction with the students through environmental games, open quiz competitions, and paintings.

The Friends of Rhino programme, on the other

EDUCATION, OUTREACH & COMMUNICATIONS



Photo By- Aaranyak

Jayanta Kumar Pathak is interacting on snakebite management and scientific temperament

hand, provides exposure trips to the students of the rhino-bearing areas. Through this initiative we provide opportunity to students to visit the protected areas that have rhinos to get an understanding of the natural habits and habitat of the species and facilitate learning through observation. We reached around 240 students through eight such programmes.

Another orientation tour named "Journey to Manas World Heritage Site" was organised for 10 schools of the fringe areas of the Manas National Park to educate the students on importance of conservation of Manas and its rich wildlife.

To reach out to researchers, conservationists and students during the COVID-19 pandemic and the resulting lockdown, we organized a series of 15 webinars under 'ecoTalk' initiative. Scientists and conservationists from

Aaranyak presented on wildlife research and conservation, environmental issues; which were subsequently made available in the relevant section of ecoNE as video presentations.

To generate awareness and facilitate human-elephant coexistence we organised 20 outreach events in villages having cases of severe human-elephant conflict across the districts of Golaghat, Baksa, Nagaon, Udalguri and Goalpara in Assam. Moreover, we organised a panel discussion primarily for the researchers and conservationists on the occasion of World Elephant Day to discuss the current challenges of elephant conservation and the potential mitigation measures, with participation from renowned elephant conservationists of the country as panellists.

In a big breakthrough to promote conservation of the Greater Adjutant Storks which mostly occurs

in the human-use areas, a Harigila Learning and Conservation Centre was established at Pachariya village of Kamrup district, which is the first ever permanent conservation education and research facility for the species in India. Besides, a plethora of outreach activities such as awareness workshops, environmental games and presentations with conservation messages, distribution of education materials like posters and leaflets, story writing programme and art workshop were carried out for women and children of local communities to build a conservation-sensitive brigade of people. The team celebrated the bird's "Hatching Ceremonies" with the women folk of Dadara village and indulged in Assamese snacks making and Mehendi competitions to keep them motivated. We could successfully prevent the cutting-down of nesting trees in Lesser Adjutant Stork



Photo -NRM Team

World Wildlife Day celebration at Village School, Kohora, Karbi Anglong

colonies of Chaygaon, and Boko in Assam by holding proactive dialogues and awareness generation.

The Dolphin Conservation Network, which comprises of local youths to monitor the Ganges dolphins and its habitat received a major boost through learning a new monitoring app. A total of 52 members were educated on the same, including 22 new members. Besides, we organised awareness and sensitization programmes focusing on aquatic biodiversity conservation. We provided a total of 42 hoardings highlighting the importance of aquatic ecosystems and generate awareness on conservation of Dhansiri river at Udalguri, and Kasashila Dolphin point near Pobitora Wildlife Sanctuary. Three outreach programmes highlighting the importance of key species conservation were conducted using online platforms. Moreover,

to garner support for herpetofauna, our experts interacted with students from Bodoland University, ASTEC and NCSC Summer School Programme. Moreover, another five events, highlighting conservation of Hoolock Gibbon were conducted to mark the International Gibbon Day wherein 1000 posters were distributed. A staggering number of people die in India because of snakebites; yet awareness on snakebite treatment is limited, more so in Assam. We reached to around 2000 people through our awareness and sensitization programmes on snakebite management organised both in-person and through virtual mode. In addition, a state-wide essay competition was organised focussing on snakebite management and superstitious beliefs about wildlife or environment and the best essay was awarded.

For mass outreach on the con-

servation action undertaken by Aaranyak to protect species and humans, we produced video documentaries. A video documentary on successful conservation breeding and reintroduction of the Endangered Pygmy hog species back to the wilderness of Manas National Park titled 'The Homecoming of Pygmy Hogs' was produced. While another such video, documented how we have been using the community based solar-powered fences as human-elephant mitigation tool, under the title "Living Harmony with Elephant".

We contributed images of rare and threatened species of wildlife to aid in the preparation of wildlife image display corner at the office of Kamrup Deputy Commissioner at Amingaon, Assam.

PARTNERING TO CURB WILDLIFE CRIME

The illegal wildlife trade is the fourth largest illegal trade that impinges on wildlife conservation and pose threat to national security. To help curb illegal wildlife trade in the region, we have partnered with Government agencies such as the Wildlife Crime Control Bureau, and state Forest Departments, and re-initiated the Transboundary Manas Conservation Area (TraMCA) the prevalent laws that protect wildlife, we distributed a total of 300 leaflets highlighting "Brief Summary on Wildlife (Protection) Act, 1972 and (Assam Amendment) Act, 2009 for Major Faunas Prone to Hunting in Assam". We organised workshops in collaboration with Airport Authority of India



Photo - Aaranyak

Awareness campaign in Laokhuwa Burhachapori WLS

on detecting illegal wildlife products. We are also one of the international champions of 'Global Initiative to End Wildlife Crime', and shall work towards advancing the goal. Moreover, we attended a community outreach event at Bhairabkunda, near Assam-Arunachal and Assam-Bhutan Border organised by the SSB.

CAPACITY BUILDING FOR CONSERVATION

In conservation, tools such as Geographic Information System (GIS), Global Positioning system (GPS), and camera traps facilitate researchers and wildlife managers to understand species distribution patterns, monitor



Photo - Aaranyak

Officers of 13 Bn SSB, Chirang checking on samples of wildlife products for identification purposes



Photo - Aaranyak

Madhumita Borthakur teaching TISSGuwahati students.

wildlife movement, and prevent poaching, to name a few. In order to build capacity, we conducted 10 GPS trainings for forest frontline staff of Manas Tiger Reserve, Chakrashila Wildlife Sanctuary, and staff members of Assam Genetic Cell Division. We conducted classes on GIS at the Central Academy of State Forest Service (CASFOS), Byrnihat, Meghalaya for the trainee forest range officers (FRO). While, our experts participated as resource persons as Faculty support for one-week online training on 'Training cum Workshop on Wildlife Management for in-Service ACF and RFO' at CASFOS, Byrnihat, Meghalaya. Additionally, one training on camera trapping was conducted for the frontline staff of Manas National Park. A training on habitat management with particular emphasis on fire and Invasive Alien Plants (IAP) was conducted for frontline staff through lectures by experts, field-

based application, and interactive discussions, wherein 90 staff took part. To record a baseline of knowledge to monitor and inform long term behaviour change and inform strategic decisions around training for habitat conservation we carried out a cross-sectional Knowledge, Attitude and Practice (KAP) study. We organised two workshops to build capacity of local youths as "Green Cadres" in the Udalguri district. To catch them young and inculcate a conservation-sensitive behaviour, we are working with

school students whose projects were selected as the best ones during the National Children Science Congress, 2019. We developed and shared a handbook containing different aspects of biodiversity conservation and conducted seven online classes for these 37 students and 19 teachers across India. With a goal to hone the skills of young researchers and develop original investigative stories from northeast India we provided five story grants.



Photo - Aaranyak

Outdoor activity Web of interdependency in conservation livelihood



Launch of ecoNE

OUTREACH THROUGH DIGITAL MEDIA

To reach out to nature lovers and conservation enthusiasts across a wide geographic range, we have been using digital communication platforms as well. We launched an online magazine cum digital platform- ecoNE (www.econe.in) on 1st May 2020. With this magazine we aim to tell stories using various formats such as text, photos and videos, multimedia stories, talks and interviews, infographics highlighting biodiversity and environmental issues of northeast India. Following this in January next year, we established ecoNE as a bilingual publication by incorporating a section in Assamese language. During this reporting period we published a total of 43 articles, 13 infographics and sev-



ecoTalk Webinar Delivered by Prof. P. C. Bhattacharjee

eral multimedia stories. In a significant move to ensure the survival of the Pygmy hogs, we have been restocking the species in batches in Manas National Park- the last refuge of the

wild population. Based on this, a video documentary titled 'The Homecoming of Pygmy Hogs' was produced focussing the successful conservation breeding and reintroduction of this highly



Official poster of the film - Living in Harmony with Elephants

threatened species. Another video documentation titled "Living in Harmony with Elephant" was produced featuring our attempts to protect the local communities and elephants in Baksa district of Assam by using mitigation tool such as solar-powered fences. Moreover, we provided photographs of rare and threatened species from our archives to facilitate the initiative of the Deputy Commissioner of Kamrup District at Amingaon to establish a wildlife display corner in the newly built DC office.



Official poster of the film - The Homecoming of Pygmy Hogs



Photo - Udayan Borthakur

LIVELIHOOD & SOCIAL ENTREPRENEURSHIP



Photo - Aaranyak

A practical session on vermicomposting during a training event

Community-based conservation approaches play a pivotal role in ensuring long-term conservation. With an aim to reduce dependency of local communities on biodiversity and environment, and ensuring their livelihood and nutrition security, we are working closely with the local communities of the fringe areas of high-conservation value landscape in Assam. Through our approaches on improving the lives and livelihood and developing social entrepreneurship programmes, we could substantially benefit the local communities, which eventually extended their support for biodiversity conservation. We work towards developing the skills of the local communities and, based on their interest, we provide various means for supplementing livelihood.

WOMEN WEAVING FOR CONSERVATION

The members of Hargila Army—a team of women from Greater Adjutant stork-bearing areas of Dadara-Pachariya-Singimari in Kamrup District, have been provided with training on weaving, cutting and tailoring. A total of 200 women received a three-month training on the same, which helped them in designing and making traditional *gamosa* with motifs of the bird and traditional attire.

The women-folk from the fringes of Manas Tiger Reserve were also provided with different skill development trainings such as cutting & tailoring, weaving and basics of accounting with the aim to build their capacity. A total of 500 women received the train-

ing; while another 100 self-help groups were provided with direct support such as weaving looms and sewing machines to supplement their livelihood.

ORGANIC FARMING

In order to promote organic farming, we have been motivating the farmers to use vermicomposting, which is a process of converting organic waste into quality compost by using certain species of earthworm. We have provided trainings to 30 selected farmers around three rhino-bearing areas—Kaziranga and Orang NP, and Pobitora Wildlife Sanctuary. The beneficiaries were supported with vermicompost tanks and earthworms to promote organic farming. The use of ver-

micompost minimizes the use of chemical fertilizer and improves soil quality. In addition to these, training on organic farming and lemon gardening, and vegetable seeds were provided to 15 farmers selected from the vicinity Kaziranga National Park.

SUPPLEMENTING LIVELIHOODS OF LOCAL COMMUNITIES

The local communities around Manas landscape extract resources from the protected area, which is illegal. We identified 100 Illegal Natural Resource Extractors (INRE) and empowered them with knowledge and skills to ensure livelihood security so that they can live without indulging in illegal activities. Non-farm-based support like tea stall and poultry shops were provided



A vermicompost tank at Panbari nursery

Photo - Aaranyak



A visit by expert during community engagement training

Photo - Aaranyak

to diversify their livelihoods, in addition to the support provided to the farmers. A total of 76 INREs produced vegetables in their home garden and generated income by selling the surplus produce in local markets. Moreover, 30 progressive farmers successfully harvested winter crops (Rabi).

Besides, our other activities to support the farmers include forming a team of 25 "biz-sakhis" to guide and mentor the women-farmers of the villages, facilitating the packaging and branding of agricultural products such as red lentil, coriander powder, black gram, and pickles which were produced by the communities, developing 30 Dragon Fruit orchards by providing saplings in 13 selected villages in Udalguri district, developing an agro-forestry model and value addition



A glimpse of one of the homestead gardens

Photo - Aaranyak



Participants engaged in Food and Beverage Training

Photo - Aaranyak

chain of agro-forestry produce, registration of a Farmers Producer Company (FPC) under the name of "Khilina Farmers Producer Company Limited", and developing two community nurseries at Panbari in Chirang district and Uttarkuchi in Baksa district. We provided goats and piglets to supplement income generation as these local communities have been practising animal rearing. A total of 120 farmers in the 13 villages in the periphery of the Gethsemane man-made forest of Udalguri district were provided with piglets and piggery management training. Four 8predator-proof coral houses were built at Kokilabari near MNP to protect the domestic animals from large carnivores as a model. Further, we supported four homestays at



Photo - Aaranyak

A woman weaving traditional cloth

Majrabari- a fringe village of MNP with construction of four toilets. We could also provide daily wages to the fringe villagers of MNP as a part of their engagement in grassland recovery exercise by managing alien invasive plants. We provided daily wages to more than 200 workers.

ENCOURAGING ECO-CULTURAL TOURISM TO SUPPLEMENT LIVELIHOOD

In Kohora River basin, we are working with the indigenous Karbi community to promote community-based eco-cultural tourism through supporting



Photo - Aaranyak

Community Engagement Training



Photo - Aaranyak

A vaccination drive for livestock around Protected areas

two self-help groups (SHG)- Langkiri SHG and Kindu Langso SHG. We provided 140 beneficiaries from the community with summer and winter vegetable seeds for horticultural practice. We established a Biodiversity Business with the brand name "PIRBI" (referring to biosphere in Karbi dialect) to support sustainable livelihood and develop entrepreneurship of the villagers of the area. As part of community development initiative, we organised training programmes for 21 selected beneficiaries. To boost sustainable management of natural resources and promote alternative sustainable livelihoods using locally available resources, we distributed more than 3100 medicinal plant saplings to 35 beneficiaries.

CAPACITY BUILDING TO DIVERSIFY LIVELIHOOD

Our capacity building exercise of the local communities to diversify livelihood included a training on the institutional management through which 60 members from eight Eco-development Committees (EDC) from Bansbari area of MNP were trained. The EDC also received trainings on pig-rearing, and urea treatment of paddy straw. Another 50 members from 10 EDC were taken to Kakoijana community managed forest in Bongaigaon district for a knowledge sharing trips. To reduce the risk of disease transmission from cattle to wild animals, a veterinary health camp was organised and 600 cattle were vaccinated; whereas, 58 stray dogs were neutered.



Photo - Aaranyak



Photo - Aaranyak

SSB participants after the workshop at Lalpool, Udalguri

We are constantly striving to make a significant contribution to environmental conservation through policy advocacy. We focus on facilitating efficient enforcement of various provisions of Wildlife (Protection) Act, 1972 and allied laws so as to ensure stringent actions for the perpetrators of wildlife crimes. For this purpose, we conduct legal and advocacy workshops for enforcement agencies and judicial officials, provide inputs towards policy formulation/reforms to bolster conservation and protection of wildlife and its habitats.

This year, our primary work focussed on working collaboratively with the Assam State Legal Service Authority (ASLSA) to conduct wildlife conservation and crime prevention workshops for in-service judicial officials with an aim to expedite trials related to wildlife offense in various courts. A major workshop was conducted near Kaziranga National Park, where Honorable Mr. Justice K.N. Singh of the High Court interacted with officials of the forest and police department to understand the underlying cause of limited prosecutions in wildlife crime cases.

Dr. Purnima Devi Barman met the Hon'ble Chief Minister of Assam- Dr. Himanta Bishwa Sharma and discussed the Greater Adjutant Stork conservation programme of Aaranyak to garner his support. We launched an initiative on 'Advocating for a Water and River Management Policy in Assam through Youth Campaign and Action' in March 2021 with support

from the India Water Partnership (Global Water Partnership-South Asia), Gurugram, Haryana.

One local youth organisation was selected as a partner while two relevant government agencies- Water Resources Department and the State Innovation and Transformation Ayog (SITA) were identified as facilitators of this project.

We have also lobbied for and joined forces with Guwahati Wildlife Division and district administration of Morigaon in Assam in the efforts to reduce livestock grazing in Pobitora Wildlife Sanctuary. We are constantly lobbying for participatory Natural Resources Management (NRM)-based sustainable livelihood policies focusing on Karbi Anglong and Dima Hasao in Assam for the benefit of people living in forest fringe villages to benefit people and biodiversity in the long run.

Our team working in the Manas landscape is also engaged in liaising and rapport building (meetings, visits, interviews) with the forest officials and local stakeholders of MTR for a better understanding of the wildlife and wildlife crime so that technical and tactical support could be provided in future where and when needed.

Our team assisted the Jorhat Forest Division in planning and development of the future canopy bridge in Hollongapar Gibbon Wildlife Sanctuary, Assam to facilitate the movement of arboreal species.

LEGAL & ADVOCACY CAMPAIGN



HUMAN WILDLIFE CONFLICT MITIGATION

Photo - Avijan Saha



Photo - Animekh Hazarika

One of the wildlife crossing points in Asian Highway 1 near Kaziranga

The natural wildlife habitat has rapidly been converted to human-dominated landscape because of expansion in agricultural activities, increased built-up areas and expansion of developmental activities. This has primarily led to increased human-wildlife confrontation, mostly negative in nature. The human-wildlife conflict (HWC) incidents are mostly widespread in rural areas, affecting the local communities' economies and nutritional securities. HWC undermines the efforts to safeguard the species involved and human wellbeing as well. In Assam, the most prevalent HWC is human-elephant conflict in the form of crop damage, loss of human lives and properties and retaliatory killings of the el-



Photo - Aaranyak

A roadkill in the national highway stretch

ephants. In order to mitigate the conflict and facilitate coexistence, we have been adopting and implementing multi-pronged approaches. To understand the current scenario of human-elephant conflict we collated information on hu-

man and elephant deaths from secondary sources, and identified conflict hotspots across the state. The conflict hotspots are the districts of Baksa, Udalguri, and Nagaon. This helped us prioritise the areas to implement mitigation measures. An effective

mitigation tool to protect people and elephants is installation of the solar-powered fences at strategic places. This year we installed a total of 18 km community based solar-powered fences around the villages of Nagrijuli in Baksa district of Assam. We deployed the fences around human habitation, without hindering the elephant movement routes. Cultivation of crops that elephants are less attracted to, in the areas which experience heavy crop damage by wild elephants can secure the livelihoods of conflict affected people and contribute to reduced retaliation. To this end, we tested the efficacies of five alternative cash crops- citronella, lemon grass, wild turmeric, Homaloma aromatica and



Photo - Aaranyak

A team monitoring the solar-powered fence installed to promote human-elephant coexistence



Photo - Anirudh

A restored waterbody in Chapanal, Nagaon

king chilli as elephant deterrents, which can be cultivated by local farmers. Our results suggested that cultivation of these crops by local farmers will benefit them substantially as they have high market value, and are not damaged by wild elephants.

In order to capacitate the stakeholders to ward off wild elephants from land under human-use, we provided 269 torch lights to the members of Anti Depredation Squads, Village Defence Party, local villagers and forest department in the districts of Jorhat, Golaghat, Karbi Anglong, and Baksa; and 37 solar street lights in Udalguri, Baksa and Goalpara districts of Assam which are conflict hotspots. Additionally, 15 solar street lights were provided in Sonitpur East Forest Division and Biswanath Wildlife Division.

To understand people's perception towards leopards and cause of human-leopard conflict in Northern West Bengal, we conducted a study. The results inferred from the study, helped in designing a management plan to address human-leopard conflict mitigation for the region. The report was submitted to the forest department for implementing further action.



Photo - Aaranyak

A solar street light installed to increase wildlife detectability around habitation



Photo - Aaranyak

COMPLEMENTING CONSERVATION EFFORTS



Photo - Udayan Borthakur

Researchers working in the wildlife genetics lab

Conservation of wildlife and their habitats entails a multi-pronged approach of applied research, local community engagement and providing support to the workforce who ensures this. Aaranyak has been working with multi-stakeholders and providing various kinds of support needed to complement the conservation efforts put in by the concerned government agencies and local communities. Our support comes in the form of capacity building, providing field gears and human-wildlife mitigation tools, offering technical expertise among many.

BUILDING SCIENTIFIC EVIDENCES

We provided forensic DNA analysis support to the Kaziranga National Park and Tiger Reserve

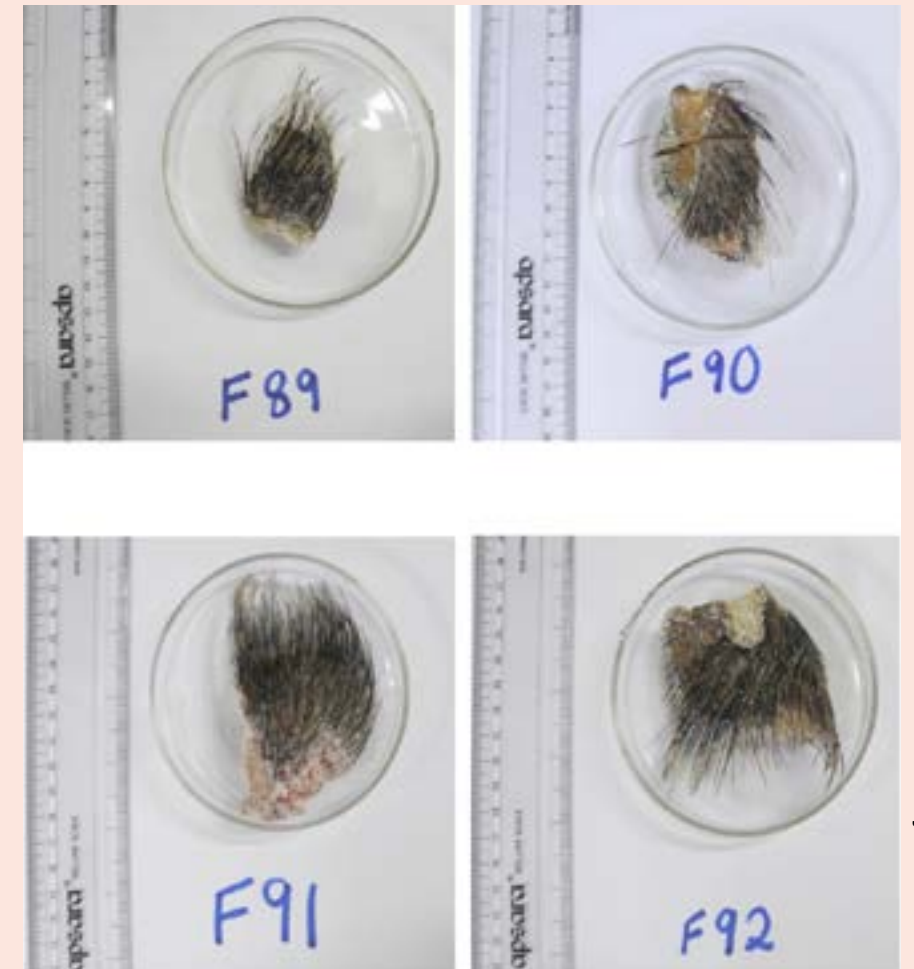


Photo - Udayan Borthakur

Samples received for forensic DNA investigation

authority on 11 wildlife crime cases including three cases related to tiger, two cases related to leopard, five cases related to hog deer and one case related to a turtle species. Similarly, we carried out forensic DNA analysis in a crime case related to deer for Sonitpur East Division.

We supported the mobile patrol team of Manas National Park called the “Manas Tigers” with quality data collection during patrols and in analyzing the patrol data, which helped the authorities in planning patrols and conducting successful operation in the Bhuyanpara range of the park.

We extended our assistance to the Forest Department in preparing the work plan of eco-sensitive zone around the Amchang Wildlife Sanctuary in Assam, and also

supported Manas Tiger Project Directorate on developing the ecosensitive zone map. A land use land-cover map for Doomdo forest division, located at the northern bank of Lohit River was prepared for the year 2020.

We conducted Green Audit for the Krishna Kanta Handique State Open University (KKHSU), and prepared maps of their campuses in Guwahati and at Rani. A significant contribution in the form of recommendations against the “Etalin Hydro Electric Project, Dibang Valley, Arunachal Pradesh” was provided jointly with other eminent conservationists of India.

Moreover, our pioneering work on herpetofauna in the region contributed significantly to the IUCN RedList assessment (2019-2020) for 50+ amphibian species

from Northeast India(<https://www.conservationneeds.org/master/assessmentsearch>).

FIELD GEARS, VEHICLES, FORENSIC AND K-9 DEPLOYMENT

To strengthen the efforts of rhino conservation in the state, we provided two Bolero camper 4X4 to Nagaon and Golaghat police. To facilitate patrolling efforts and increase vigil against rhino poaching by frontline staff of Kaziranga Tiger Reserve based at Bhakte Chapori, we gifted them with six bicycles. The Tinsukia Wildlife Division received a country made boat from us to keep a check on anti-poaching activities.

To complement patrolling efforts of the “Manas Tigers”- a mobile patrolling unit of Manas National Park, we provided them with field



Dr. Bibhab Kr. Talukdar, CEO & Sec. General, Aaranyak Handed over the Bolero camper 4X4 to Pushparaj Singh, SP Golaghat in Presence of P. Shivakumar, Director, Kaziranga Tiger Reserve

Photo - Aaranyak

gear such as uniform, raincoat, winter wear, and field equipment like surveillance camera, GPS, compass, binoculars, first aid kit, and field kit. Besides, the frontline staff, we also provided field gears and equipment to 17 Village Committees/Village Defence Parties (VDPs) around rhino-bearing areas – Kaziranga and Orang National Parks, and Pobitora Wildlife Sanctuary, which included rain coats, torchlights, and shoes to monitor the movement of wild animals. To strengthen the monitoring efforts and reducing wildlife poaching, we provided four motorcycles to the Golaghat Police.

Towards Aaranyak’s efforts to provide technical support to for-

est department in wildlife crime mitigation through use of forensics, we provided the protected area authorities with low-cost forensic sampling kits. Moreover, our K-9 units (highly trained dogs) provided anti-poaching support in protected areas of Kaziranga, Pobitora and Manas in Assam.

TRAININGS AND WORKSHOPS

A three-day workshop on “Strengthening Capacity of Frontline Forest Officials to Check Crime Against Wildlife” was organised at the Bhuyanpara Forest Range of Manas National Park in association with Assam Forest Department and International Rhino Foundation (IRF). A

total of 12 frontline forest officials of the range participated in the workshop. Rahul Dutta from IRF was the resource person, who deliberated on crime scene investigation, documentation, and case diary writing of wildlife crime incidents.

FELICITATION

To acknowledge and appreciate people’s efforts in protecting storks, our team felicitated a family from Hajo, (Satdola), Kamrup District who are actively protecting 15 nests and chicks of Lesser Adjutant Storks. Nets were fitted under the nesting trees to prevent chick deaths from falling.



Snare combing training in anti-poaching camps in Bhuyanpara Range, Manas National Park, Assam, India.

Photo - Aaranyak

IMPACT

80 HECTARES OF GRASSLAND REVIVED



GAS NESTS INCREASE TO 215 IN 2020



HEC STEPS BENEFITS 20K PEOPLE



TIGER POPULATION INCREASED TO 66% IN MNP



CANOPY BRIDGE A SUCCESS IN HOLLONGAPAR WLS



26 PYGMY HOGS RELEASED INTO THE WILD IN MNP



SENSITISATION LEADS TO HIGH DETECTION OF WL CRIMES



COMPREHENSIVE LEOPARD ESTIMATION IN MNP



ASSISTED CLOUDED LEOPARD PROJECT IN MEGHALAYA



OUR RESEARCH HELPED DECLARATION OF RAIMONA NP



ESTIMATED LEOPARD POPULATION USING GENETIC SAMPLING IN 8 PAS IN WB



FORENSIC DNA ANALYSIS HELPED SOLVING WL CRIME CASES



SUPPLEMENTED INCOME, AND FOOD SECURITY TO MORE 1500 FAMILIES



ECOTALK WEBINAR SERIES REACHED 1600 PEOPLE



MORE 40 SOLAR STREETLIGHTS IN WILDLIFE-RICH AREAS FACILITATED LOCALS



LANGKIRI SHG WAS HELPED IN ECOTOURISM VENTURES



REDUCTION RHINO POACHING BY COMPLEMENTING CONSERVATION



ECONE ENGAGED NEARLY 10K READERS



RESULTS OF OUR WORK ASSIATED IN DECLARATION OF DIHING PATKAI NP



MORE THAN 1 LAKH PEOPLE WERE SENSITISED TO PREVENT COVID-19



MORE THAN 2200 PEOPLE SENSITIZED ON SNAKEBITE MANAGEMENT



60 HECTARES OF ELEPHANT HABITAT ENRICHED IN ASSAM





SUCCESS STORIES



Photo - Dilip Chetry

Formation of Natural Canopy Bridge in Hoollongapar Gibbon Wildlife Sanctuary, Assam

NATURAL CANOPY BRIDGES

A massive plantation drive was carried out in 2006 to facilitate the movement of arboreal species, with emphasis on the Hoolock Gibbons between the bifurcated forest compartments of the Hoollongapar Gibbon Wildlife Sanctuary, Jorhat District in Assam, which is a stronghold of primate species. The railway track that cuts through the forest patches restricted the movement of gibbons and other arboreal species for almost a century. The plantation of the indigenous plant species by us has now formed a natural canopy bridge that facilitates movement which has given the arboreal species a new lease of life.

CONSERVING THE WILD

The concerted efforts of the concerned authorities, NGOs, and local communities have led to increase in the tiger population in Manas National Park (MNP) by two-fold during the last ten years. We made substantial contribution to the effort of doubling tiger numbers by providing essential support to the management and frontline staff of the MNP. Our dedicated team provided constant guidance, mentoring, and technical support to strengthen the protection which led to “no-poaching” record of the key species in the park since August 2016. Our team successfully tested the technique of Spatial Mark Resight (SMR) model to estimate Leop-

ard population to address the challenge in monitoring leopard population, comprising both rosetted individuals and individuals without any marking (for example, black individuals) in Manas National Park, Assam. This led to derive a comprehensive density of leopards that has complemented the first pan-India leopard estimation. We have successfully conducted population monitoring of leopards in eight protected areas of North Bengal using non-invasive genetic tools. Prior to this study, noninvasive tools have never been used for population monitoring of the species across the landscape. The study has provided estimates of leopard population and their feeding habits in the protected areas of North Bengal.

Our long-term research on amphibians from Dibang River Basin in Arunachal Pradesh established the baseline information on amphibian species distribution and their habitat parameters, including climatic data from the region during 2017-2020. This, eventually led to significant contribution to the Global Amphibian Assessment (GAA) during the recent assessment session particularly for the species distributed in North-east India.

We successfully released 14 captive-bred pygmy hogs into the Rupahi grassland of MNP for continuation of the reintroduction programme, despite the challenges imposed by the COVID 19 pandemic and African Swine Fever. During the reporting period,

we have been able to complete 85% of our planned activities.

FACILITATING ANTI-POACHING EFFORTS

Based on information provided by us, an operation was conducted by WCCB in collaboration with SSB, Arunachal Police and Arunachal Pradesh Forest Department at Dirang which led to a person's apprehension. The person was found with skins of Black Bear, Civet and Otter which were seized during the operation.

Our K-9 dog squad tracked down a forest department staff, who was suspected to have direct link with poachers. The combined team of forest rangers, guards

and wildlife protection agencies was on the hunt for the suspect for seven days in a row but without any success in tracing him out. K9 Emy and her handler Bitumoni successfully tracked down the suspect on the other side of the river.

PEOPLE AND CONSERVATION

Our efforts to build capacity of the women around the Greater Adjutant Stork-bearing areas have helped them to turn into entrepreneurs. The women, with the trainings and looms provided by us are weaving beautiful handloom products with conservation motifs, particularly empha-

sising the storks. The products have gained popularity, which is steadily helping them to increase income.

In the Kohora River basin, we extended our support to 140 beneficiaries, and seven of each self-help groups and homestays from six villages in the area through skill development trainings, sustainable livelihood, and value addition of NTFPs collected by the villagers, during the last five years. Currently, all the homestays and SHGs are actively functioning and contributing to our natural resource management initiative in the area.

The pragmatic mitigation measures implemented in human- elephant conflict hotspot by engaging local communities have benefited around 20,000 villagers, either directly or indirectly by protecting the lives and livelihoods of people, and elephants. With this initiative we could ensure food and nutritional security and social well-being as well.

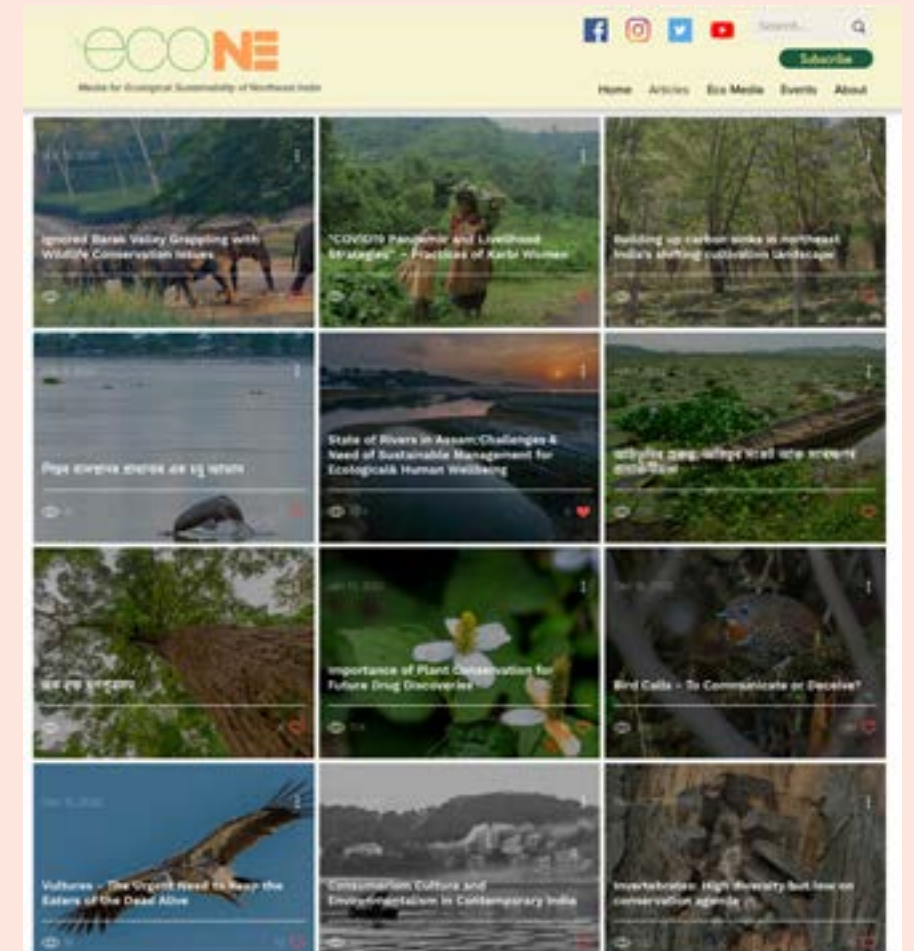
FIRST PUBLICATION

Aaranyak's ecoNE is the first ever electronic/digital platform from northeast India dedicated to biodiversity and environmental issues.



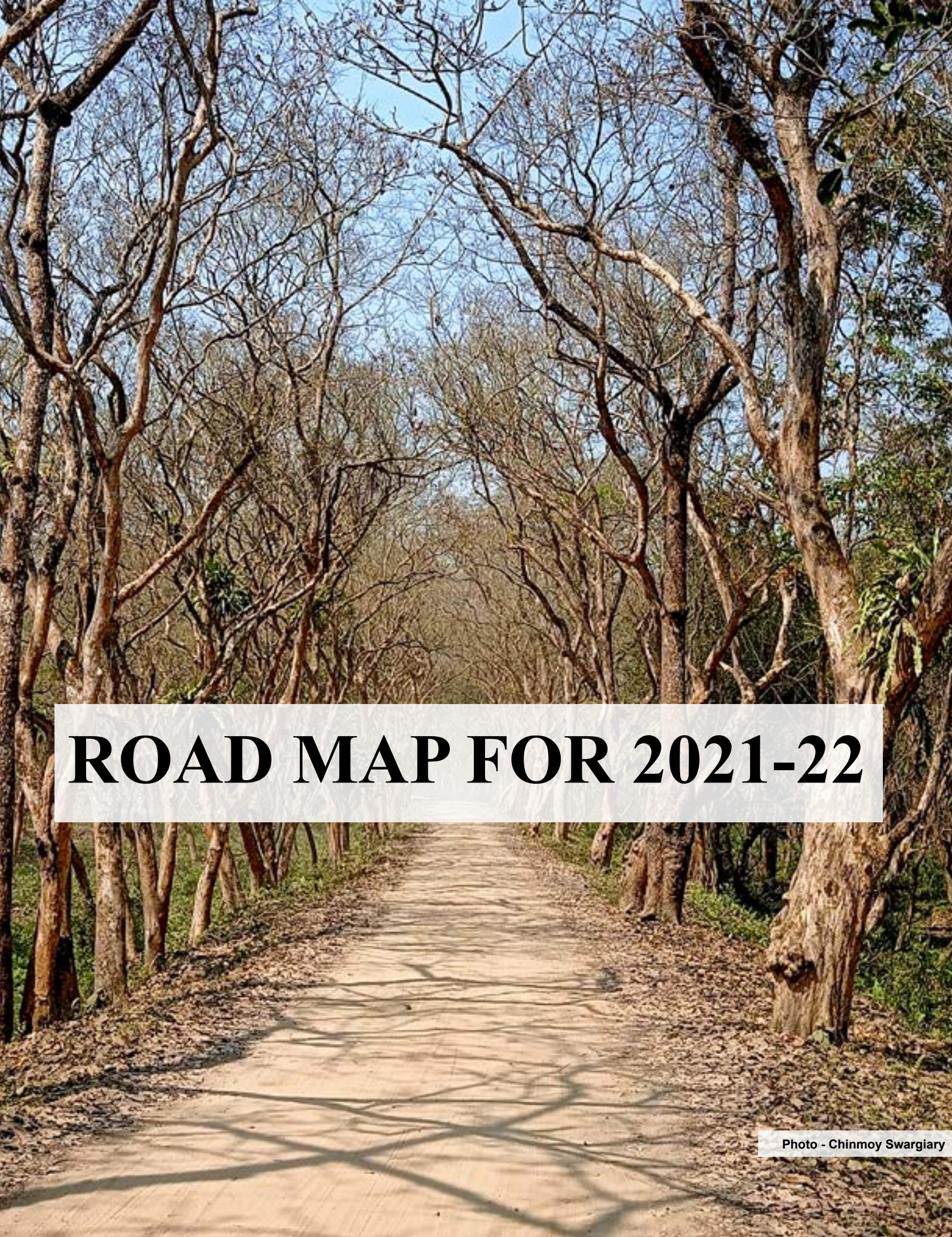
Activities during hands-on training on mushroom cultivation for Karbi women in the Kohora River Basin, Kaziranga-Karbi Anglong landscape,

Photo -Aaranyak



One of the K9 units with the female rangers in Kaziranga National Park

Photo :- Ivy Hussain



ROAD MAP FOR 2021-22

Photo - Chinmoy Swargiary



Photo - Aaranyak

Sensitization of a women group

Conservation of biodiversity has become all the more important to ensure human well-being in the face of zoonotic disease, and climate change impact. A roadmap is a strategic plan that ensures desired outcome, and includes milestones necessary to achieve the goal.

manage our elephant conservation projects in Northeast India and adjoining transboundary landscape. Our mission is to facilitate human-elephant coexistence through revival of elephant habitat, monitoring elephant population, supplementing live-

lihoods of human-elephant conflict affected people, providing mitigation tools, and building a conservation network involving the local youths, and conservation outreach.

CONSERVATION OF ASIAN ELEPHANTS

The Asian elephants are at cross-road, with rapid loss of habitat and connectivity, and increasing conflict. Realising the need to reverse the trend, we plan to develop a long-term action plan to safeguard the species and its habitat. We shall use an open-source tool- Miradi to design and



Photo - Aaranyak

Interaction with local villagers to promote human-elephant coexistence

THE GREATER ADJUTANT STORK

We aim to plant 100 saplings for enriching the habitat of the Greater Adjutant Storks and continue our efforts in diversifying livelihood opportunities of the Hargila Army members through weaving. Additionally, we plan to support livelihood initiatives for nest tree owners in Kamrup District. We will be conducting surveys and continue monitoring of the Dadara-Pachariya breeding colonies.

CONSERVATION EFFORTS IN MANAS NATIONAL PARK

Invasive Alien Plants (IAPs) in the grassland habitat that harbours many threatened grassland obligate species pose a great threat. We plan to implement the tried and tested method of managing the IAPs in order to aid recovery of around 5 km² native grassland habitat in MNP. Besides, we will be working towards checking the spread of native woody plant encroachment in these grasslands. This initiative will benefit threat-

ened species like the one-horned rhinos, pygmy hogs, Bengal florican, hog deer etc.

We plan to conduct genetic monitoring of the reintroduced population of greater one-horned rhinoceros in Manas National Park as part of our long-term genetic monitoring programme of the species.

With an aim to rewild and boost the existing wild populations of the pygmy hogs in Manas National Park we plan to reintroduce 12 pygmy hogs. At our conservation breeding centre, 11 selected fe-

male pygmy hogs will be paired to continue the conservation breeding. As a part of our approach to conserve the most threatened grassland obligate in Manas National Park, we will undertake a study on Bengal florican for identification of lek, understand the habitat disturbance drivers and conduct vegetation surveys. Besides, a study on impact of cattle grazing on the grassland, predictions concerning future habitat change under different climate scenario, a Disease Risk Analysis (DRA) with the Royal Veterinary College, UK, in collaboration with ZSL (Zoological Society of London) will be undertaken. We will continue monitoring of pygmy hog population through sign surveys and camera traps in 30 km² habitat in Manas National Park and 20 km² habitat in Orang National Park. To understand the habitat parameters a detailed study is planned wherein habitat surveys will be conducted with universal 30x30m meter grids to assess the presence/absence and intensity of species-caused degradation within the park. Besides, we plan to diversify the livelihood opportunities of the fringe villagers to reduce their dependency on the forest. We shall conduct animal rearing trainings, micro plan development, develop a hand book for EDC and at the same time work towards behaviour change research, and nature connection study.



A researcher during camera trap survey in grassland habitat

Photo -Aaranyak

PREVENTION OF WILDLIFE CRIME

Sensitisation is an important tool and we plan to organise at least five such workshops focusing on wildlife crime and illegal wildlife trade issues for different stakeholders. Besides, we plan to conduct 20 workshops and reach out to 300 young generation participants as part of generating awareness on wildlife crime prevention awareness in the region. We aim for two major publications; and encourage the journalist on publishing environmental crime stories to generate mass awareness on the issue. We are also committed to continue providing forensic DNA analysis support to the Assam Forest Department as well as other law enforcement agencies when needed. To work towards gener-

ating awareness on application of DNA-based tools in wildlife crime mitigation through capacity building of frontline workers of various law enforcement agencies.

CONSERVATION OF RHINO

To aid in conservation of rhinos, we are planning to initiate applied research work on the species and its habitat, focusing on the Pobitora Wildlife Sanctuary. The aim of the study is to understand the interaction between rhinos and the domestic cattle that range freely inside the sanctuary, so as to provide with scientific inputs for informed management of rhino population and its habitats by the forest officials of the sanctuary. We shall monitor the rhino straying routes both



Researcher working in the Wildlife Genetics Laboratory (WGL)

Photo -Udayan Borthakur



Photo -Aaranyak

Arif Hussain, Manager RRCD, Aaranyak interacted with the participants during Rhino Goes to School in Biswanath Wildlife Division

in and around Kaziranga and Pobitora. We shall also explore further improvement in rhino capture, transport and release protocols.

CONSERVATION EDUCATION AND OUT-REACH

We aim to reach out to about 3000 students each year to develop a deeper understanding of the impacts of current practices on ecosystem services and encourage a shift towards environment friendly behaviour. We will work in collaboration with different agencies on priority environmental issues starting from sensitization to policy level changes. A series of six webinars will be conducted to promote education on water governance and policy

in Assam among the young water enthusiasts.

In the coming year, we have strategic plan to expand our digital magazine- "ecoNE" to include sections such as "ecoKids", and "ecoArtists". We plan to undertake participatory biodiversity monitoring activities as well to engage greater number of people from various sections of the society.

Furthermore, a digital repository on Information Education and Communication (IEC) materials, has been planned which will ease the access and use, of these material by various stakeholders in nature conservation and environmental protection.

CAPACITY BUILDING ON ENVIRONMENT JOURNALISM

To build capacity and promote environmental journalism, we plan to conduct training for at least 100 journalism students of various institutes. Moreover, to encourage reporting on environment issues, we shall offer ten story grants to journalists from the northeast India.

SURVEYS, MONITORING AND RESEARCH

We plan to conduct dolphin survey in about 1000 km stretch of Brahmaputra River system within Assam as a part of range-wide river dolphin estimation 2021-22 in India.

Study on amphibian species will

be carried out in West Kameng district of Arunachal Pradesh.

We shall continue to provide support to the concerned agencies in Assam and Meghalaya to understand species occurrence and distribution covering 1200 km² protected areas in Assam and 3000 km² in Meghalaya. We aim to initiate India-Bangladesh transboundary cooperation for the conservation of species and habitat.

While to aid in conservation of the Golden langurs we will identify the existing and potential corridors.

We will continue surveying and monitoring water quality of urban water bodies (rivers and wetlands of Guwahati).

MAPPING ESSENTIALS

We will carry out a change detection analysis for the Ripu-Chirang-Phipsoo-Manas Forest complex in western Assam. A one-month personalized participative online certificate course on basics of Remote Sensing & GIS using open-source software will be conducted. To build capacity of the students, researchers, Government officials, we will conduct trainings on GIS and GPS; while our GIS-experts will undertake courses on WebGIS and other latest GIS based applications to build their own capacity.

As part of the assignment, we will be submitting a GIS based Demarcation Map of Comprehensive Environmentally Pollu-

tion Index (CEPI) area of Byrnihat (Assam) to the Pollution Control Board, Assam.

STAKEHOLDER ENGAGEMENT

Currently, we are working with local communities on natural resource management in the Kohora River basin, and have plans to extend the work to the Diffolu River Basin in the Kaziranga-Karbi Anglong landscape.

With an objective to expand Hoolock Gibbon conservation work in our neighbouring states, we plan to train 100 forest guards of Nagaland.

A BRIEF ACCOUNT ON THE OTHER ACTIVITIES

- **Involvement of Aaranyak's members in voluntary work as 'Protirodhi Bandhu'-**

Aaranyak supported in the Govt of Assam's fight against COVID-19 through Aaranyak members' voluntary support as 'Protirodhi Bondhu', where eight members joined in. The programme was initiated by Assam State Disaster Management Authority.

- **Online survey on eco-tourism-**

Aaranyak has conducted an online survey during May, 2020 among the worst affected communities connected to eco-tourism. Fringe areas of Manas NP, Pobitora WLS and Kaziranga NP were selected. From Aaranyak, Pranab Goswami conducted the work.

- **Questionnaire survey on wildlife concept-**

Aaranyak in association with Bodoland University, Kokrajhar conducted an online survey on 24th June, 2020 among student members of Aaranyak, where 34 members participated.

- **Webinar for members-**

Aaranyak organised three webinars for its members, for eastern, central and western zone. Goswami led the work.

- **Aaranyak's participation in 53rd biennial conference of Assam Science Society-**

Aaranyak took part in the 53rd biennial conference of Assam Science Society at Bihpuria Collegiate H.S School, Lakhimpur held on 23 and 24 January, 2021 as a co-organiser. We held an exhibition and interacted with the participants on biodiversity conservation. We are urged in developing scientific mindset among the public, especially the young generation.

- **Display Corner at the Newly Constructed D.C Office of Kamrup District-**

Aaranyak has set up a display corner at the newly constructed D.C Office of Kamrup District. The corner of Aaranyak gives a glimpse of the globally threatened species found in Kamrup district with a brief note about Aaranyak and its contact details.

- **Annual Waterbird Census at Pobitora Wildlife Sanctuary, 2021-**

Assam Forest Department and Aaranyak successfully conducted the second "Annual Waterbird census 2021" at Pobitora Wildlife Sanctuary on 7th February 2021. A total of 58 waterbird species with more than 24 thousand individuals were recorded during the census. Active in-

volvement of about 30 participants, which included staffs from the Forest Department, members & staffs from Aaranyak, students & Faculty from TISS, Guwahati, and other birders. From Aaranyak, Mr. Udayan Borthakur, a senior scientist led the programme.

- **Winter Camp cum Field Training on Nature Studies and Conservation, 2021-**

Aaranyak organised its annual nature camp at the Nameri Baligora Camp, near Nameri National Park during 8th to 10th March, 2021. A total of 30 members as well as nature lovers took part in the camp. They were imparted lessons on birding, tools and techniques of wildlife monitoring, data preparation and presentation, wildlife photography, participatory rural appraisals, snake bite management during the three day camp.

- **Celebration of International Day of Forests, 2021-**

Aaranyak participated in celebration of International Day of Forests organized by Institute of Advanced Study in Science and Technology (IASST) as part of 75th Year of India's Independence: Azadi ke Amrit Mahotsava on March 21, 2021. From Aaranyak, Dr. Bibhab Kr. Talukdar, Secretary General & CEO, Mr. Udayan Borthakur and Dr. Bibhuti Lahkar, two

senior scientists from Aaranyak were present in the event.

During another event, organised jointly by Aaranyak, Aie Valley Forest Division and Botany Department, Abhyapuri College, a cleanliness drive was conducted, followed by nature trail walk at Bhairab Pahar Proposed Reserve Forest and a popular talk.

- **World Environment Day, 2020**

On the occasion of World Environment Day on 5th June, 2020 Aaranyak supported Hohozatri NGO to organize the 5th Gaurav Gogoi State level Dibrugarh Green Quiz cum Science Poster competition. Mr Sujit Sonowal, Faculty, Tinsukia College was the Online Quiz Master. A total of 102 students participated in the Quiz competition and 87 students participated for poster competition across Assam.

- **Painting Competition for White-winged Wood Duck-**

A drawing competition was organized by Aaranyak on 30 August, 2020 at Mankhowa Tea estate, Doomdooma, Tinsukia. The theme of the competition was "Save White Winged Wood Duck and its habitat". A total of 24 students actively participated in the competition. This was followed by a talk on Conser-

vation of White Winged Duck by Niranjan Nayak, a member of Aaranyak. The winners of the competition were awarded with certificates and prizes. The event was conducted with support Audubon Naturalist Society.

- **Wall Painting for White-winged wood Duck-**

On 11th October, 2020 a wall painting programme was organized on "White winged duck and its habitat" at Saraipung LP School by Aaranyak in collaboration with Ray Foundation.

- **Wall paniting for Awareness Generation-**

On 26th January, 2021 an awareness program through wall painting was organized at Ledo College by Aaranyak in collaboration with Ray Foundation. Ms. Shikha Baruah of Ray Foundation spoke about the highly Endangered White-winged wood duck and its conservation issues. A group of members from Eastern Zone of Aaranyak actively participated at the programme and painted the wall with beautiful paintings of the globally threatened species.

- **Masks Distribution in Bokakhat Sub - Division-**

Keeping in view the COVID19 Pandemic, Aaranyak took initiative of masks distribution

on 21st April 2020. Around 350 masks were distributed in office of SDO Civil Bokahat, Kohora Outpost and local people. The step has been taken to fight unitedly against the pandemic situation and make people aware about the importance of wearing the mask. The cloth-masks were made by local communities. This supplemented their livelihood, with support from Aaranyak.

- **Online Art Competition-**

Aaranyak's Central Assam Zone and Kaziranga Chitralaya celebrated World Environment Day 2020 in Kaziranga on 5th June 2020. An online art competition was conducted among the students in different categories. The program gave a platform to the students to share their thoughts through colours. Nine winners were selected from 70 participants, and awarded during a meeting held in Kaziranga Chitralaya.

- **Composition of recitation video-**

The members of Aaranyak's Central Assam Zone recited verses for nature. Through this attempt they reached out to people, highlighting the importance of nature conservation.

- **Pre-Flood Awareness Programme-**

Aaranyak's member jointly with Kaziranga National Park Authority and WTI organized Pre flood awareness campaign in Deusur and Amguri Tea Estate in Burapahar, Kaziranga National Park on 29th May 2020. The main aim of the campaign was to create awareness among the fringe villagers along with the youths.

- **Assistance to Kazirang Park authority-**

Aaranyak's members and staffs from the areas near Kaziranga has been actively assisting the Kaziranga National Park authorities in mitigating the crisis during the period of floods. Two groups of volunteers were engaged in issuing time-cards and night patrolling around the park. One group from Burapahar was assisting the park officials in Amguri, Burapahar working in two shifts. Another group from Bokakhat was providing backup to the Burapahar team and night patrolling in other areas. The team also conducted awareness campaigns for fringe villages with VDP's and local youths. Arif Hussain, Coordinator of Central Assam Zone of Aaranyak led the team.

- **66th Wildlife Week Celebration**

Aaranyak along with Kaziranga National Park Authority, WWF India, WTI, TCF and Bhumi jointly celebrated the 66th Wildlife Week in Burhapahar Range Office complex, Burhapahar from 2nd Oct, 2020. Inter-district quiz competition among school and college students as well as an art competition (Online) were conducted which involved around 700 participants.

- **Celebration of World Wetlands Day, 2021-**

Aaranyak joined hands with KNP Authority, WWF India, WTI and TCF in celebrating the World Wetlands day 2021 at Burapahar Range, Kaziranga National Park where different activities like Open Quiz competition, Nature Trail and Awareness meeting were carried out.

In collaboration with Ratnapith ME and Girls High Schools, Wetland day was observed through aet competition and an interactive session on the significance of the wetlands in human well-being.

- **Celebration of World Tiger Day, 29th July, 2020-**

Aaranyak along with Nagaon Wildlife Division, LBCS

and WAA jointly organised an event to celebrate World Tiger Day at Laokhowa Burhachapori Wildlife Sanctuary, Nagaon. Along with a discussion programme, a rally which covered almost 20 villages was carried out. A leaflet on conservation of tiger was distributed among the villagers.

- **Celebration of World Rhino Day, 22 Sep, 2020-**

World Rhino Day was observed jointly with KNP Authority and Natundanga EDC by organising a workshop and art competition on 22nd Sep, 2020.

- **Workshop on Identification of Birds, Mammals and Reptiles-**

On 14th December 2020, Aaranyak and Assam Forest Department of Assam jointly organised a day long workshop on identification of birds, mammals and reptiles at Bihali Reserve Forest, Sonitpur East Division. Around 80 persons took part in the workshop.

- **Cattle Vaccination in Kaziranga during May and June, 2020-**

Aaranyak joined as collaborator in the Cattle Vaccination programme, organised by Kaziranga National Park Authority and Animal Hus-

bandry and Veterinary Dept, Bhumi, WWF, TCF. A total of 2847 cattle from 17 villages were vaccinated.

- **Plantation Drive-**

To commemorate the contribution of Lt. Hemanta Rabha, a member of Aaranyak, the western zone of Aaranyak did a plantation drive on his Adhya Shraddha on 27th June, 2020. 12 members participated in the programme and planted 47 different species of trees in the village as a tribute to him. The members in collaboration with the Forest Department also distributed saplings to the villagers.

- **Webinar on 5th June-**

In a webinar on 'Challenges of conservation of forest in Assam: Current scenario', Dr. Hilloljyoti Singha spoke as resource person. A total of 36 participants were present and Dr. Ashoke Kr. Das moderated the webinar.

- **Celebration of World Ozone Day, 2020-**

On the occasion of World Ozone Day, Aaranyak along with Aie Valley Forest Division, Bongaigaon hosted a webinar on 'Ozone for our life: Threats and Responsibilities'. Dr. S.U Choudhury, IFS, Conservator of Forest, Lower Assam Social Forestry Circle,

Bongaigaon, Dr. Jaideep Baruah, Head of Env. Div., AS-TEC and Mr. Yunush Salim, Asstt. Conservator of Forest, Lower Assam Working Plan Circle, Jalukbari were present as the resource person. Dr. Ashoke Kr. Das and Pranab Goswami took initiative in conducting the programme.

- **Awareness programmes on Organic Cultivation-**

Aaranyak organised awareness meetings to train and build a network of organic farming among the cultivators. Mr. Chatrapati Das, and Dr. Hilloljyoti Singha, life members of Aaranyak, Dr. Ashoke Das, Coordinator of Western Assam zone, Dharam Ranjan Roy, and Mr. Ankur Barman, members of Aaranyak led the programme. Mr. Purna Kalita and Mr. Prabir Choudhury from Abhayapuri extended their support to Aaranyak for conducting the programme successfully.

- **Winter Camp on Local Biodiversity Reserach-**

On 7th January 2021, Aaranyak in association with the Zoology department of Abhayapuri College organised a winter camp on the theme "Local Biodiversity Research" with a day long

programme at Panchagaon in Bhumeswar hill, which is about 7 km away from the Bongaigaon town. A total of 60 students participated in the programme. As a resource person Dr. Ashoke Kumar Das, delivered a lecture on different areas of research on local biodiversity. A hands-on training, on plankton collection in the stream "Borjhora", was carried out.

- **Environment Awareness meeting-**

On 23rd January, an awareness meeting was organized by Kakojana Soulhari LP School Eco club in association with Aaranyak at the school premises under the Srijangram Circle of Bongaigaon district. The objective of the meeting was to make the local people aware on various natural resources available in the area and their responsibility to conserve those.

AWARDS

- **Dr. Purnima Devi Barman** conferred "Earth Hour Conservation Hero"

- **Dr. Purnima Devi Barman** was awarded "The Indigenous people travel award"

- **Dr. Purnima Devi Barman** was awarded for her outstanding contribution in the field of Wildlife Conservation and Animal Care on the occasion of Azadi ka Amrit Mahotsav by Sri. Rameswar Teli, Honorable Minister of State Petroleum & Natural Gas Labour & Employment

- **Dr. Purnima Devi Barman** has been recognized as one of the 7 ambassadors sustainable travel by greenlane.tv (linktr.ee/greenlane.tv)

- **Dr Purnima Devi Barman** conferred with "Juba Byabasya Boti" (Youth Entrepreneur Award), by Shristi International Society.

- **Dr. Purnima Devi Barman** was felicitated for her contribution by Assam State Rural Livelihood Mission Dept. Govt. of Assam, Time 8 and GMC.

SEMINARS / WORKSHOPS / CONFERENCES ATTENDED BY AARANYAK

- **Jayanta Kr Pathak**, Manager, EECBD had participated in 3 day-long Virtual Masterclass on 'Social and Behavior Change (SBC) – Understanding Behavioral Challenges and Audiences to Tailor More Effective Solutions' organised by Johns Hopkins Bloomberg School of Public Health, Centre for Communication and Change-India, Impact Academy during 26-28 August 2020.
- **Jayanta Kr Pathak**, Manager, EECBD had participated in a workshop on 'Biodiversity and Ecosystem Services: Understanding, restoring and conserving biodiversity to ensure our future' organised by the Office of the Principal Scientific Adviser to the Government of India, the National Biodiversity Authority, and the Biodiversity Collaborative on 25th October.
- **Dr. Bibhuti P Lahkar** delivered a talk on Human Elephant Conflict to the Green Cadet of Udalguri District.
- **Dr. Bibhuti P Lahkar** delivered a lecture on "Grassland ecosystem-its Significance, Conservation and Management" during a National webinar held on 18th July 2020 organised by The Zoological Society of Assam (ZSA) unit and IQAC of Dakshin Kamrup College, Mirza.

- **Dr. Bibhuti P Lahkar** was a resource person in a webinar on "Conservation of Threatened species with reference to NE India", organised by Department of Zoology, B.Borooah College, Guwahati, Assam.
- **Dr. Alolika Sinha** presented a talk on the impact of alien invasive plants on grassland ecosystem and its dependent fauna to the students and the research scholars of Indian Academy Degree College Autonomous, Bengaluru.
- **Dr. Alolika Sinha** attended a webinar on "Conservation Evidence" organised by Conservation Leadership Programme, UK.
- **Anjan Baruah** attended a workshop on "Support Public-Private Partnership models for deployment of decentralized Renewable Energy Systems in Assam" conducted by Assam Energy Development Agency in association with IORA Ecological Solutions.
- **Abhijit Boruah** participated in a International webinar on "Asian Elephants: Culture and conservation" organised by Biodiversity Conservation Foundation, India.
- **Mr. Anjan Baruah** participated in a learning course on "Communicating the value of Biodiversity" conducted by UNDP.
- **Abhijit Boruah and Rubul**

- **Tanti** participated in a 4 day workshop on “Hands on training in basic statistical analysis using Microsoft excel and PAST”. conducted by Biologia Life Science, Maharashtra, India.
- **Anjan Baruah** attended a North-East Regional Workshop: Decentralized Renewable Energy livelihood. Organized by CEEW and CLEAN under the aegis of AREAS.
- **Dr. Purnima Devi Barman** celebrated World Wildlife Day with multiple webinars to raise awareness on Hargila conservation.
- **Dr. Purnima Devi Barman** was invited to a programme by AIR, Guwahati On International Day for Biological Diversity
- **Dr. Purnima Devi Barman** was invited as a speaker out of 150+ incredible speakers throughout the globe for presentation at the Global Biodiversity Festival, a global, 72-hour live adventure exploring life on our planet.
- **Dr. Purnima Devi Barman** gave a talk as one of the panelists at webinar organised by Vikalpavarta virtual event at ICCA Consortium. Members of Hargila Army joined the live stream virtual session and shared their thoughts. They also sang hymns on Hargila conservation. Event link: <https://youtu.be/Qa-7PQ1PHQE0>.
- and shared their thoughts. They also sang hymns on Hargila conservation. Event link: <https://youtu.be/Qa-7PQ1PHQE0>.
- **Dr. Purnima Devi Barman** was invited as a speaker for Webinar by University of Minnesota on Assam Greater Adjutant Stork conservation efforts. <https://sites.google.com/umn.edu/conservationsciencesseminar/fall-2021/102921?authuser=0>.
- **Dr. Purnima Devi Barman** was invited as featured guest to speak at an online session by National Geographic.
- **Dr. Purnima Devi Barman** participated in an awareness event at Deepar Beel Wildlife Sanctuary on 21st December. It was organised by Assam Forest Department.
- **Dr. Purnima Devi Barman** participated at the **9th North East Festival** from 7th to 9th January held in Radisson Blu, Guwahati to raise awareness about sustainable fashion by displaying weaving products of **Hargila Army**. It was a step towards investing in change for people and the planet.
- To celebrate ‘Women in Science Day’, **Purnima Devi Barman** was featured in an episode of Good-Natured Podcast by Conservation Optimism featuring 10 inspiring women in science. Read and

listen here <https://conservationoptimism.org/women-in-science-day.../>

- **Dr. Purnima Devi Barman** participated in an online seminar “Utthan”, an initiative of Gyansagar.
- **Arup Kr. Das** served as Guest faculty for the Department of Environmental Ecology & Sustainable Development, TISS, Guwahati.
- **Avishek Sarkar** attended a webinar on space technology in Forest management at FRI and Jaipur.
- **Arup Kr. Das** attended as a resource person at Seva Bharati’s Yognilayam, Abhaypur, North Guwahati.
- **Arup Kr. Das** conducted a session on Remote Sensing and GIS for the students of South Field College, Darjeeling.
- **Dr. Jayanta Kr. Roy** attended a workshop on IUCN Red List and Conservation Needs Assessments for Eastern Himalayas and Northeast India species. Region: Eastern Himalayas and NE India consultation, 17 August to 15 October 2020.
- **Dr. Jayanta Kr. Roy** attended workshop on Environmental Analytics- Data modelling, SDM, MaxEnt and ENMTools from 03-05 July 2020.
- **LAD** attended Climate Change + COVID-19 - A Public Health Crisis Powered by BW Sustainability World & BW Legal World.

- **LAD** presented on Environmental Management Seminar on Global Perspectives on Rhino Conservation conducted by NDSU.
- **LAD** attended an online interactive session on wildlife crimes by Fauna Nation.
- **LAD** participated in a webinar on “Collection vs Crimes and Challenges in Conservation”, as a resource person, along with Wildlife Crime Control Bureau, Wildlife Institute of India and Aaranyak.
- **LAD** delivered talk on Tiger and rhino conservation for the Assam Forest Department.
- **LAD** attended a week long virtual forensic week organized by Department of Forensic Science & Criminal Investigation, Legal Desire October 26 - November 1, 2020.
- **LAD** attended the Wildlife crime: The soft underbelly of organised crime. This high-level side-event was part of the Tenth Session of the Conference of the Parties to the United Nations Convention against Transnational Organised Crime (UNTOC).
- K9 Dog Unit attended a First Aid Briefing with **Dr. Parag Deka**.
- **LAD** participated in a Global conference on organized crime including wildlife crime, organized by the Global Initiative Against Transnational Organized Crime.
- **LAD** attended a technical session on “Combating Wildlife & Forest Crime in Northeast India during & post Covid-19” during the 5th Edition of the Northeast Green Summit 2020 held at IIT Guwahati.
- **Dr. Dilip Chetry** attended in a webinar on Covid Pandemic and biodiversity: The Good, the Bad, the Ugly organized Zoological Society of Assam.
- **Dr. Dilip Chetry** attended in a webinar on Becoming Eco-literate How scientific & the public can better understand each other, Organized by Zoological Society of Assam.
- **Dr. Dilip Chetry** attended the plastic problems: Talking a transdisciplinary approach to sustain solution organized by Zoological Society of Assam & Nowgong College.
- **Dr. Dilip Chetry** attended Covid-19 in Perspective organized DKD College & Zoological Society of Assam.
- **Dr. Dilip Chetry** attended a webinar on “The evolution of self-medication in Primates” organized by Association Indian Primatologist.
- **Dr. Dilip Chetry** attended a webinar on “Insights from trans-disciplinary approaches for responding for COVID-19, impacts in Ecological system. Organized by J.N.College & Zoological Society of Assam.
- **Dr. Dilip Chetry** attended a webinar on why studying people is key to understanding Human Primates Interactions. Organized by DSK College & Zoological Society of Assam.
- **Dr. Dilip Chetry** attended a webinar on Weed macaque of India: Uniquely adaptable, but ultimately threatened organized by Zoological Society of Assam.
- **Dr. Dilip Chetry** attended a webinar on “Endangered by Human Choices: Orangutans on the brink of extinction” Organized by Regional Museum of Natural History, Bhubaneswar.
- **Dr. Dilip Chetry** attended “The Primate Trade Report from the field” organized by IUCN Primate Specialist Group section for Human Primate Interaction.
- **Dr. Dilip Chetry** attended a webinar on “Of Apes and Tools: Insights into the evolution of Technology” organized by Institute of Cognitive and Evolution, University of Oxford.
- **Dr. Dilip Chetry** attended a webinar on “Gibbon of Asia” organized by Primate Conservation, University of Oxford.
- **Dr. Dilip Chetry** attended a webinar on “Mining and Risk to human Welfare and Biodiversity” organized by ASP Conservation.
- **Dr. Dilip Chetry** attended

- a webinar on “Bridging Primates Habitats” organized by American Society of Primatologist Conservation.
- **Dr. Dilip Chetry** attended a webinar on “Combating Wildlife & Forest Crime in Northeast India during post Covid-19 Pandemic” organized by Department of Zoology, Handique Girls’ College.
 - **Dr. Dilip Chetry** attended a webinar on “Scientific Temper and Society”.
 - **Dr. Dilip Chetry** attended a webinar on “Why the draft environmental impact assessment notification 2020 must be scrapped”.
 - **Dr. Dilip Chetry** attended a webinar on “Vector Borne diseases in Northeast India and their public health implications”, organized by Zoological Society of Assam.
 - **Dr. Dilip Chetry** attended a webinar on “Relevance and scope of Animal Taxonomy in the Indian Context”, organized by Zoological Society of Assam.
 - **Dr. Dilip Chetry** attended a webinar on “Intellectual Property Right (IPR) organized VIGYAN PRASAR.
 - **Dr. Dilip Chetry** attended a webinar on “Application of GIS in Disaster Mitigation organized by SFS College, Aalo, Arunachal Pradesh.
 - **Dr. Dilip Chetry** attended a webinar on “Birds of Barak Valley”, organized by ATREE.
 - **Dr. Dilip Chetry** attended a webinar “Loris in the abode of Clouds”, organized by Xaver’s Zoology Association.
 - **Dr. Dilip Chetry** attended a webinar “Tracking Wildlife Crime”, organized by Global sharpers.
 - **Dr. Dilip Chetry** delivered a talk on “We are because Biodiversity is” at Bhattadev University, Bajali, Assam, India.
 - **Dr. Bibhab Kumar Talukdar**, presented on rhino conservation scenarios during an in-house webinar series of Aaranyak.
 - **Dr. Parag Jyoti Deka** presented “Addressing Two New Threats to the Survival of the World’s Rarest Pig: The Pygmy Hog (*Porcula salvania*), during British Veterinary Zoological Society: African Swine Fever & Covid-19 in India.
 - **Dr. Parag Jyoti Deka** presented a talk on “Biosecurity for Endangered Animal in Captivity” in a “Refresher Training Programme on Wildlife Health Management: organized by Central Zoo Authority, Govt. of India.
 - **Jonmani Kalita**, participated in “Remote Sensing for Forest Monitoring” online training course organized by the Institute for Biodiversity Conservation & Training (IBCT), Bangalore, India.
 - **Kallol Deka**, participated an online workshop on “Social and Behavior Change - Un-

derstanding Behavioural Challenges and Audiences to Tailor More Effective Solutions” organised by CSRBOX’s Impact Academy, in association with John Hopkins Bloomberg School of Public Health Center for Communication Programs, USA.

- **Dr. Pranjal Kr Das**, attended the international e-conference on ‘Recent Advances and Status of Wildlife Forensics’ organised by LaCONES, CCMB, Hyderabad from 3rd to 5th November 2020.
- **Dr. Partha J Das** delivered a lecture on ‘Climate Change Adaptation in Assam: Lessons learnt from ground in the Brahmaputra River Basin, India’ in a webinar organised on the occasion of World Environment Day-2020 by the Climate Change Cell, Assam Climate Change Management Society, Assam State Biodiversity Board, Government of Assam June 03, 2020.
- **Dr. Partha J Das** spoke on selected aspects of the ‘Environmental Impact Assessment Notification 2020’ in an online meeting on ‘Discussion on the draft of EIA Notification 2020’ organised by the Assam Science Society on June 17th, 2020.
- **Dr. Partha J Das** participated and spoke on various aspects of hydrodiplomacy in South Asia in a Virtual Workshop on

‘Promoting Improved Water Cooperation in South Asia: Building a cohort of practitioners through Inter-disciplinary training in Hydro Diplomacy, on June 24th, 2020, organised by IIT Guwahati.

- **Dr. Partha J Das** delivered a lecture on ‘COVID-19 and Our Environment: Exploring some global and local issues’ in the Two-Day Webinar on ‘COVID-19 and Its Impact on Society’ Organised by the Department of Geography, DCB Girls’ College, Jorhat on June 26, 2020.
- **Dr. Partha J Das** spoke on ‘Engaging with communities: Water as an entry point on July 14 in the ‘Online Orientation Workshop’ for ‘Cohort 2.0 of C4Y & IWP Water Champions Youth Fellowship Programme 2020’ organised by Centre for Youth, India Water Partnership, Ministry of Jalshakti, GoI and WAPCOS
- **Dr. Partha J Das** attended an online meeting on ‘Resilience building in Assam’ organised by Save the Children on July 17, 2020, where he spoke on Prioritising basic issues for climate action for resilience.
- **Dr. Partha J Das** participated in an online discussion program “Internet Prime Time” and spoke on the flood situation of Assam on July 21, 2020. The program was anchored by Mr. Vivek Satyam Mitram, an independent

journalist.

- **Dr. Partha J Das** participated and spoke in a webinar on ‘Issues of water, agriculture and livelihood in Meghalaya’, organised by the Asian Confluence, Shillong on August 13, 2020, and Co-moderated the session.
- **Dr. Partha J Das** participated in a special internet broadcast (Facebook live) program where he was interviewed by Mr. Swatantra Mishra, an independent journalist on his views about various aspects of the river Brahmaputra on September 11, 2020; Link: <https://youtu.be/-IOXINZD-d3Y>
- **Dr. Partha J Das** delivered a presentation on ‘Typology of floods based on genesis in the Eastern Himalayas, India with reference to Assam’ in the third webinar on ‘Critical Engagement with Floods in India’ on Sep 24 2020 organised by the Water Conflicts Forum; Link: <https://youtu.be/4n6beiZ2ssw>
- **Dr. Partha J Das** spoke on the anti-large dam movement in NE India and related issues in a webinar organised by a Kolkata based group on the occasion of the ‘World Rivers Day’ on September 17, 2020
- **Dr. Partha J Das** delivered a lecture online on ‘Water and Climate Induced Hazards in NE India: Need of adaptive

policy for risk management and resilience building’ in the ‘Refresher Course on Disaster Management and Emergency Response (IDC)’ organised by UGC-Human Resource Development Centre on October 15, 2020, at Gauhati University,

- **Dr. Partha J Das** participated as a Resource Person and Moderator in the two-day Workshop on adaptation to extreme weather events’ held at the Palashbari Sahitya Sabha Bhawan, Mirza on December 17-18, 2020, Organised by District Disaster Management Authority, Kamrup District. He delivered a presentation on ‘Climate change and its impact in Assam, and also supervised the field trip to Dakhala village on 18th December.
- **Dr. Partha Jyoti Das** delivered an invited lecture ‘Need of sustainable river management and community-based river rejuvenation policy and plan for Assam’ in the 53rd Conference of the Assam Science Society held at Bihpuria on 23-24 January 2021.

TRAININGS /WORKSHOPS ORGANISED/ CO-ORGANISED BY AARANYAK

- A three-day training, 'Training of Trainers of GREEN CADRES Capacity Building' was organized by Aaranyak with support from UNDP.
- A three-day legal orientation workshop for 'Strengthening Capacity of Frontline Forest Officers to Check Crime Against Wildlife' was held for frontline staff of Manas National Park.
- A joint awareness programme with Assam State Legal Service Authority on wildlife crime and conservation issues held at Agaratoli, Kaziranga National Park.
- Three workshops on wildlife crime investigations and wildlife forensics were conducted for the frontline staff of Sonitpur East Division in Nameri National Park, Lakhimpur Division at Harmoti and Bansbari, Manas National Park.
- A joint awareness programme with Wildlife Crime Control Bureau (WCCB) on preventing wildlife crime and intelligence gathering held for SSB staff at 13 Bn Chirang.
- An interactive session with BTC forest officials and judicial officers of Assam State Legal Service Authority was organised at Bansbari, Manas National Park.
- A three-day workshop on wildlife crime investigation for Forest officials of the rank Foresters and above was organised for Nagaon Forest Division, in Nagaon.
- A joint awareness programme with Wildlife Crime Control Bureau (WCCB) on preventing wildlife crime and intelligence gathering held for local communities near Deepor Beel.
- A workshop on preventing wildlife crime and intelligence gathering held for SSB staff at 23 Bn Lalpool, (Darrang District) and for SSB staff at 30th Bn Dirang, Arunachal Pradesh.'
- A workshop on sensitizing staff of railway protection force on wildlife crime and detecting wildlife products at RPF, PCSC Reserve Coy, Maligaon.
- Organised two sessions on "Systematic review on Hoolock gibbon and conservation in Far eastern Himalaya landscape" with partners from Myanmar, China, India and ICIMOD, using virtual platform on 9th October and 28th December, 2020.
- A refresher training on phase-IV monitoring protocol was organized at the Bansbari Range office, Manas Tiger Reserve on 14th and 15th December 2020.
- A webinar was organized on the occasion of wildlife week 2020 in collaboration with Vivekananda Kendra Vidyalyaya, Golaghat, and Earthwatch Institute India.
- A webinar was organized in

- collaboration with Directorate Manas National Park and Earthwatch Institute, India on 16 October 2020 to disseminate general information on Tigers and Rhinos to the frontline forest staff of Manas National Park.
- A webinar was organized to celebrate the World Rivers Day on "State of rivers in Assam: Challenges of sustainable management for ecological and human well-being" in collaboration with State Innovation and Transformation Ayog, Government of Assam.
- WGD provided hands-on training for frontline staff of Kaziranga National Park and Tiger Reserve on handling and collection of biological samples from crime scene for forensic DNA investigation.
- MPCD organized an ecoTalk webinar titled "Geospatial technology in wildlife research" delivered by Arun Kumar Das on 30th April 2020.
- MPCD coordinated in organizing an ecoTalk titled "Biodiversity conservation in Northeast India and the post covid-19 challenges" on the occasion of International day for biological diversity on 22nd May, 2020.
- MPCD organized an ecoTalk webinar titled "Grasslands and its obligate fauna - a forgotten ecosystem" delivered by Dr. Alolika Sinha on 24th

June 2020.

- MPCD organized an ecoTalk webinar titled "Vulture conservation in Assam" delivered by Dr. Dipankar Lahkar on 8th May 2020.
- MPCD organized an ecoTalk webinar titled "Wildlife photography for beginners" delivered by Udayan Borthakur on 3rd May 2020.
- MPCD organized an ecoTalk webinar titled "Current scenarios of wildlife crime in global and local perspective" delivered by Dr. Bibhab Kumar Talukdar on 2nd May 2020.
- MPCD organized an ecoTalk webinar titled "Enabling coexistence of people and Greater Adjutant Stork" delivered by Dr. Purnima Devi Barman on 6th May 2020.
- MPCD organized an ecoTalk webinar titled "Golden langur ecology and conservation" delivered by Dr. Dilip Chetry on 27th April 2020.
- MPCD organized an ecoTalk webinar titled "Genetics for conservation of wildlifespecies and limitations" delivered by Udayan Borthakur on 25th April 2020.
- MPCD organized an ecoTalk webinar titled "What does climate change mean for Northeast India? Exploring the hazardscape" delivered by Dr. Partha Jyoti Das on the occasion of Earth Day on 22nd April 2020.
- MPCD organized an ecoTalk webinar titled "Challenges and solutions to Rhino conservation in Assam" delivered by Dr. Bibhab Kumar Talukdar on 22nd April 2020.
- MPCD organized an ecoTalk webinar titled "Resolving human-elephant conflict and promoting human-elephant coexistence" delivered by Dr. Bibhuti p. Lahkar on 21st April 2020.
- MPCD organized an ecoTalk webinar titled "Counting tigers for effective conservation" delivered by Dr. Firoz Ahmed on 23rd April 2020.
- MPCD coordinated in organizing a panel discussion titled "Elephant in the room" on the occasion of Elephant Day on 12th August 2020.
- MPCD coordinated in organizing a panel discussion titled "Tiger and communities-connecting the dots in NE India" on the occasion of Tiger Day on 29th July 2020.

MEMBERSHIP POSITION WITH OTHER ORGANISATIONS

Dr. Alolika Sinha

- Member, IUCN SSC Deer Specialist Group

Dr. Bibhab Kumar Talukdar

- Member of Governing Council of Assam Science, Technology and Environment Council, Assam.
- Member State Board of Wildlife, Govt. of Assam
- Member, Editorial Board of Pachyderm Journal
- Chair: IUCN/SSC, Asian Rhino Specialist Group
- Commission Member - IUCN CEESP Asia 2017-2020
- Commission Member - IUCN CEESP Theme on Environment and Peace 2017-2020
- Commission Member - IUCN CEESP Theme on Human Wellbeing and Sustainable Livelihoods 2017-2020
- Commission Member - IUCN CEESP Working Group - Natural Resource Governance Framework 2017-2020
- Commission Member - IUCN CEM Biosphere Reserves 2017-2020
- Commission Member - IUCN CEM Ecosystem Restoration 2017-2020
- Commission Member - IUCN CEM Ecosystems and Invasive Species 2017-2020
- Commission Member - IUCN CEM Forest Ecosystems 2017-2020
- Commission Member - IUCN CEM South Asia 2017-2020
- Commission Member - IUCN CEM Sustainable Use and Management of Ecosystems 2017-2020
- Commission Member - IUCN CEM Wetland Ecosystems 2017-2020
- Commission Member - IUCN SSC African Rhino Specialist Group 2017-2020
- Commission Member - IUCN SSC Chairs 2017-2020
- Commission Member - IUCN SSC Conservation Planning Specialist Group 2017-2020
- Commission Member - IUCN WCPA Capacity Development: Network 2017-2020
- Commission Member - IUCN WCPA Climate Change: Network 2017- 2020
- Commission Member - IUCN WCPA Connectivity Conservation: Network 2017-2020
- Commission Member - IUCN WCPA Governance of Protected and Conserved Areas: Network 2017- 2020
- Commission Member - IUCN WCPA Management Effectiveness: Network 2017-2020
- Commission Member - IUCN WCPA South Asia Region 2017-2020
- Commission Member - IUCN WCPA Tourism and Protected Areas: Network 2017-2020
- Commission Member - IUCN WCPA Transboundary Conservation: Network 2017-2020
- Commission Member - IUCN WCPA World Heritage: Network 2017-2020
- Commission Member - IUCN WCPA-SSC Biodiversity and Protected Areas: Network 2017- 2020
- Commission Member - WI-IUCN SSC Threatened Waterfowl Specialist Group 2017-2020
- Member: European Association of Zoos and Aquarium (EAZA)- Rhino Taxonomic Advisory Group (TAG)
- Commission Member - IUCN CEM Cultural Practices and Ecosystem Management Thematic Group 2017-2020
- Commission Member - IUCN CEM Dryland Ecosystems Specialist Group 2017-2020

- Commission Member - IUCN CEM Ecosystem Restoration Thematic Group 2017-2020
- Commission Member - IUCN CEM Ecosystems and Invasive Species Thematic Group 2017-2020
- Commission Member - IUCN CEM Nature Based Solutions Thematic Group 2017-2020
- Commission Member - IUCN CEM Sustainable Use and Management of Ecosystems Thematic Group 2017-2020
- Independent Expert Member, Management Effective Evaluation of National Park and Wildlife Sanctuary, Ministry of Environment, Forest and Climate Change, Govt. of India

Dr. Bibhuti Prasad Lahkar

- Commission Member - IUCN SSC Asian Elephant Specialist Group
- Commission Member - SSC IUCN Invasive Species Specialist Group
- Commission Member - IUCN WCPA Capacity Development: Network 2017-2020
- Commission Member - IUCN WCPA Trans boundary Conservation: Network 2017-2020
- Commission Member - IUCN WCPA World Heritage: Network 2017-2020
- Commission Member - IUCN WCPA Biodiversity and Protected Areas: Network 2017-2020
- Commission Member - IUCN WCPA South Asia Region 2017-2020
- Commission Member - IUCN CEM Cultural Practices and Ecosystem Management Thematic Group 2017-2020
- Commission Member - IUCN CEM Dryland Ecosystems Specialist Group 2017-2020
- Commission Member - IUCN CEM Ecosystem Restoration Thematic Group 2017-2020
- Commission Member - IUCN CEM Ecosystems and Invasive Species Thematic Group 2017-2020
- Commission Member - IUCN CEM Nature Based Solutions Thematic Group 2017-2020
- Commission Member - IUCN CEM Sustainable Use and Management of Ecosystems Thematic Group 2017-2020
- Member, IUCN SSC Bustard Specialist Group
- Independent Expert Member, Management Effective Evaluation of National Park and Wildlife Sanctuary, Ministry of Environment, Forest and Climate Change, Govt. of India

Dr. Dilip Chetry

- Vice Chair, IUCN, SSC Primate Specialist Group, South Asia Section.
- Executive member, IUCN, SSC Small Ape Section.
- Board of Director in Scholars Institute of Technology and Management, Guwahati, Assam.
- Member, International Primatological Society.

- Member, American Primatological Society.
- Member, Vijnana Bharati Northeast/Northeast Science Movements.
- Member, Nepal Biodiversity Research Society.
- Member, Gauhati University Ethics Committee.

Dr. Dipankar Lahkar

- Editorial Board member of "Newsletter for Bird watchers"
- Member, Society for Conservation Biology (SCB)
- Member, IUCN (CEC)
- Executive Member, Assam State Academic Committee, NCSC, Dept. of Science and Technology, Govt. of India

Jayanta Kumar Pathak

- Member, IUCN Commission on Education and Communication (CEC)

Dr. M Firoz Ahmed

- Member, IUCN-SSC
- Member, Society for Conservation Biology (SCB)
- Advisor, WildLandscape, USA

Dr. Parag Jyoti Deka

- IUCN/SSC Wild Pig Specialist Group

Dr. Partha Jyoti Das

- Member of the State REDD+ Cell, Government of Assam
- BRIDGE-GBM-CSO Network (Building River Dialogue and Governance for Civil Society Organisations in the Ganga-Brahmaputra-Meghna River Basins) constituted by the IUCN

Dr. Purnima Devi Barman

- Women in Nature Network - India Chapter
- Member of IUCN Stork, Spoon bill, Ibis group

Udayan Borthakur

- Member IUCN SSC Asian Rhino Specialist group,
- Member IUCN SSC Heron Specialist Group
- Member of Nikon Professional Services (NPS), offered by Nikon India on invitational basis.
- Official Mentor, Wildlife Photography for Nikon School India

LAD

- International champion of 'Global Initiative to End Wildlife Crime'

PUBLICATIONS

PEER REVIEWED ARTICLE

1. Gross, E.M., B.P., Lahkar, N., Subedi, V.R., Nyirenda, E., Klebelsberg and O., Jakoby. (2020). Elephants in the village: Causes and consequences of property damage in Asia and Africa. *Conservation Science and Practice*. DOI: 10.1111/csp2.343.
2. Jyoti P. Das, B.P., Lahkar, H.K., Sahu and H., Singha. (2020) Population Estimation of Asian Elephants in a Tropical Forest of Northeast India, *Gajah* 52 (2020) 15-23.
3. Ghosh, R., S., Dhyani, B., Kumar, N., Sinha, R., Raghava, G., Selvaraj, N., Divakar, V.K., Anoop, K., Shalu, A., Sinha, A., Kulkarni, S., Das and S., Molur. (2021). Insights on COVID-19 impacts, challenges and opportunities for India's biodiversity research: From complexity to building adaptations. *Biological Conservation*, 255, 109003. <https://doi.org/10.1016/j.biocon.2021.109003>.
4. Chetry, D., S., Chetry, J. R., Deka and A.K. Das. (2021). The Eastern Hoolock Gibbon *Hoolock leuconedys* Population in Assam, India, is on the Verge of Extinction. *Primate Conservation*. 35.
5. Das. M., D., Chetry, A., Nath and A.K. Das. (2020). Land use/land cover change in Hollongapar Gibbon Wildlife Sanctuary and buffer areas using Geo-spatial technology. *Biolink*. 1(2):30-34.
6. Chetry, D., R., Chetry, R., Boro and A. K. Das. (2020). Conservation status of the Golden Langur *Trachypithecus geei* in *Chakrashila* Wildlife Sanctuary, Assam, India. *Primate Conservation*. 34.
7. Nijhawan, S., J.K. Roy, I. Mitapo, G. Miwu, J. Pulu and M.F. Ahmed. (2021). First distribution record of the Asiatic Toad *Bufo gargarizans* Cantor, 1842 from India -Dibang Valley in Arunachal Pradesh. *Journal of Threatened Taxa*, 13(5): 18319–18323.
8. Sheth, C., M.F., Ahmed, S., Banerjee, N., Dahanukar, S., Dalvi, A., Datta, A.D., Roy,

- K., Gogoi, M., Gogoi, S., Joshi, A., Kamdar, J., Krishnaswamy, M., Kumar, R. K., Menzies, S., Molur, S., Mukherjee, R., Naniwadekar, S., Nijhawan, R., Raghavan, M., Rao, J. K., Roy, N., Sharma, A., Sinha, U., Srinivasan, K., Tamma, C., Umbrey, N., Velho, A., Viswanathan and R., Yumnam. (2020). 'The devil is in the detail': Peer-review of the Wildlife Conservation Plan by the Wildlife Institute of India for the Etalin Hydropower Project, Dibang Valley. *Zoo's Print*, 35(5): 1-78.
9. Chetry, D and R. Chetry. (2020). Gibbon conservation in India. *Cheetal: Journal of the Wildlife Preservation Society*(57): 45-49
10. Chetry, D., R. Chetry and P.C. Bhattacharjee. (2020). Lodging site selection by wild group of stump-tailed macaques (*Macaca arctoides*). *Thar Journal*,1(2)1-12.
11. Chetry, D., M., Phukan, R., Chetry, R.N., Boro, A.K., Das and P.C. Bhattacharjee. (2020). Conservation Status of the Golden Langur *Trachypithecus geei* in Chakrashila Wildlife Sanctuary, Assam, India. *Primate Conservation* (34):167-173.
12. Junker, J., S.O. Petrovan., V. Arroyo-rodríguez., R. Boonratana, D. Byler, C.A., Chapman, D, Chetry, S.M., Cheyne, F.M., Cornejo, L. Cortés-ortiz, G., Cowlshaw, A.P., Christie, C. Crockford, T., Torre, F.R., De Melo, P., Fan., C.C., Grueter, D.C., Guzmán-caro, E.W. Heymann, I. Herbing, et al., (2020). A Severe Lack of Evidence Limits Effective Conservation of the World's Primates. *BioScience*, Volume 70 (9)794–803, <https://doi.org/10.1093/biosci/biaa082>.
13. Roos, C., K.M., Helgen, R. P., Miguez, N. M. L., Thant, N., Lwin, A.K., Lin, A., Lin., K. M., Yi, P., Soe, Z. M. Hein, M.N., N., Myint, T., Ahmed, D., Chetry, M., Urh, E. G., Veatch, N., Duncan, P., Kamminga, M.A.H., Chua, Lu Yao, C., Matauschek, D., Meyer, Z., Liu, M., Li, T., Nadler, P., Fan, L., K., Quyet, M., Hofreiter, D., Zinner, F., Momberg. (2020) Mitogenomic phylogeny of the Asian colobine genus *Trachypithecus* with special focus on *Trachypithecus phayrei* (Blyth, 1847) and description of a new species. *Zoological Research* 41(6): 656–669.

14. Talukdar, B.K. in Grace MK, Akçakaya HR, Bennett EL et al.,(2021). Testing a global standard for quantifying species recovery and assessing conservation impact. *Conservation Biology*,1–17.
15. Lahkar, D., M.F., Ahmed, R.H., Begum, S.K. Das and A., Harihar. (2020). Responses of a wild ungulate assemblage to anthropogenic influences in Manas National Park, India. *Biological Conservation*, 243: 108425.
16. Harihar, A., D., Lahkar, A., Singh, S.K., Das, M.F., Ahmed and R.H., Begum. (2021). Population density modelling of mixed polymorphic phenotypes: An application of spatial mark-resight models. *Animal Conservation*, 24(4): 709–716.
17. Lahkar, D., M.F., Ahmed, R.H., Begum, S.K. Das and A. Harihar. (2021). Inferring patterns of sympatry among large carnivores in Manas National Park—a prey-rich habitat influenced by anthropogenic disturbances. *Animal Conservation*, 24(4): 589–601.
18. Deka, P.J. and A., Routh. (2020). African Swine Fever's Arrival in India: Our Strategy to Keep the Conservation-Breeding Programme for Pygmy Hogs (*Porcula salvania*) Safe. *Suiform Soundings*, 19(1), 11-19.
19. Deka, P.J., G., Narayan and D., Das. (2020). Pygmy hogs return to their home in Manas. *Suiform Soundings*, 19(1), 20.
20. Kumar, V., S., Buragohain, P.J., Deka, G., Narayan, G., Umaphathy. (2021). Non-Invasive Reproductive Hormone Monitoring in the Endangered Pygmy Hog (*Porcula salvania*). *Animals*, 11, 1324. <https://doi.org/10.3390/ani11051324>
21. Pradhan, N.S., P.J. Das, N. Gupta, and A. B. Shrestha. (2021). Sustainable Management Options for Healthy Rivers in South Asia: The Case of Brahmaputra. *Sustainability* 13(3), 1087. 1-23. <https://doi.org/10.3390/su13031087>
22. <https://www.mdpi.com/2071-1050/13/3/1087>. Armstrong, E., A., Khan, R.W., Taylor, A., Gouy, G., Greenbaum, A., Thiéry, J., Kang, S., Redondo, S., Prost, G., Barsh, C., Kaelin, S., Phalke, A., Chugani, M., Gilbert, D., Miquelle, A., Zachariah,

U, Borthakur, A., Reddy, E., Louis and U. Ramakrishnan. (2021). Recent evolutionary history of tigers highlights contrasting roles of genetic drift and selection. *Molecular biology and evolution*. 10.1093/molbev/msab032.

23. Khan A, K., Patel, H., Shukla, A., Viswanathan, T., van der Valk, U., Borthakur, P., Nigam, A., Zachariah, Y.V., Jhala, M., Kardos and U., Ramakrishnan. (2021). Genomic evidence for inbreeding depression and purging of deleterious genetic variation in Indian tigers. *Proceedings of the National Academy of Sciences*, 118 (49) e2023018118; DOI:10.1073/pnas.2023018118.

BOOK CHAPTERS

1. Borthakur, U. (2019). Legends of Hollongapar. A coffee-table book on Hollongapar Gibbon Wildlife Sanctuary, Assam. Pp. 62. Published by Aaranyak.
2. Ahmed, M.F., D. Lahkar and A.C. Sarmah (Eds.). (2021). The tigers of Manas. Pp. published by Directorate-Manas Tiger Reserve and Aaranyak, Assam, India. ISBN- 978-81-954698-0-2.

TECHNICAL REPORTS

1. Lahkar, B. P., R., Tanti, N., Bhuyan and J. Chetry. (2021). A Pilot project on habitat quality improvement in Nagaon and Baksa Forest Divisions of Assam for long term Conservation of Asian elephants, India. Aaranyak. Interim Report(F19AP00356) submitted to US Fish and Wildlife Service.
2. Lahkar, B. P., A., Baruahand N., Bhuyan. (2021). Helping communities coexist with Asian elephants in Assam, India. Aaranyak. Interim Report(F19AP00355) submitted to US Fish and Wildlife Service.
3. Das, J.P., B. P., Lahkar, E., Gross, M., Konwar and P., Hazarika. (2020). Alternative Cash Crop: Testing its efficacy and aiding elephant conservation in Golaghat District of Assam, India. Aaranyak. Final Report submitted to ARTIS, Amsterdam.

4. Das, J.P. et.al (2021). Ecology of Elephants (*Elephas maximus*) in North Bengal including population dynamics, migratory pattern, feeding habits and human-elephant conflicts. Aaranyak. Final Report submitted to West Bengal Forest Department.
5. Ahmed, M.F., D., Lahkar, U., Tshering, C., Zara, L., Chaida, S., Dendup, M., Sarma, B.P., Lahkar and H.K., Sarma. (2019). Transboundary Tiger Conservation in Indo-Bhutan Barnadi-Jomotshangkha Forest Complex. Aaranyak. Report submitted to Wild Cats Conservation Alliance, ZSL, London, UK. 52 pp.
6. Das, P.J., B., Borah, W., Hussain, N., Deuri, A., Barua and A., Das. "Community resilience to water induced disasters and climate change: a study and documentation of good practices in selected river islands of the Brahmaputra river basin, Assam". Authors are
7. Ahmed, M.F., and K., Vasudevan. (2020). Understanding a river valley ecosystem across altitudinal gradients using amphibians as an indicator to ecosystem health, Dibang River Basin, Arunachal Pradesh, India. Technical Report: Science and Engineering Research Board (SERB), DST, India.; Aaranyak, HRCDC: 09/2020. Pp 26.
8. Chetry, D, M., Phukan., R., Chetry and P.C., Bhattacharjee. (2020). Survey of Hoolock gibbon to identify their current status, viable population and recommendation for their conservation in Eastern Assam, India" Final Report_Aaranyak_PRCDC_02-2019/2020, submitted to US Fish and Wildlife Service(GACF). U.S. Fish and Wildlife Service, Division of International Conservation 5275 Leesburg Pike, MS: IA, Falls Church, VA 22041-3803.
9. Swargowari, A., A.C., Sarmah, R.N., Boro, M.F., Ahmed, D., Lahkar and S.K., Das. (2021). Technical Summary Report: Annual monitoring of tigers, co-predators, and prey in Manas National Park, India. Report submitted to Directorate Manas Tiger Reserve, Barpeta Road, Assam, India. 72 pp.
10. Swargowari, A., A.C., Sarmah, R.N., Boro, M.F., Ahmed, D., Lahkar and S.K., Das. (2020). Technical Summary Report: Annual monitoring

of tigers, co-predators, and prey in Manas National Park, India. Report submitted to Directorate Manas Tiger Reserve, Barpeta Road, Assam, India. 49 pp.

11. Borthakur, U., P.K., Das, M., Deb, R., Maheen, A., Neog, A., Biswas, A.K., Das and B., Barua. (2021). Leopard (*Panthera pardus*) ecology in North Bengal including population estimation, distribution, habitat use pattern and humanleopard conflicts. Aaranyak, Technical Report, Pg. 1-66.

NON-PEER REVIEWED ARTICLE

1. Deka, P.J., D., Das, and G., Narayan (2021). Pygmy hogs return to their home in Manas - the road ahead. *Newsletter & Journal of the Rhino Foundation for nature in NE India* 10: 13-15.
2. Das, P. J. (2020). Role of Youth in Water Governance: A Recent Initiative in Assam. Thought Process: Points to Ponder, Journal of State Innovation & Transformation Aayog (SITA) Assam, Special Edition. Government of Assam, Janata Bhavan, Dispur, Guwahati. Volume-II, September, 2020; 121-127.
3. Das, P. J. (2021). State of Rivers in Assam: Challenges & Need of Sustainable Management for Ecological & Human Wellbeing. *ecoNE (Media for Ecological Sustainability of Northeast India)*. February 02, 2021.

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1. Pathak, J.K. (2020)=*Ei Samayar Aahbanaaru Pratyahban*, an article focusing challenges and future prospect of corona crisis situation. Published in Aamar Asom.
2. Pathak, J.K. (2020) আমাৰ-পকিনকিৰ-ধৰণ-কৰণ-পুনৰ্বিবেচনা-কৰাৰ-সময়-হল Publish in Janambhumi
3. Pathak, J.K. (2021).). চৰাই-নৰীক্ষণ-আৰু-স্থানীয়-অৰ্থনীতি. Published in Janmabhumi.
4. Sinha, A. (2020). How solar-powered fences mitigated human-elephant conflict in Assam. Published in Down to Earth.
5. Sinha, A and B.P., Lahkar. (2021). Conflict to Coexistence: A success story of human elephant interaction in Assam. Trumpet- a quarterly

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6. Chetry, D and R., Chetry. (2020). Primate Conservation Challenges and Prospects in Northeast India. Published in *Eco NE-Media for Ecological Sustainability of Northeast India*.
7. Dilip Chetry. (2021). Asian Primate Symposium 2020: A Dream Come True. Published in *Biolink* (2)1,12-15.
8. Lahkar, D. (2021). ক'ভিডি মহামাৰীঃ সাম্প্ৰতিক পৰিবেশ আৰু জৱে বচৈতিৰ সংৰক্ষণৰ গুৰুত্ব Published in *EcoNE*.
9. Lahkar, D. (2021). মানাহ, বাঘ আৰু কছিকু কথা Published in *EcoNE*.
10. Prasad, E., P.J., Das and K.J., Joy (2020). Floods 2020: The need for critical engagement with floods in India, published on September 11, 2020. Published in *Gain Connection*. <https://en.gaonconnection.com/floods-2020-the-need-for-critical-engagement-with-floods-in-india/>
11. Das, PK. (2020). Covid-19 and Biodiversity Conservation – a Northeast India Perspective. Published in *ecoNE*. <https://www.econe.in/post/state-of-rivers-in-assam-challenges-need-of-sustainable-management-for-ecological-human-wellbeing>.

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OUR OFFICES AND BASE CAMPS

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Manas Landscape

Manas Conservation and Outreach Centre
Near Bhuyanpara Range,
Manas National Park
Baksa, 781318, Assam

Majrabari Field Station

Bhuyanpara Range, Manas National Park

Bansbari Field Station,

C/o Gangarani Sarkar, Gyati Gaon,
Bansbari - 781315, Manas National Park,

Kaziranga Landscape

Aaranyak, C/o M. Firoz Ahmed,
Pilkhana, Kohora - 785609

Gibbon Wildlife Sanctuary and Jorhat District:

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Gibbon Conservation Centre,
Gibbon Wildlife Sanctuary
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FINANCIAL REPORT

2020-2021

FORM NO. 10B [See rule 17B]

Audit report under section 12A(b) of the Income-tax Act, 1961, in the case of charitable or religious trusts or institutions

Acknowledgement Number -915218050110122



We have examined the balance sheet of AARANYAKAAAAA3181F [name of the trust or institution] as at 31st March 2021 and the Profit and loss account for the year ended on that date which are in agreement with the books of account maintained by the said Trust or institution
 We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of the audit. In our opinion, proper books of account have been kept by the head office and the branches of the abovenamed Institution visited by us so far as appears from our examination of the books, and proper Returns adequate for the purposes of audit have been received from branches not visited by us, subject to the comments given below: --
 In our opinion and to the best of our information, and according to information given to us, the said accounts give a true and fair view-

- (i) in the case of the balance sheet, of the state of affairs of the above named Institution as at 31st March 2021 and
 - (ii) in the case of the profit and loss account, of the profit or loss of its accounting year ending on 31st March 2021
- The prescribed particulars are annexed hereto.

Name	BISWAJIT BARUAH
Membership Number	063538
Firm Registration Number	013617C
Date of Audit Report	07-Jan-2022
Place	47.29.73.180
Date	11-Jan-2022

Acknowledgement Number - 915218050110122

This form has been digitally signed by **BISWAJIT BARUAH** having PAN **AIVPB1065H** from IP Address **47.29.73.180** on **11-Jan-2022 05:21:17 PM**
 Dsc SI No and issuer **_C=IN,O=Capricorn Identity Services Pvt Ltd.,OU=Certifying Authority**

LIABILITIES	AMOUNT (₹)	ASSETS	AMOUNT (₹)
FUND ACCOUNT		Fixed Assets	25,204,304.00
General Fund			
Opening Balance	17,094,852.58		
Add General fund utilized in 19-20	626,255.00		
Add Surplus of Income over expenditure	1,738,484.74		
Less/Excess of expenditure adjusted with general fund	21,719,802.12		
	7,694,468.00	Current Assets	13,737.00
		TCS	1,406,895.25
		Tax Deducted at Source	175,288.29
		Advance for Project Expenses	
		Advance for statutory duty	22572.4
		Indian Oil Corporation	(4,776.24)
		Loan to Employee	18,322.00
		Interest on Income Tax receivable	25,181.00
Capital Fund out of Project Expenses			
Opening Balance	25,945,238.00		
Add During the year	1,529,889.00		
	26,722,817.00		
Unutilised Project Funds			
	62,891,123.24		
		CLOSING BALANCE	
		Cash in hand	5,986.52
		INVESTMENTS	
		Fixed Deposits with Bank of Baroda, Dibrugarh Branch	24,496,308.86
		Fixed Deposits with Union Bank of India, Barpeta Road Branch	4,298,694.42
		North East Small Finance Bank	2,098,606.23
		VVI	5,400,000.00
		BANK ACCOUNTS	
		HDFC BANKAGARH BRANCH(FCI-01)	52,545.78
		HDFC BANKAGARH BRANCH(FCI-02)	1,570.40
		HDFC BANKAGARH BRANCH(FCI-03)	25,885.78
		HDFC BANKAGARH BRANCH(FCI-04)	719.02
		HDFC BANKAGARH BRANCH(FCI-05)	398,367.80
		HDFC BANKAGARH BRANCH(WFP)	3,223.12
		HDFC BANKAGARH BRANCH(LVLS INCHONG)	2,246.84
		HDFC BANKAGARH BRANCH(FCI)	1,362.67
		HDFC BANKAGARH BRANCH(FCI)	12,578.95
		YES BANK(FCI)	411.96
		AARANYAK SUB FCA	252,946.00
		STATE BANK OF INDIA,BELTOLA(TREC-01)	58,157.82
		STATE BANK OF INDIA,BELTOLA (TREC)	181,823.68
		STATE BANK OF INDIA (TREP)	1,288.42
		SHREELATA BRANCH(WATCH)	25,274.67
		BANK OF BARODA,GOSPUR BRANCH	1,422,288.81
		UNION BANK OF INDIA,BASESTHA ROAD BRANCH(FCI)	1,894.51
		STATE BANK OF INDIA, DIBRUGARH	1,486,223.94
		AARANYAK LEVELHOOD-2	936.17
		INDUSLAND BANK	396,046.47
		ENOR BANK OF INDIA	2,893,562.98
		AARANYAK (TRIC-01)	-
		AARANYAK (TRIC-02)	24,257.01
		YES BANK(AARANYAK)	7,440,852.04
		BANK OF BARODA (TTMP)	10,304.05
		SHFC(TTMP)	3.88
		MANAS TRADITIONAL DRESS CLAYTON (PMS)	4,267.30
		YES BANK LTD (WUP-02)	4,888.11
		YES BANK (LVLS INCHONG)	70,000.00
		AARANYAK CONSERVATION LEVELHOOD	22,448.58
		AXIS BANK	10,000.00
TOTAL	106,662,056.90		106,662,056.90

Place: Guwahati
Date: 07/01/2022

For & Behalf of
AARANYAK
Secretary General
Aaranyak

For our report of even date
CHARTERED ACCOUNTANTS
WAMAN KANDEY & ASSOCIATES
PARTNER
11, No. 06/03/08
PARULI, GUWAHATI
UDIN - 22063538AAAA4374

AARANYAK
SAMANWOY PATH, SURVEY, BELTOLA, GUWAHATI-781028, DIST. KAMRUP, ASSAM.
RECEIPTS, PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

RECEIPTS	AMOUNT (₹)	PAYMENTS	AMOUNT (₹)
To OPENING BALANCE		By Project Expenses against Contribution	80,297,289.29
Cash in hand	26,566.53	By Advance for Project Expenses	375,388.20
To INVESTMENTS		By Bank Charge	179,545.29
Fixed Deposits with Bank of Baroda, Dispur Branch	44,822,388.88	By Professional fees	44,586.00
Fixed Deposit with Union Bank of India, Barsoi/ha Road branch	3,178,907.90	By Payment of Statutory Dues	22,572.60
UTI	5,490,098.90	By Janm Mahashila Expenses	945,411.90
	53,949,395.68	By General fund Expenses	11,716,892.12
To BANK ACCOUNTS		By Wages	8,571.74
NDPC, Barsoi/ha Branch (ERC-1)	19,465.08	By Salary	2,292,000.69
NDPC, Barsoi/ha Branch (ERC-2)	3,896.43	By Donation to Assam Aragya Nidhi for Covid	100,000.00
NDPC, Barsoi/ha Branch (ERC-3)	3,896.43	By Green audit Expenses	4,165.00
NDPC, Barsoi/ha Branch (GORE)	1,842.81	By TDS Receivable	243,691.15
NDPC, Barsoi/ha Branch (ARC)	182,383.68	By Indian Oil Corporation	8,172.87
NDPC, Barsoi/ha Branch (WGF)	4,364.51	By Interest from Income tax refund receivable	25,181.90
NDPC, Barsoi/ha Branch (LEVELHOOD)	588.64	By Site receivable	18,322.90
NDPC, Barsoi/ha Branch (PRC)	69,371.67	By CLOSING BALANCE	5,066.53
YES BANK (RC)	49,856.26	Cash in hand	
State Bank of India, Beltola (TRC-2)	496.79		
State Bank of India, Beltola (TRC)	138,313.88	By INVESTMENTS	
YSP	208,455.67	Fixed Deposits with Bank of Baroda, Dispur Branch	34,496,898.88
IBBL, Beltola Branch (WATCH)	246.67	Fixed Deposit with Union Bank of India, Barsoi/ha Road branch	4,246,664.43
Bank of Baroda, Dispur Branch	15,522,826.27	North East Small Finance Bank	2,094,696.23
Union Bank of India, Barsoi/ha Road Branch (PRC)	73,524.71	UTI	5,490,098.90
State Bank of India, Dispur	1,895,249.94		
AARANYAK LEVELHOOD-2	18,845.17	By BANK ACCOUNTS	
INDUSIND BANK	604,816.47	NDPC, BANGALORE BRANCH (ERC-1)	57,545.78
Union Bank of India	8,739,862.79	NDPC, BANGALORE BRANCH (ERC-2)	3,578.43
AARANYAK NDPC (WATCH)	188.20	NDPC, BANGALORE BRANCH (ERC-3)	25,885.78
AARANYAK (TRC-3)	21,263.29	NDPC, BANGALORE BRANCH (GORE)	719.81
YES BANK (AARANYAK)	232,819.84	NDPC, BANGALORE BRANCH (ARC)	298,267.60
Bank of Baroda (TTMF)	8,956.25	NDPC, BANGALORE BRANCH (WGF)	3,521.53
NDPC (TTMF)	238.54	NDPC, BANGALORE BRANCH (LEVELHOOD)	2,646.64
Mamas Traditional Stress cluster (PMB)	284,523.56	NDPC, BANGALORE BRANCH (PRC)	1,282.67
Yes Bank Ltd (WGD-2)	47,899.99	NDPC, BANGALORE BRANCH (RC)	13,678.90
YES BANK (LEVELHOOD)	79,699.89	YES BANK (RC)	613.96
	26,258,524.69	AARANYAK SUB FCR	258,846.00
To CONTRIBUTION RECEIVED	68,766,428.89	STATE BANK OF INDIA	18,957.82
		INDIA BELTOLA (TRC-3)	193,823.68
To Other expenditure adjusted with General Fund	11,716,892.12	STATE BANK OF INDIA, BELTOLA (TRC)	1,790.42
To Recovery of Project Advances	1,373,826.42	IBBL, BELTOLA BRANCH (WATCH)	25,274.67
		BANK OF BARODA, DISPUR BRANCH	3,423,286.81
To MEMBERSHIP RECEIVED	50,700.00	UNION BANK OF INDIA, BARSOI/HA ROAD BRANCH (PRC)	1,684.81
By Bank Interest	906,894.76	STATE BANK OF INDIA, DISPUR	1,486,221.94
By DONATIONS	529,662.00	AARANYAK LEVELHOOD-2	936.17
By Interest on Bank Fixed Deposits	2,592,766.00	INDUSIND BANK	766,849.47
RECOVERY FROM PROJECT PRODUCTS	7,875.00	UNION BANK OF INDIA	2,893,982.98
By GREEN AUDIT FUND KK HANSHONK	50,000.00	AARANYAK NDPC (WATCH)	-
By INSURANCE RECEIPT	52,255.00	AARANYAK (TRC-3)	34,257.85
By RECEIPT FOR GIS TRAINING	82,000.00	YES BANK (AARANYAK)	7,461,852.04
By REGISTRATION FEES	60,000.00	BANK OF BARODA (TTMF)	10,594.00
By TDS Refunded	412,599.00	NDPC (TTMF)	1.00
By TDS Payable	78,637.66	MAMAS TRADITIONAL STRESS CLUSTER (PMB)	4,267.58
By Interest from income tax refund	25,181.90	YES BANK LTD (WGD-2)	6,986.11
By Green audit expenses provided	4,165.00	YES BANK (LEVELHOOD)	79,699.89
		AARANYAK CONSERVATION LEVELHOOD	26,448.58
		AXIS BANK	58,899.00
			17,244,326.54
TOTAL	1,08,467,355.11	TOTAL	1,08,467,355.11

Place: Guwahati
 Date: 07/04/2022

For & Behalf of
AARANYAK
 (DR. BISHAB KR. TALUKDAR)
 SECRETARY GENERAL
Aaranyak



As per our report of even date FOR DHAWAN PANDEY & ASSOCIATES CHARTERED ACCOUNTANTS
 (CA. BISHWATI BARUAH)
 PARTNER
 M.No.063538
 FRN.013617C
 UDIN:22063538AAAA9374

AARANYAK
SAMANWOY PATH, SURVEY, BELTOLA, GUWAHATI-781028, DIST. KAMRUP, ASSAM.
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

EXPENDITURE	AMOUNT (₹)	INCOME	AMOUNT (₹)
To Bank Charge	179,545.29	By MEMBERSHIP RECEIVED	50,700.00
To Professional fees	44,586.00	By Bank Interest	906,894.76
To Salary	2,292,000.69	By DONATIONS	529,662.00
To Wages	8,571.74	By Interest on Bank Fixed Deposits	2,592,766.00
To Green audit Expenses	4,165.00	By RECOVERY FROM PROJECT PRODUCTS	7,875.00
To Donation to Assam Aragya Nidhi for Covid	100,000.00	By GREEN AUDIT FUND KK HANDIQU	50,000.00
To Surplus of income over expenditure	1,728,464.74	By INSURANCE RECEIPT	52,255.00
		By RECEIPT FOR GIS TRAINING	82,000.00
		By REGISTRATION FEES	60,000.00
		By Interest on income Tax refund	25,181.00
TOTAL	4,357,333.76	TOTAL	4,357,333.76

Place: Guwahati
 Date: 07/01/2022

For & Behalf of
AARANYAK
 (DR. BISHAB KR. TALUKDAR)
 SECRETARY GENERAL
 Secretary General
Aaranyak



As per our report of even date FOR DHAWAN PANDEY & ASSOCIATES CHARTERED ACCOUNTANTS
 (CA. BISHWATI BARUAH)
 PARTNER
 M.No.063538
 FRN.013617C
 UDIN:22063538AAAA9374

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(1st April 2020 to 31st March 2021)

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Mr. Bhaskar Sarkar,

Manager, Accounts

Md. Zakir Islam Bora,

Manager to the Office of SG & CEO

Mr. Tapash Mahanta,

Accountant

Mr. Pranab Goswami,

Organising officer

Ms. Bijoyinee Sarma,

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Mr. Jayanta Gogoi,

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Office Assistant

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Mr. Rajghar Kalita,

Office Supporting Assistant

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Office Supporting Assistant

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Field Assistant cum Watchman

Mr. Arun Basfor,

Office Cleaner

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Field Coordinator

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Project Assistant

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Community Mobilizer

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Field Assistant

Mr. Udang Basumatary,

Field Assistant

Mr. Akash Daimari,

Field Coordinator

Mr. Diganta Das,

Project Assistant

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Field Assistant

Mr. Amit Dewry,

Office Assistant

Mr. Pankaj Das,

Field Assistant

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Landscape Administrator, Manas

Landscape

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Program Coordinator

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Documentation Officer

Mr. Rubul Tanti,

Junior Research Scholar

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Driver

Mr. Bijoy Kalita,

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Head

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Mr. Kedar Mallah,

Boat Driver

Mr. Binod Borgohain,

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Driver cum Field Assistant

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Manager

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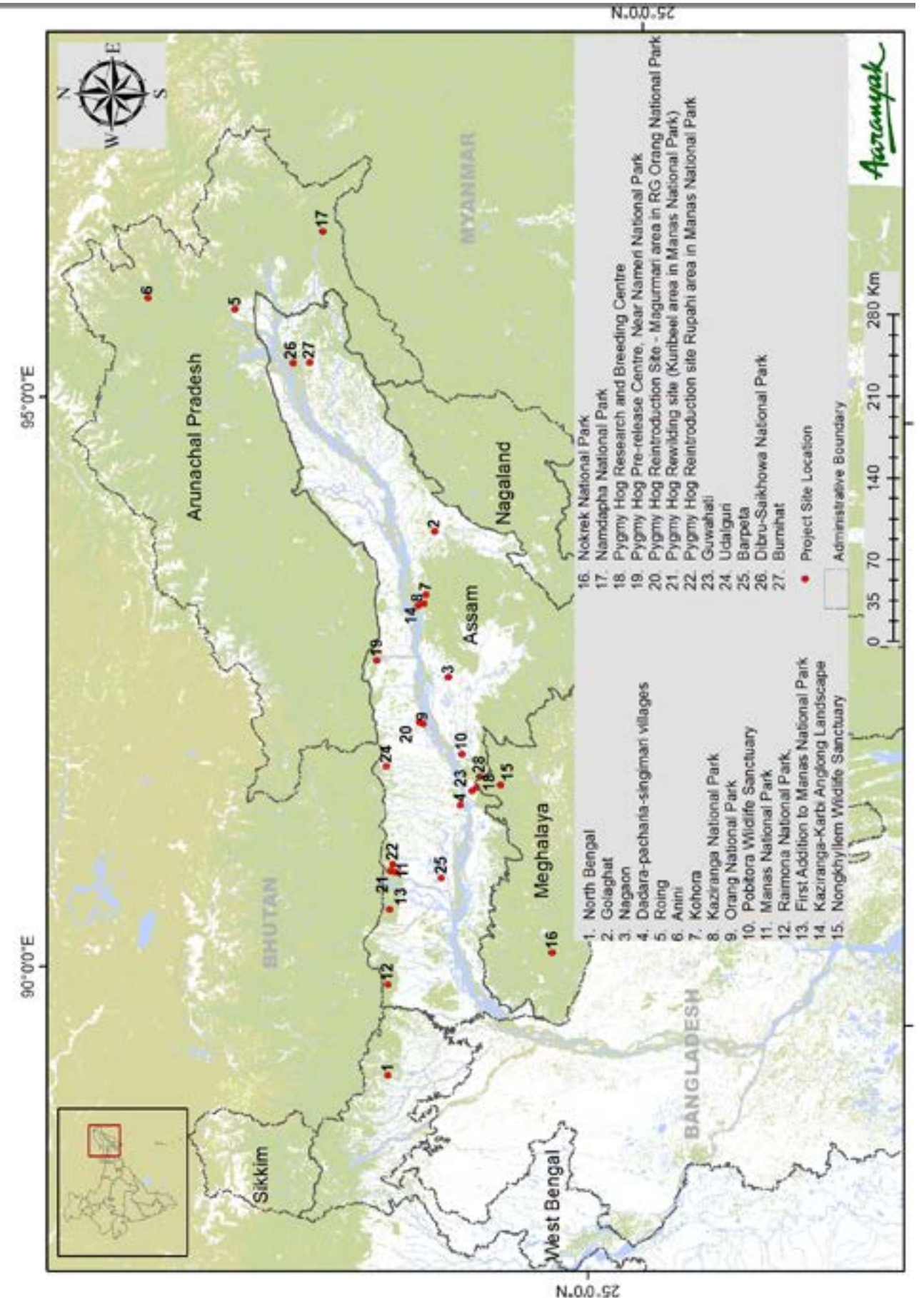
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AARANYAK's FOOTPRINTS (April 2020-March 2021)



NOURISHING NATURE TO SECURE OUR FUTURE

We strive to protect nature and its resources ranging from animal and plant species, forests, various water bodies, mountains, as we believe that welfare of our communities is intricately linked to pristine nature. We work to secure a future for all species that are under any sort of threat. We bank on scientific means, law, advocacy, community engagement, education and much more, in our endeavour to protect land, water, and climate that are vital for survival of all animal and plant species. The efforts to leave behind a vibrant nature face a range of national and worldwide threats to biodiversity that include overpopulation, climate change and man's quest for rapid development. Now into the 32nd year of our mission, we try hard for continued expansion, creativity, and unrestrained action for protection of most endangered species, rivers and water bodies, mitigating impact of changing climate in North East India.



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