

# BIOLINK

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শিল্প বাসস্থানৰ  
প্ৰাধান্যৰ এক চমু আভাস

**02**

**Pesticide-laced  
environment**

ASSAM BECOMES THE  
GRAVEYARD FOR THE  
VULTURES

*Aaranyak*

*Nourishing nature to secure our future*

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ASIAN PRIMATE  
SYMPOSIUM 2020



# BIOLINK

*Aaranyak*

## ABOUT AARANYAK

Aaranyak is a registered society working towards nature conservation in North East India, since 1989. Our strength lies in applied research in biological and social fields and our thrust area of work is the North Eastern India and Eastern Himalayas.

## MISSION

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

### Know more about us at

[www.aaranyak.org](http://www.aaranyak.org)

## COVER PHOTOGRAPH

Credit - **Udayan Borthakur**

The species in the cover are:

**Bar-headed Goose** (*Anser indicus*) and  
**Rudy Shelduck** (*Tadorna ferruginea*)

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# Editorial



As I write this editorial, the world is still responding to the COVID-19 pandemic. The year 2020 has been tough, affecting the entire human society. This infectious disease, like many other zoonotic diseases is believed to be spilled into humans from wildlife. The experts have time and again warned that loss of biodiversity, habitat degradation and unsustainable use of natural resources by humans have increased the risk of infectious diseases transmitting from wildlife to humans. The emergence of COVID-19 should be an eye-opener for all of us. It is time that we rekindle our relationship with nature and appreciate the vital ecosystem services that we receive.

Aaranyak turns 31 this year. The year has been very different for us because of the crisis unleashed by the outbreak of COVID-19. To cope with the crisis, many new initiatives were undertaken, while some of the planned activities were postponed. We continued our conservation work and assisted in the efforts of both State and Central Governments in dealing with the pandemic.

I am glad to bring you this issue of Biolink, one of the oldest publications of Aaranyak. Through Biolink we provide a platform to our members in writing science-based popular articles for common people, besides featuring our activities, experiences of working with us among others. This issue was a long due as the last Biolink published was more than a year ago. This issue features varied subjects ranging from threatened species to the role of women communities in conservation. Dr. Dipankar Lahkar, a wildlife biologist working with Aaranyak writes about the pressing issue of vulture deaths occurring in Assam. Ms. Anumitra Phukan, who has been working on the Ganges Dolphin highlights the importance of dolphin habitats. Niranjana Bhuyan, who has been working closely with the local communities to facilitate human-elephant coexistence paints a picture on the Asian elephants from the riverine landscape of Assam. While, Mr. Manas Bhattacharjee lucidly writes about how women empowerment paves the way for conservation. We pay tribute to Late Naresh Mitra, a renowned journalist who succumbed to death early this year, by featuring one of his write-ups in this issue. We are privileged to talk with Dr. Anwaruddin Chaudhury, who was a highly placed official with the Assam Government and a pioneer in conservation in Assam. In this issue we bring you his views on conservation and Aaranyak.

We had a hectic start of the year being one of the organisers of the “7<sup>th</sup> Asian Primate Symposium 2020 & 1<sup>st</sup> International Conference on Human-Primate Interface” held at Guwahati. We received an overwhelming response, with delegates including scientists, researchers, conservationists, academics from 20 countries. In this issue we publish the abstracts of the six plenary talks delivered by renowned primatologists. Along with this, write-ups of delegates sharing their experience of attending the conference are published. Dr. Dilip Chetry, the Secretary General of the organizing committee of the conference writes about how he shouldered the responsibility of organizing such a huge conference.

The last section of the Biolink is a mixed-bag. Mr. Dhrubajyoti Kalita, one of our life members and a very humble human being once again pens down the section “Chintan”. A few of our staffs/members beautifully wrote about their experience of working in the field. Working in tough terrain, with full of wildlife would not have been easy for the researchers of Aaranyak, had it not been the support received from the field assistants. Here, we acknowledge the contribution of two of our field assistants (among many) from eastern Assam, who are passionate about wildlife conservation. This year, we lost one of our members, who was on the forefront of community conservation, Late Hemanta Rabha of Sankarghola, Bongaigaon. Dharam Ranjan Rai, one of our members writes a eulogy for him and highlights his incredible work. We pray for the departed souls.

I hope you enjoy reading the issue of Biolink. We, at Aaranyak hope and pray for your good health and safety. Let us work together in securing our nature and protect ourselves from any mishaps.

**Alolika Sinha**  
Editor, Biolink



# Pesticide-laced environment: Assam becomes the graveyard for the vultures

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The Eastern Himalayas, flood plains of the Brahmaputra, rural and sub urban areas of Assam are known to be an important habitat for the vultures. Till early 1990s, vultures were very common birds across the region which were complemented by ample food, breeding ground and an ecological, social and cultural coexistence with the people and their livelihood. By the end of 90s, the tandem that changed rural and sub-urban areas in Assam, with the hue of modernization, alteration of livelihood and perceivable changes in cultural uniqueness, had edged the vultures menacingly to fall victims of human apathy. Surprisingly, despite the catastrophic decline in their population over two decades, it appears the conservation movements are utmost unilateral and searching the same answer that is “removal of Diclofenac”, a non-steroidal anti-inflammatory drug flagged as the prime killer of vultures. A nationwide study in 2017 claimed that pharmacies of Assam responded actively to the ordinance on the ban of Diclofenac in the use of the veterinary sector and were no longer sold. Yet, 250 vultures died between 2018 to early 2019 due to feeding on pesticide-laced carcasses. So, the burning question is, is it only Diclofenac or

something else? Unfortunately, with the facts and the statistics that are available on the public domain, the conservation prospects of the massive vulture deaths in Assam remain unaddressed albeit somehow covered-up with organised vicious hyper-competition for the name and fame.

Until May 2019, in four separate incidents, around 125 vultures reportedly died after consuming pesticide-laced carcass in two districts of Assam. Among the dead vultures most of them belonged to Gyps species. The shocking ground zero report revealed that in two similar incidents, 26 vultures died on 28 February 2019 at Panitema village of Kamalpur area in Kamrup district and 20 vultures died in Bam Rajabari of Udaipur village in Sivsagar district of Assam. In both the cases, the vultures consumed the poisoned carcass that was placed in retaliation for a rabid dog that had killed a goat. In connection with one of these cases, for the first time, a person involved was apprehended and punished by the local court. In two other separate incidents on 23 March and May, 2019, 30 vultures at Rajabari village and 12 vultures at Konwarpur of

Sivsagar district died respectively after consuming poison-laced dead cow.

In another tragic incidents of Demow, Sivsagar, on 29 March 2019, out of 70 ill-fated vultures, 37 died of poisoning before the veterinary care could reach them. There is more than a dozen of similar incidents that happened in Assam over the last three years, which claimed hundreds of vultures. Despite, we do not see any effective in-situ conservation strategy to safeguard these vultures.

Despite the massive conservation efforts from the Government and civil society organizations across its ranges, vultures are globally considered as one of the fastest declining species of bird species ever reported. Of the nine vulture species recorded in the Indian subcontinent, six are found in Assam. Assam has the strongest hold of wild population of Slender-billed vultures in its entire distribution range. This vulture is recognised as the rarest among all vulture species with merely 1000 birds left in the wild. The districts of Tinsukia, Dibrugarh and Sivsagar of Assam are believed to have approximately two-third of the populations of Slender-billed vultures, yet they face tremendous crisis. Approximately 40-60 Slender-



# SAVE VULTURES !!

*Illustration by Bijoyinee Sarma*

billed vultures reportedly died of poisoning between 2015 to early 2019, particularly from these districts. On April 2018, 18 Slender-billed vultures died of poisoning at Jamuguri village in the Demow area of Sivsagar district. Similarly, during January 2015, at least 16 Slender-billed died after eating pesticide-laced carcass of a cow in the same locality.

The decline in vulture population, which is the nature's most efficient scavengers, causes a super-imbalance of food in terms of carcass in nature, which is potentially fuelling the increase of feral dogs in India. The increase of feral dog's population consequently creates a health hazard condition by

increasing the incidences of rabies, distemper and canine parvovirus. India has the highest incidence of human rabies in the world with majority of the dog bites. The indirect effect of the accumulation of dead animal carcasses could help in spreading livestock borne diseases such as tuberculosis and anthrax. Therefore, conservation of vultures should be a priority to subsidised ecological integrity and keeping upclean, green and disease-free environment.

Every odd that works for vulture conservation should be appreciated for the greater cause. The constant efforts of the Government and civil society organizations to save vultures have

been paid off in many instances. On 9 April, 30 vultures were nursed backed in the wild by a team of veterinarians from Centre for Wildlife Rehabilitation and Conservation (CWRC), Kaziranga. The vultures which were suffering from poisoning were taken from Demow village of Sivsagar district, Assam. Unfortunately, one Slender-billed vulture died during that incident.

I believe, educating local communities about the problems of poisoning, inclusion of vulture crisis in the primary and secondary education system, and identifying stakeholders and bringing them on a common platform could serve better to safeguard our vultures in Assam.



# শিহ্নৰ বাসস্থানৰ প্ৰাধান্যৰ এক চমু আভাস

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জীৱজগতৰ জলজ স্তন্যপায়ী প্ৰাণীৰ অন্তৰ্গত শিহ্ন অৰ্থাৎ গংগাৰ ডলফিন অলুগীয়া পানীত বসবাস কৰা জলজ প্ৰাণীসমূহৰ ভিতৰত অন্যতম। শিহ্নৰ বাসস্থান হ'ল ভাৰতৰ গংগা নদীতন্ত্ৰ, ব্ৰহ্মপুত্ৰ নদীতন্ত্ৰ, বাংলাদেশৰ মেঘনানদী আৰু নেপালৰ কৰ্ণফুলি। প্ৰধানকৈ এই নদীতন্ত্ৰৰ মূল নদীকেইখনৰ লগতে কেইখনমান উপনদীত শিহ্ন পোৱা যায় যদিও এই নদীসমূহৰ কিছুমান নিৰ্দিষ্ট অঞ্চলতহে শিহ্নয়ে বসবাস আৰু খাদ্য আহৰণৰ বাবে ব্যৱহাৰ কৰে। বিজ্ঞানীসকলে এতিয়ালৈকে কৰা কিছু অধ্যয়নৰ পৰা বুজা যায় যে শিহ্নৰ বাসস্থানৰ বাচনি আৰু প্ৰাধান্যৰ ওপৰত পানীৰ গভীৰতা, নদীৰ সূতিৰ প্ৰকাৰ, সোঁতৰ গতি, ঋতুকালীন মাছ আৰু অন্যান্য জলজ জীৱৰ অৱস্থিতি তথা বিতৰনৰ সালসলনি আদি বিভিন্ন কাৰকে গুৰুত্ব বিস্তাৰ কৰে।

শিহ্নৰ বাসস্থান নদীতন্ত্ৰসমূহ সাধাৰণতে চিৰস্থায়ী নদী (perennial river) অৰ্থাৎ এই নদীসমূহ ভূতলস্থিত পানীৰ উৎসৰ পৰা নিৰ্গত হয় আৰু বছৰৰ গোটেইকেইমাহতে কম-বেছি পৰিমাণে হ'লেও নদীসমূহত পানী থাকে। খৰালি সময়চোৱাত বৰষুণৰ পৰিমাণ কম হ'লেও নদীসমূহ একেবাৰে শুকান হৈ নপৰে। কিছু কিছু অংশত নদীৰ পানী শুকাই গ'লেও শিহ্নৰ বাবে উপযুক্ত গভীৰতায়ুক্ত অঞ্চল কিছুমানো বৰ্তি থাকে। প্ৰাপ্তবয়স্ক শিহ্নৰ আকাৰ ১.৫ ৰ পৰা ৩ মিটাৰ পৰ্যন্ত হ'ব পাৰে আৰু সেয়েহে ইহঁতক চলন ফুৰন কৰিবলৈ নদীৰ গভীৰতা আৰু প্ৰস্থ এক ন্যূনতম সীমাৰ ওপৰত হোৱা দৰকাৰ। শিহ্নে ১ মিটাৰতকৈ কম গভীৰতা থকা অঞ্চলবোৰ সাধাৰণতে এৰাই চলা দেখা যায়। নদীৰ ভাঁজ, মোহনা আৰু নদীদ্বীপ বা বালিচৰৰ তলৰ সূতি আদি অঞ্চলক শিহ্নয়ে বিচৰণৰ বাবে

প্ৰাধান্য দিয়া দেখা যায়। এই অঞ্চলসমূহত নদীৰ প্ৰাকৃতিক ভৌগোলিক অবয়ৱে পানীৰ বোৱতি সোঁতক এক পকনীয়াযুক্ত (eddy current) সোঁতলৈ পৰিৱৰ্তন কৰে। ইয়াৰ ফলত এই বিশেষত্বপূৰ্ণ অঞ্চলসমূহৰ জলজ পৰিপুষ্টি, দ্ৰৱনীয় অক্সিজেন আদি জলজ জীৱৰ খাদ্য আৰু বাসস্থানৰ ওপৰত প্ৰভাৱ পেলোৱা ভৌতিক আৰু ৰাসায়নিক কাৰকসমূহ শিহ্ন, মাছ, প্লাংকটন আদি জলজ জীৱৰ বাবে উপযুক্ত হৈ উঠে। তাৰোপৰি প্লাংকটন অৰ্থাৎ পানীত উটী-ভাহি ফুৰা ক্ষুদ্ৰাকাৰ জীৱবোৰৰ ওপৰতে জলজ পৰিস্থিতিতন্ত্ৰৰ উৎপাদনৰ হাৰ নিৰ্ভৰ কৰে। গতিকে এই অঞ্চল সমূহৰ জলজ উৎপাদনো বাকী অঞ্চল সমূহতকৈ উচ্চমানৰ হয়।

চিৰস্থায়ী নদীবোৰে ভৰ বাৰিষা কালত হোৱা প্ৰচুৰ বৰষুণৰ ফলত উপত্যকা অঞ্চলত বানপানীৰ সৃষ্টি কৰে আৰু নদীৰ দাতিকাষৰীয়া সমতলভূমি অঞ্চলসমূহ বুৰাই পেলায়। বাৰিষাকাল শেষ হোৱাৰ পাছত পানী শুকাই আৰু নদীসমূহে পুনৰ নিজৰ সূঁতিলৈ সংকুচিত হয়। নিৰবচ্ছিন্ন ভাৱে বছৰ বছৰ ধৰি হৈ থকা এই প্ৰক্ৰিয়াত নদীৰ দাতিকাষৰীয়া অঞ্চলবোৰত জলাহ, বিল আদিৰ সৃষ্টি হয়। এই বিলসমূহে আচলতে একো একোখন নদীৰ বাবে পৰিপুষ্টিৰ উৎস। বানপানীৰ সময়ত বিলসমূহ নদীৰ লগত একাকাৰ হৈ যোৱাৰ ফলত এই দুই জলজ পৰিৱেশতন্ত্ৰত দ্ৰৱিত হৈ থকা পৰিপুষ্টিৰ চলাচল হয়। নদীত থকা প্লাংকটন, মাছ আৰু শিহ্ন আদিৰ ঋতুকালীন জৰীপৰ পৰা এই তথ্য পোহৰলৈ আহিছে যে পানীৰ সোঁতৰ বেগ বৃদ্ধি হোৱাৰ ফলত বানপানীৰ সময়ত নদীত প্লাংকটনৰ পৰিমাণ যথেষ্ট কমি যায়, অন্যান্য জলজ জীৱ মাছ, কাছ আদিবোৰেও কম সোঁতযুক্ত অৱস্থান বিচাৰি বিল, এৰাসূঁতি আদিত সোমাইগৈ। খাদ্য আৰু উপযুক্ত বাসস্থানৰ সন্ধানত শিহ্নবোৰেও এই সময়খিনিত মূলসূঁতিৰ



খৰালি কালৰ নদীৰ মূল সূঁতি



বাৰিষাৰ সোৱনশিৰি

লগত সংযুক্ত কাষৰীয়া সুঁতি, এৰা সুঁতি আদিত সোমাই পৰে। পাছবাৰিষা কাল অৰ্থাৎ খৰালি আৰম্ভ হোৱাৰ আগত বিল, এৰাসুঁতি আদিৰ পৰা নদীসমূহৰ পুনৰ লাহে লাহে সংযোগ বিচ্ছিন্ন হ'বলৈ আৰম্ভ কৰে। এইসময়তে নদীৰ পানীৰ জলজ পৰিপুষ্টিৰ পৰিমাণো উল্লেখনীয় ভাৱে বৃদ্ধি পাবলৈ ধৰে আৰু প্লাংকটন, মাছ, শিহ্ন আদিয়েও পুনৰ লাহে লাহে নদীৰ মূলসুঁতিলৈ ঘূৰি অহাৰ পৰ্ব আৰম্ভ কৰে। নদীত থকা জলজ জীৱসমূহৰ এই ঋতুকালিন পৰিক্ৰমাৰ বিষয়ে কিছু অধ্যয়ন হৈছে যদিও এতিয়াও বহু তথ্য

জানিবলৈ বাকী আছে। নদীৰ দাতিকাষৰীয়া অঞ্চলৰ মাছমৰীয়া সকলে এই প্ৰাকৃতিক প্ৰক্ৰিয়াটোৰ আঁত ধৰিয়েই ঋতু অনুযায়ী মাছ ধৰা অঞ্চলৰ সালসলনি কৰি নিজৰ জীৱিকা নিৰ্বাহ কৰে।

নদীৰ বিভিন্ন অঞ্চলবিশেষে থকা মাছৰ প্ৰজাতিৰ প্ৰাচুৰ্য্যইও নদীখনত শিহ্নৰ বিচৰণৰ তাৰতম্যৰ এক গুৰুত্বপূৰ্ণ কাৰক। শিহ্নৰ খাদ্য সম্পৰ্কে কিছু অধ্যয়নত এই কথা গম পোৱা গৈছে যে ঠেক খাদ্যনলী আৰু দুৰ্বল হাঁড়যুক্ত হনুৰ বাবে শিহ্নে সাধাৰণতে কম দৈৰ্ঘ্য (<math>20-30</math>

চেষ্টিমিটাৰতকৈ) আৰু কম body depth যুক্ত মাছ ধৰি খাবলৈ ভাল পায়। এতিয়ালৈকে উপলব্ধ হোৱা কিছু অধ্যয়নত মৃত শিহ্নৰ পাকস্থলীত পচন হ'বলৈ বৈ যোৱা অৱশিষ্ট খাদ্যৰ পৰীক্ষণ (gut content analysis)ৰ পৰা শিহ্নে খাদ্য হিচাপে গ্ৰহণ কৰা প্ৰায় ৪৫ বিধ মান প্ৰজাতিৰ মাছ ৰ বিষয়ে জানিব পৰা গৈছে। যিহেতু শিহ্নে আহাৰ হিচাপে গ্ৰহণ কৰা মাছ বোৰে খাদ্যৰ বাবে প্ৰত্যক্ষভাৱে বা পৰোক্ষভাৱে প্লাংকটনৰ ওপৰত নিৰ্ভৰশীল, সেয়েহে পৰোক্ষভাৱে প্লাংকটনৰ প্ৰজাতিসমূহৰ ভিন্নতাইও শিহ্নৰ বাসস্থানৰ বাচনিত কিছু ভূমিকা গ্ৰহণ কৰাৰ থল আছে। তাৰোপৰি নদীৰ ওপৰত মানুহৰ বিভিন্ন কাৰ্যকলাপৰ ফলাফলেও অন্য জলজ জীৱৰ লগতে শিহ্নৰ বাসস্থান নিৰ্বাচনত গুৰুত্বপূৰ্ণ ভূমিকা লয়, কিন্তু এই লেখাটোত এতিয়ালৈকে আমি জানিবলৈ পোৱা কেইটামান প্ৰাকৃতিক কাৰকৰ বিষয়ে কিছু খুল-মূল আভাস দিবলৈ চেষ্টা কৰা হ'ল।



বাৰিষাৰ সোৱনশিৰি নদীৰ মূল সুঁতি

*Photos by Anumitra Phukan*



# Environment and green issues vying for space in a broadsheet newspaper with reference to the trend in Assam

Late Naresh Mitra

Naresh Mitra was a senior journalist with The Times of India.

In fact, over the years, issues encompassing environment, and to be very specific about, on wildlife, have been able to shift its position from being extremely on the fringe/periphery to the vicinity of the centre, if not at the centre stage of news story. But now a days environment story do sometime take the centre stage, but it is more or as temporal and most of the time relegated if case other non-environment story develops. This is nothing state specific, almost the scenario same all over. May be the intensity is different.

An example will perhaps illustrate my proposition: A perusal through the news clippings in the 1990s on power scenario in Assam will. In these years the issue of improving power scenario, making the state or even Northeast self-sufficient in power or even becoming an exporter of power more or less found a prominent expressions in the newspapers. And then the idea of tapping region's hydro-power potential did a perfect case for writing stories on remedies power deficiency in Northeast, projected the water resources as a key to region's growth. That was a development paradigm for NE. This paradigm started shifting, and also in news stories, say in post 1990s. The hydropower model of development, and

for that matter any mega infrastructure projects, more or less started being accepted with skepticism. This became pronounced in post-liberation phase in our country, when alternative voices, civil society groups started voicing alternative model of development. And then the issues of safeguarding the environment and livelihood of common people dependent on natural resources started growing louder. This get ample reflection in news stories too, where the juggernaut of "exploitative" development was questioned for more sustainable and eco-friendly model of development. Anti-dam stories started getting prominence. Best case would be the Pagladiya dam in Nalbari, which did not fructify, because of sustained opposition from civil society. Much later we have seen Lower Subansiri project, and how newspapers giving prominent space to anti-dam protests.

## Dominant themes in environment reports

While the overall concerns over the degradation of environment and ecological spaces being given a due coverage, issues within the broader perspective of green reporting has been more or less species-centric particularly on few species. In wildlife fauna dominates over flora. Of

course, deforestation is being raised vigorously though; it seems larger animal species like rhinos prevail over other. Sometime, emotive associations with species, also most of the time in the case is rhino, cannot be missed from being noticed. A comprehensive wider view of ecological space, and the smaller species whose role in ecology is as vital as mega fauna, linking to wider perspective of climate change and other concomitant spheres of environment, I think, should also get prominence. I don't say it is not happening, it is reported, and sometime exceptionally good stories on this subject I have come across. More needs to be done. Injustices to wildlife are being reported vigorously, and it is indeed a powerful advocacy for environment. Backing of life sciences will make the stories more powerful.

## Environment politics vis-à-vis environment centric conflict

If human action in a society is political, environment too is a political--- especially when stakeholders take it from different perspectives and interests. News stories often do stories on this, and this is timely because environment has become the most contesting ground globally--- say it





*Photo by Kukil Gogoi*

the commitments and pledges to reduce carbon emission by countries to mitigate global warming to eviction of encroachers to pave the way for forest conservation. Herein lays the sensitive and crucial role of a green reporter. As I must say, and it is my personal view, a story on environment is a kind of advocacy for greater cause of ecology and human wellbeing, positive biasness towards safeguarding environment becomes inevitable, and also is essential. After all humans are not a species who are divested from the ecological space. Rather our wellbeing is intrinsic to the wellbeing of ecology in which we live. So, here also comes an extremely cautious role of a green reporter--- not being carried away by the vested political forces at play in a particular situation centering on environment. Positive biasness for environment protection does become a challenge while balancing multiple human interests. Again this is a crucial role where a green reporter can display his/her sensitivity and discretion, without jeopardizing any side.

The “tribal vs tiger” is the best example. But being sensitive to the subaltern voices, rather than on the powerful dominant voices, gives a more in-depth perspective in developing the story.

- Constrain for green reporters often comes from a lack of enough and credible scientific, historical and sociological data for a given ecological space. Lack of sufficient research reports on environment, ecology and wildlife are in public domain.
- Ecology-centric communication needs to be vitalized so that scientific researches become comprehensible to laypersons.
- Wildlife crime a vital area, where, credible data and information is difficult get to develop a comprehensive story wide a wider perspective involving international rackets.



# মহিলা সৱলীকৰণৰ এটি সফল উদাহৰণ

মানাহ শিপিনী সমবাই সমিতি বিকল্প জীৱিকাই দিলে প্রকৃতি সংৰক্ষণৰ প্ৰেৰণা

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মানাহ ৰাষ্ট্ৰীয় উদ্যানৰ চৌপাশৰ অঞ্চলসমূহত বাস কৰা জনসাধাৰণক দৰিদ্ৰতাই অৰণ্যখনৰ সম্পদৰ ওপৰত প্ৰত্যক্ষভাবে নিৰ্ভৰশীল হৈ চলিবলৈ বাধ্য কৰিছিল। এইসমাজখনৰ মহিলাসকলে অৰ্থনৈতিক কাম - কাজত এক অগ্ৰণী ভূমিকা লৈ আহিছে। মহিলাসকলৰ ভিতৰত সাধাৰণতে ১৪ৰ পৰা ৪৫ বছৰৰ মহিলাসকলক প্ৰচুৰ সন্তানময়ী আৰু উদ্যমী বুলি গণ্য কৰা হয়। সেয়েহে এইসকল মহিলাক যদি প্ৰশিক্ষণৰ জৰিয়তে উৎপাদনমুখী কামৰ লগতে সমাজ পৰিচালনাৰ ক্ষেত্ৰত অধিক দক্ষতাৰে সেৱা আগবঢ়াবলৈ সামৰ্থবান কৰি তোলা হয়, তেনেহলে পৰিয়াল তথা সমাজ উভয়পক্ষই লাভবান হব পাৰে। আৰ্থিক অনাটনৰ মাজত দিনকটোৱা মানাহৰ চৌপাশৰ সমাজখনৰ মহিলা সকল বয়ন শিল্পত পাকৈত যদিও, সঠিক প্ৰশিক্ষণৰ অভাৱত বয়ন শিল্পক এক লাভজনক উদ্যোগ হিচাপে গঢ় দিব পৰা নাছিল। প্ৰায় সকলেই ঘৰুৱা ব্যৱহাৰৰ লগতে আৰ্থিক উদ্দেশ্যত অৰণ্যৰপৰা খৰি সংগ্ৰহ কৰিছিল, যাৰফলত মানাহৰ ওপৰত যথেষ্ট হেঁচা পৰিছিল। সেয়েহে অৰণ্যৰ ওপৰত অধিক নিৰ্ভৰশীল হৈ পৰা এই গাঁওবোৰৰ মহিলাসকলক আৰণ্যকে বিকল্প জীৱিকাৰ সন্ধান দিয়াৰ কথা বিবেচনা কৰে। উক্ত উদ্দেশ্য আগত ৰাখি আৰণ্যকে মানাহৰ প্ৰান্তীয় এলেকাত বাস কৰা পৰিয়ালবোৰৰ কিছুমান মহিলাক বয়নশিল্প, কাঠফুলা উৎপাদন, মৌ- পালন, খাদ্যসংশোধ বিষয়ে প্ৰশিক্ষণ দিবলৈ সিদ্ধান্ত গ্ৰহণ কৰে।

গ্ৰাম্য কাৰিকৰ সকলে যাতে প্ৰতিযোগিতামূলক বজাৰত খোপনিপুতি স্বনিৰ্ভৰশীল হব পৰাকৈ দক্ষ আৰু কৌশলী হৈ উঠিব পাৰে তাৰবাবে ভাৰত চৰকাৰৰ অতিক্ষুদ্ৰ আৰু মজলীয়া উদ্যোগ বিভাগৰ SFURTI (Scheme of Fund of Regeneration of Traditional Industries under the ministry of Micro,

Small and Medium Industries) ৰ অধীনত এটি প্ৰকল্পৰ কাম আৰম্ভ কৰা হয়। প্ৰকল্পটোৰ লগত সংগতি ৰাখি আৰণ্যকে কাৰিকৰ সকলক বিত্তীয়দিশ আৰু পৰিচালনাৰ দিশতো নিপুনতা প্ৰদানৰ ব্যৱস্থা গ্ৰহণ কৰে।

ভাৰত চৰকাৰে আৰম্ভ কৰা প্ৰকল্পটোৰ মূল উদ্দেশ্যবোৰ আছিল মূলতঃ

- বজাৰত চাহিদা থকা সামগ্ৰীৰ উৎপাদনত গুৰুত্ব দিয়া,
- কাৰিকৰসকলৰ দক্ষতা বৃদ্ধি কৰা,
- সাধাৰণ সুবিধাবোৰৰ ব্যৱস্থা কৰা, আৰু
- গোটবোৰ পৰিচালনা কৰাৰ বাবে সক্ষমতা বৃদ্ধি কৰা

ভাৰত চৰকাৰৰ উক্তপ্ৰকল্পৰ বাবে সময় আছিল তিনিবছৰ। চৰকাৰী অনুদানৰ পৰা পোৱা ধনখিনিৰে কৰিবলৈ বিচৰা কামবোৰ আছিল এনেধৰণৰ-

- কাৰিকৰ, শিপিনীসকলৰ দক্ষতা বৃদ্ধি, সক্ষমতা বৃদ্ধি, আৰ্হিৰ উন্নত নমুনা প্ৰস্তুত কৰা ইত্যাদি,
- সমূহীয়া সুবিধাৰ সৃষ্টি, কেঁচামালৰ ভাণ্ডাৰ গঢ় দিয়া, প্ৰশিক্ষণ কেন্দ্ৰ নিৰ্মাণ কৰা ইত্যাদি,
- ব্ৰেণ্ড প্ৰস্তুত আৰু জনপ্ৰিয়তা বৃদ্ধি, ই-কমাৰ্চ, অভিনৱ উদ্ভাৱন, গৱেষণা আৰু উন্নয়নৰ ব্যৱস্থা কৰা আৰু বিভিন্ন স্তৰৰ সৈতে সংযোগ স্থাপন কৰা ইত্যাদি।

SFURTI প্ৰকল্পৰ অধীনত ভাৰত চৰকাৰে সমগ্ৰ ভাৰতত ৫০০ পৰা ২৫০০ কৈ গ্ৰাম্য কাৰিকৰকলৈ তিনিধৰণৰ গোট গঠন কৰিছিল। উক্ত গোটবোৰক কাৰ্যক্ষত্ৰত আঙুৰাই নিয়াৰ বাবে খাদী আৰু গ্ৰামোদ্যোগ বোৰ্ডত থাকেবোৰেৰ্ডে মুখ্য সমল বুলি দায়িত্ব গ্ৰহণ

কৰে। ইয়াৰ উপৰিও কিছুমান বিষয়ত ৰাষ্ট্ৰীয় আৰু আঞ্চলিক পৰ্যায়ত সফল বুলি প্ৰমাণিত কিছুসংখ্যক অনুষ্ঠানেও গোটবোৰৰ সহায় কৰিবলৈ আগবাঢ়ি আহে।

আঁচনিৰ অধীনত মানাহত ২০১৬ত প্ৰকল্পৰ কাম আৰম্ভ কৰি ২০১৯ চনৰ ভিতৰত সমাপ্ত কৰা হয়। প্ৰকল্পৰ অংশ হিচাপে সমল গোটবোৰৰ সহযোগত নিম্নলিখিত ধৰণৰ বিষয় বোৰক লৈ মানাহৰ চৌপাশৰ বিভিন্ন গোটৰ বাবে এলানি কাৰ্যসূচী ৰূপায়ন কৰা হয় - সজাগতা আৰু অভিপ্ৰেৰণামূলক কাৰ্যসূচী, দক্ষতাবৃদ্ধি আৰু সক্ষমতা বৃদ্ধি কৰ্মশালা, শিক্ষামূলক ভ্ৰমণ, তাঁতশাল বিতৰণ, চিলাইমেচিন বিতৰণ, বোঁৱনীসকলৰ মাজত সুঁতা বিতৰণ, শিপিনীসকলৰ বাবে স্বাস্থ্যশিবিৰৰ আয়োজন ইত্যাদি।

প্ৰকল্পৰ অধীনত এতিয়ালৈকে কৰা কেইটামান সজাগতা আৰু শিক্ষামূলক কাম এনেধৰণৰ -

প্ৰকল্পৰ আৰম্ভণিতে মানাহৰ দাঁতিকাষৰীয়া গাঁওসমূহৰ বিভিন্ন ঠাইত মুঠ পাঁচখন সজাগতা সভাৰ আয়োজন কৰা হয়, যত মুঠ ২৭৯ গৰাকী মহিলাই অংশগ্ৰহণ কৰে। আমাৰ উদ্দেশ্যৰ কথা বুজি উঠি মহিলাসকলে সংগঠিত ৰূপত আঙুৰাই যাবলৈ সন্মত হোৱাত আমি তেওঁলোকৰ লগত হাতে - কামে লাগি কাম আৰম্ভ কৰোঁ। তাৰ পিছত আমি আধুনিক তাঁতশাল বিষয়ক ৪টা প্ৰশিক্ষণ শীবিৰ পাতো, য'ত ১৯৯ গৰাকী মহিলাক হাতে-কামে প্ৰশিক্ষণ দিয়া হয়। একেদৰে ১৫০ গৰাকী মহিলাৰ বাবে সুতা ৰংকৰা বিষয়ক চাৰিটা প্ৰশিক্ষণ, ১১৩ গৰাকী মহিলাৰ বাবে উৎপাদিত সামগ্ৰীৰ মানৰ উন্নয়ন বিষয়ক প্ৰশিক্ষণ, ৪০ গৰাকী মহিলাৰ বাবে বেগৰ আৰ্হি প্ৰস্তুত বিষয়ক প্ৰশিক্ষণ পতা হয়। ইয়াৰ ভিতৰত ১২ গৰাকী মহিলাক শিক্ষামূলক ভ্ৰমণৰ অধীনত পশ্চিমবংগলৈ



Photo by MPCD, Aaranyak

নিয়া হয়। প্রশিক্ষণত ভাগলোৱা মহিলাৰ ২৬১ গৰাকী শিপিনীৰ মাজত গাইপতি ৫ কেজিকৈ মুঠ ১৩০৫ কেজি সুতা বিতৰণ কৰা হয়। ইয়াৰ উপৰিও সমূহীয়াকৈ কিছুমান নিৰ্মাণ কাৰ্যও সম্পাদন কৰা হয়। এতিয়ালৈকে সম্পাদন কৰা নিৰ্মাণকাৰ্যৰ ভিতৰত আছে সমূহীয়াকৈ ব্যবহাৰোপযোগী কাৰিকৰী সুবিধায়ুক্ত ভৱন, এটা সমূহীয়া কেঁচামালৰ ভঁড়াল ইয়াৰ উপৰিও ৰাজহুৱা ব্যবহাৰৰ বাবে তিনিটাকৈ উন্নত মানদণ্ডৰ শৌচাগাৰো নিৰ্মাণ কৰা হয়।

সমূহীয়া ভৱনটোত থকা কিছুমান সুবিধা হ'ল- ছখন আধুনিক তাঁতশাল, ৮ টা চিলাই মেচিন, এটা কেলেণ্ডাৰিং মেচিন(কাপোৰ মসৃণ কৰা সঁজুলি), এটা সুঁতা ৰংকৰা সঁজুলি, স্বয়ংক্রিয় চিলাই মেচিন এটা, বোবিন উইণ্ডিং মেচিন ২ টা আৰু ৱাৰপিংড্ৰাম এটা।

গ্রামাঞ্চলৰ বিকাশৰ পৰিপ্ৰেক্ষিতত জীৱিকাৰ উপায়বোৰকেই বিগত কালছোৱাত আমি চিন্তা আৰু কাৰ্যক্ষেত্ৰত কেন্দ্ৰীয় বিষয় বুলি গণ্য কৰি আহিছো। কিয়নো বহনক্ষম জীৱিকাবোৰেহে মানুহৰ জীৱনৰ যোগাত্মক বিকাশত সহায় কৰাৰ লগতে পৰিবেশ সংকটবোৰ প্ৰসমন কৰাত সহায়ক হ'ব। তাৰবাবে আমি স্থানীয় পৰ্যায়ত প্ৰবল ৰূপত গা কৰি থকা কিছুমান স্থানীয় সমস্যা, সম্পদ, সম্ভাৱনাবোৰক চিনাক্ত কৰা খুবেই প্ৰয়োজন আৰু তাৰ ওপৰত নিৰ্ভৰ কৰিহে আমি আমাৰ কাৰ্যসূচী গ্ৰহণ কৰা উচিত। আমি

যদি স্থানীয় ৰাইজৰ আবেগ অনুভূতিৰ লগত সংগতি ৰাখি তেওঁলোকৰ পৰম্পৰাগত জ্ঞান আৰু দক্ষতাক জীৱনৰ মান উন্নত কৰিব পৰাকৈ বহনক্ষম পদ্ধতিৰে আগবঢ়াই নিয়াৰ সহায় কৰিব পাৰোঁ, তেনেহলে আমাৰ সহযোগিতা জনসাধাৰণে নিশ্চয় গ্ৰহণ কৰিব।

যদিও আৰম্ভণিতে আমি বহুতো প্ৰত্যাহ্বানৰ মুখামুখি হবলগীয়া হৈছিলো, তথাপি যথেষ্ট সহনশীলতা, ধৈৰ্য আৰু কষ্টৰে কামকৰাৰ বাবে মানাহৰ চৌপাশৰ এলেকাৰ মহিলাসকলৰ সৱলীকৰণৰ জৰিয়তে গাঁওবাসীৰ মাজত অৰণ্য সংৰক্ষণৰ এক শক্তিশালী চেতনা গঢ়ি তুলিবলৈ সক্ষম হোৱা বুলি অনুভৱ হৈছে। এইক্ষেত্ৰত বিকল্প বহনক্ষম জীৱিকাৰ সুযোগ বৃদ্ধিৰ প্ৰচেষ্টাই মুখ্য চালিকাশক্তি বুলি ক'ব পাৰি।

প্ৰসংগক্ৰমে উল্লেখ কৰিব পাৰি যে আৰণ্যকৰ এগৰাকী গৱেষিকা ড° নমিতা ব্ৰহ্মৰ তত্ত্বাৱধানত আৰম্ভ কৰা এই প্ৰকল্পটোৰ লগত আমিও আৰম্ভণিৰ পৰা সক্ৰিয় ভাবে জড়িত হৈ আছিলো। পিছলৈ নমিতাই আৰণ্যকৰ পৰা অব্যাহতি লৈ আন এটা অনুষ্ঠানত যোগ দিয়াৰ বাবে প্ৰকল্পটোৰ বাকীখিনি কাম আগুৱাই নিয়াৰ ভাৰ আনুষ্ঠানিকভাৱে আমাৰ ওপৰত অৰ্পণ কৰে। আজি মানাহৰ ওচৰৰ গাঁওসমূহৰ মহিলা সকলৰ যি আত্মবিশ্বাস গঢ়ি উঠিছে, নিজকে স্বাবলম্বী কৰাৰ বাবে আত্মনিয়োগ কৰাৰ লগতে প্ৰকৃতিৰ সুৰক্ষাৰ বাবে জাগ্ৰত প্ৰহৰিৰ দৰে

একাৰদ্ধ ৰূপত আগবাঢ়ি আহিছে, সেইটো দেখি সাঁচাকৈয়ে উৎসাহিত হৈছো। অৱশ্যে শীৰ্ষকপায়ণকাৰী সংস্থা IIE শৈক্ষিকসহযোগিতা আৰু EPCH ৰ কাৰিকৰী সমৰ্থনযোগী তথা উন্নতমানৰ সেৱাৰ অবিহনে আমি এই প্ৰকল্পটোৰ কাম কেতিয়াও ইমান সুকলমে সম্পাদন কৰিবলৈ সামৰ্থ্য নহলো হেতেন। দুয়োটা অনুষ্ঠানলৈ এইচেগতে মোৰ কৃতজ্ঞতা জনালোঁ।

আমাৰ ওপৰত আস্থা ৰাখি প্ৰকল্পটো আগুৱাই নিয়াৰ দায়িত্ব আমাৰ ওপৰত অৰ্পণ কৰাৰ বাবে ড° নমিতা ব্ৰহ্ম, আৰণ্যকৰ জীৱিকা অভিযান বিভাগৰ মুৰব্বী ড° বিভূতি প্ৰসাদ লহকৰৰ লগতে আৰণ্যকৰ মুখ্য কাৰ্যবাহী বিষয়া ড° বিভৱ কুমাৰ তালুকদাৰকো ধন্যবাদ জনালো। স্থানীয় পৰ্যায়ত দিন - ৰাতি একাকাৰ কৰি কামবোৰৰ তদাৰক কৰাৰ বাবে গোট উন্নয়ন বিষয়া স্বপন দাসো প্ৰশংসাৰ পাত্ৰ।

শেষত আমাৰ ওপৰত আস্থা ৰাখি বিভিন্ন সময়ত বিভিন্ন ধৰণে দিহা - পৰামৰ্শ আৰু সহযোগিতা আগবঢ়োৱা স্থানীয় সকলো ব্যক্তি, অনুষ্ঠান, স্থানীয় প্ৰশাসনৰ লগতে SFURTI প্ৰকল্পৰ লগত জড়িত সমূহ বিষয়া - কৰ্মচাৰীলৈ আমাৰ কৃতজ্ঞতা জনালোঁ।

(অসমীয়াত এইলেখাতো প্ৰস্তুত কৰাত সহায় কৰি দিয়াৰ বাবে ধ্ৰুৱজ্যোতি কলিতাৰ বিশেষভাবে শলাগ ললো)



# শিৱসাগৰ আৰু যোৰহাট জিলাৰ নৈপৰীয়া হাতীজাকটোৰ কিছু কথা

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Photo by Avijan Saha

শিৱসাগৰ আৰু যোৰহাট জিলাৰ নৈপৰীয়া অঞ্চলসমূহত হাতীৰ কোনোধৰনৰ আবাসভূমি নাছিল যদিও মাজে-সময়ে দুই এটা হাতী নৈপৰীয়া অঞ্চলসমূহলৈ আহে। যদিও কেইদিনমান থকাৰ পাছত সেই অঞ্চলৰ পৰা আতৰি যায়। কিন্তু বৰ্তমান সময়ত এই নৈপৰীয়া ঠাই সমূহ হাতীৰ আবাসভূমিলৈ পৰিণত হৈছে। ইয়াৰ মূল কাৰণসমূহ হ'লঃ

- ১) ব্ৰহ্মপুত্ৰ নৈ উপকূল অঞ্চলসমূহত বহুতো সৰু বৰ চাপৰি আছে,
- ২) চাপৰি অঞ্চলসমূহত জনবসতি সেৰেঙা,
- ৩) চাপৰি অঞ্চলসমূহত যথেষ্ট পৰিমাণৰ খেতি কৰে যেনে কল, কুঁহিয়া, মাকৈ, ধান, ঘেঁহু, বঙালাও, মাহজাতীয় খেতি ইত্যাদি,
- ৪) চাপৰি অঞ্চলসমূহত বাৰমাহে হাতীৰ খাদ্য উপযোগী হোৱাৰ লগতে সুন্দৰ বাসস্থানৰ উপযোগী।



Photo by **Aloika Sinha**

## নৈপৰীয়া হাতীৰ জাকটোৰ চমুবিবৰণ

বৰ্তমান যোৰহাট আৰু শিৱসাগৰ জিলা ব্ৰহ্মপুত্ৰ নৈ উপকূল অঞ্চলত বাস কৰা হাতীজাকটো অৰুনাচলৰ পৰা আহি এই উপকূল অঞ্চলত বাস কৰিছে। অৰুনাচলৰ পাহাৰীয়া ডাঠ হাবি বন কাতি তহিলং কৰাৰ উপৰিও হাতীৰ ওপৰত আক্ৰমণ কৰাৰ ফলত নিজৰ নিৰাপত্তাৰ বাবে কিছুসংখ্যক হাতীয়ে সেই স্থান ত্যাগ কৰে আৰু তিনিচুকীয়া জিলাহৈ ডিব্ৰুগড় জিলাৰ মেদেলা বনাঞ্চলত প্ৰৱেশ কৰে। মেদেলা বনাঞ্চলত হাতীৰ জাকটোৰ কাৰণে পৰ্যাপ্ত পৰিমাণৰ খাদ্যৰ অভাৱ হোৱাত হাতীৰ জাকটোৱে ব্ৰহ্মপুত্ৰ নদীৰ সুন্দৰ সেউজীয়া চাপৰিসমূহত খাদ্যৰ সন্ধান কৰে। খাদ্যৰ সন্ধান কৰি আহি আহি ২০০৩ বৰ্ষৰ মাৰ্চমাহত প্ৰথমবাৰ যোৰহাট জিলাৰ ককিলামুখ পাইহি হাতীজাকটো।

প্ৰথমতে নৈপৰীয়া বাইজে বনৰীয়া হাতীজাকটো নিচেই ওচৰত দেখা পাই আনন্দিত হৈ ভাৰিছিল

কিছুদিনৰ পাছত হাতীজাকটোৱে সেইস্থান ত্যাগ কৰিব বুলি। কিন্তু সেইটো ন'হল।

হাতীজাকটোৱে বনাঞ্চলৰ মাজতকৈ সুন্দৰ খাদ্য সন্ধানপোৱা ব্ৰহ্মপুত্ৰ নদীৰ চাপৰিতে থাকিবলৈ লয়। যাৰফলত নৈপৰীয়া বাইজ আতংকিত হৈ পৰে। চাপৰিসমূহত হাতীজাকটোৱে খেতিপথাৰ নষ্ট কৰাৰ উপৰিও তাত থকা গৰু, ম'হৰ খুটি সমূহ ধংস কৰে। যাৰফলত চাপৰিত বসবাস কৰা বাইজে সেই স্থান ত্যাগ কৰিব লগা হয়। বাইজে চাপৰিৰ পৰা হাতীৰ ভয়ত পলায়ন কৰা কাৰণে চাপৰি বোৰত খেতি কৰা মানুহৰ সংখ্যা কমহোৱাত খেতিৰ পৰিমাণ কমি যায়। তেতিয়া হাতীৰ জাকটো খাদ্য সংকতত পৰে। তাৰপাছত হাতীজাকটো নদী পাৰহৈ মানুহে স্থায়ীভাৱে বসবাস কৰা এলেকাত প্ৰৱেশ কৰে।

মানুহৰ বসতি এলেকাত হাতীজাকটো সোমাই পৰাৰ লগে লগে যোৰহাট আৰু শিৱসাগৰ জিলাৰ নৈপৰীয়া অঞ্চলসমূহত হাতী আৰু

মানুহৰ সংঘাত আৰম্ভ হয় (২০০৭)। ২০০৩ চন মানতে হাতীজাকটো অৰুনাচলৰ পৰা আহি অসম প্ৰৱেশ কৰিছিল যদিও ২০০৭ চন মানৰ পৰাহে হাতীজাকটোৰ লগত মানুহৰ সংঘাত আৰম্ভ হয়। এই সংঘাতৰ ফলত কেইবাজনো মানুহৰ মৃত্যু হোৱাৰ লগতে কেইবাটাও হাতীৰ মৃত্যু হয়। কিন্তু বৰ্তমান সময়ত শিৱসাগৰ আৰু যোৰহাট জিলাৰ নৈপৰীয়া অঞ্চলত বসবাস কৰা কিছুমান অসাধু লোকে হাতী মাৰিবৰ কাৰণে নানান ধৰনৰ কৌশল অৱলম্বন কৰা দেখা পোৱা গৈছে।

সময় থাকোতেই যদি বনবিভাগে নৈপৰীয়া অঞ্চল সমূহত হাতী সংৰক্ষণ সম্পৰ্ক সজাগতা সৃষ্টি কৰে তেনেহ'লে হাতীৰ মৃত্যু সংখ্যা বৃদ্ধি হব।

*বিঃ দ্ৰঃ ২০১৮-১৯ বৰ্ষত শিৱসাগৰ আৰু যোৰহাট জিলাৰ নৈপৰীয়া অঞ্চলত কাম কৰা সময়ত লাভ কৰা তথ্যৰ ভিত্তিত লিখা হৈছে।*



# Asian Primate Symposium 2020: A Dream Come True

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The 7<sup>th</sup> Asian Primate Symposium, 2020 (APS-2020) was a great event that was organized from 8<sup>th</sup> to 10<sup>th</sup> February, 2020 at Gauhati University, Guwahati, Assam, India. Aaranyak was the chief host of this mega event. As the secretary general of the organizing committee I had to technically shoulder all the responsibilities. As a matter of fact, it was me who by bidding had invited the APS-2020 in India. However, the entire conference was a fruit of planning for two long years. In reality the preparation of the conference started at the very moment when I proposed India to be the next organizing country for APS-2020 during the 6<sup>th</sup> APS-2018 held in China. In the APS-2018, Dr. J. Biswas of Primate Research Centre, Northeast India, was also present. He came forward there itself to be a co-organizer. Returning from the conference, I informed Dr. Bibhab Kumar Talukdar, CEO, Aaranyak about organising the event. He promptly replied that it would be a great initiative from Aaranyak to organise the event. Thus, it was decided that Aaranyak, PRC Northeast and Department of Zoology, Gauhati University would jointly organise the conference. For me, the first challenge was to select



*Photo by MPCD, Aaranyak*

a suitable venue. After several formal and informal discussions, I approached the Zoology Department, Gauhati University, and had discussion with HoD, Prof. Prashanta Kumar Saikia and Senior Prof. Jogen Chandra Kalita. Both of them enthusiastically agreed to collaborate and suggested that the conference should be organized in the University itself.

After several meetings of all the organisers and it was finally decided that conference would be held at the Gauhati University Institute of Science and Technology (GUIST) from 8<sup>th</sup> to 10<sup>th</sup> February, 2020. A pre-symposium training event was also decided to

be organised from 5<sup>th</sup> to 7<sup>th</sup> February, 2020 for capacity building of young nature lovers and conservationists. Immediately I communicated and invited Prof. Randell C. Kyes, Washington University, USA, Prof. Mukesh Kumar Chalise, Tribhuvan University, Nepal, and Prof. Ramesh Boonratana, Mahidol University, Thailand as resource persons for the pre-symposium training.

In the next phase I started communicating with other primatologists from Asia and potential funders to smoothly organise the event during 2018-19. From the beginning of 2019, I proceeded with



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a more organized approach and with accelerated pace. Several working committees were formed for smooth functioning, an International committee, one national committee and one organizing committee were formed. A website on APS 2020 was developed by the Media Production & Communications Division, Aaranyak which is headed by Mr. Udayan Borthakur. In the meantime, I as the secretary general of the organizing committee communicated with the participants for submission of their abstracts. At the same time, I continued my communication with senior primatologists inviting them to be the key note speakers. An invitation brochure was published and circulated through various platforms such as the social media, colleges, universities and research organizations. By now, already six months had passed and the countdown began. The journey was full with 'ups and downs' and I realised it was hard to manage people. Sometimes I felt very helpless when I saw some close friends turned their



*Photo by MPCD, Aaranyak*

faces in the most crucial period. But there is a saying when one door closes another new door opens. So, I received moral support from other persons. I was successful in receiving financial support from some agencies, while I failed to receive support from agencies such as the Department of Science and Technology (DST), and North Eastern Council (NEC) Government of India. The last four months were very crucial. We started working at

war footage. Things were going on smoothly. Then came the protest for Citizenship Amendment Act (CAA) in India. Given, the outrage many participants from abroad cancelled their plans of attending the conference. This followed by COVID-19 outbreak in China. Every day I was receiving cancellation messages from the participants, that kept me worried. With this ongoing situation some of our colleagues even suggested to postpone



*Photo by MPCD, Aaranyak*

the event, but I took the firm decision to proceed with the schedule. We had discussion with Mr. Nawraj Pradhan, ICIMOD for organising additional events such as photo competition on primates of eastern Himalayas. The ICIMOD extended its full cooperation and support in organising the event as well as assured to support the participants from India, Bhutan, China and Myanmar to attend the APS-2020.

After receiving the final confirmation from plenary speakers and resource person especially, from Prof. Mewa Singh, Prof. Anindya Sinha, Prof. Randell C. Kyes, Prof. Mukesh Kumar, Prof. Y. Hamada, Prof. Suchinda Malaivijitnond, and Prof. P.C. Bhattacharjee, we moved ahead with our preparation. Unfortunately,

participants and delegates from China had to cancel their plan to attend the conference due to outbreak of COVID-19. I kept working relentlessly and managed to sleep only for 2-3 hours during the last four months of the event.

In the meanwhile, Dr. Prabal Sarkar and Dr. Narayan Sharma worked tirelessly to bring out the final volume of the proceeding that contained abstract from the participants. Soon, it was time for APS-2020. The pre-symposium training for young researchers was organised at the Scholar Institute of Technology and Management where 12 participants from India, Myanmar and South Korea participated. Prof. Randell C.Kyes, Prof. Mukesh Kumar Chalise, Prof. Ramesh Boonratana, Prof. P.

C. Bhattacharjee, Dr. H. N. Kumara, Mr. Udayan Borthakur and Mr. Arup Kumar Das were resource persons who imparted training on various subjects to the participants.

Before commencement of the pre training symposium, we had a few rounds of meeting for final preparation. I had to look after all aspects from the abstracts, banner, and hall arrangements to reception. Our pre symposium training concluded on 7<sup>th</sup> February, 2020. After attending the valedictory function of the pre symposium I rushed to the venue at around 10 pm just to see the final arrangements. It was like bolt from the blue when I noticed that the published proceedings were yet to come from the press. I was shivering because





Photo by **MPCD, Aaranyak**

we had registration the next day in the early morning. Without giving a second thought I rushed to press at around 11 pm and brought them and kept in my vehicle. That night I was too worried to sleep. Early morning when I reached the venue, I could see all the participants waiting for registration. I felt happy and relieved. I greeted the participants and guests.

At 9:30 in the morning on 8<sup>th</sup> February the symposium began in presence of our chief guest Prof. Pratap Jyoti Handique, Honourable Vice-chancellor, Gauhati University. We had a brief but pleasant opening session. It was a great privilege for me as we offered felicitation to our “Guru”, Prof. P.C. Bhattacharjee, Prof. Mewa Singh and Prof. S.M. Mohnot for their outstanding contribution towards the development of primatology in India. The second day too had wonderful sessions. In the evening we arranged a river cruise for all registered participants and went for the Brahmaputra cruise, where

participants enjoyed a lot in the tune of melodious music and experienced the taste of traditional Indian cuisine. The symposium concluded on 10<sup>th</sup> February, 2020. On the last day of the symposium we had a brief felicitation session where we felicitated two of my long-term field assistants, Mr. Kamleswar Rabha from Chakrashila Wildlife Sanctuary working on Golden langur and Mr. Deben Borah from Hollongapar Gibbon Wildlife Sanctuary. Each and every session created scopes for discussion, and sharing of ideas. Every member of the organising committee contributed to make the event successful. The APS-2020 in all aspects was a grand success and achieved its goal in true sense.

The APS-2020 would not have been possible without the participants. Therefore, I thank each and everybody who attended the APS-2020 and encouraged us. Finally, I would like to acknowledge the support received from Global Wildlife Conservation, Primate

Conservation Inc, ICIMOD, Bodoland Territorial Council, Assam Science and Technology Council, Scholar Institute of Technology and Management, Primate Research Centre, Gauhati University and Aaranyak. I am grateful to all those who supported me keeping themselves off screen. I am also very thankful to Ms. Bobby Nath, Manager Administration, Aaranyak and Ms. Binita Subba, Account Officer, Aaranyak. I thank Prof. P.K. Saikia and Dr. Malabika K. Saikia, Department of Zoology, Gauhati University for their active involvement right from the planning stage to the end of APS-2020. Nevertheless, organising APS-2020 has been a great learning experience, which is going to help me for the rest of my life. The greatest lesson that I learnt is that never lose hope. One has to keep faith in Almighty and one’s own self. Things do not happen as per our wish. Hope for the best but prepare for the worst. And above all, All is well that ends well. United we can do anything.



# Asian Primate Symposium Marching Forward Smoothly

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## Background

To make a bit concise on the Asian Primate Symposium history I am taking reference from the 5<sup>th</sup> symposium as it also indicates a land mark to organize in its main region of south Asia. The human population and landmass with diverse ecological specific zones and unique primate diversity availed the part is significant. The importance of the area also enforced to establish a long history of primatological research inbuilt with local socio-cultural theme.

## 5<sup>th</sup> Asian Primate Symposium in Colombo, Sri Lanka

The “5<sup>th</sup> Asian Primate Symposium 2016” was jointly organized by the Department of Sociology and Anthropology, University of Sri Jayewardenepura headed by Prof. Dr. Nahallage Charmalie and Primate Research Institute, Kyoto University. It was held from 18<sup>th</sup> to 20<sup>th</sup> October, 2016 at the Mount Lavinia Hotel. The symposium was locally chaired by Prof. Charmalie Nahallage and International organizing co-chairs were Profs. Michael Huffman and Yuzuru Hamada. The chief guest of the symposium was Hon. Gamini Jayawickrama Perera,

Minister of Sustainable Development and Wildlife and the guest of honours were Mr. Koji Yagi, Deputy Ambassador, Japanese Embassy of Sri Lanka and Senior Prof. Hemanthi Ranasinghe, Acting Vice Chancellor University of Sri Jayewardenepura.

During the closing ceremony, the 6th APS meeting was discussed and was proposed to be hosted either in Nepal or in India. The participants from the respected countries Prof. Mukesh K. Chalise and Dr. Dilip Chetry assured the council on the final decision after reviewing the situation and possibilities of support in their respected countries.

## Satellite International Symposium on Asian Primates, 2018

Broadly, Nepal harbours three types of non-human primates- rhesus monkey, Assamese monkey and hanuman langur which are found in different phyto-ecological zones from the lowland Terai plain to the valleys of high mountains. Assamese monkey is protected by Nepal's wildlife protection act 1973, while langur and rhesus are of common category. These two species are causing a lot of problem

in farmers' cropland and its nuisance has resulted to consider them as 'pest' species by the local people. The taxonomy of non-human primates in Nepal is also ambiguous; Assamese monkey (*Macaca assamensis*) is probably a new species belonging to the Sinica-group of macaques and it may have two distinct forms within Nepal territory itself. The description of closely related two species (*M. munzala* and *M. leucogenys*) in the recent past from neighboring countries has justified the need of taxonomic reassessment of Sinica-group macaques. Detailed morphological and molecular comparison of Nepal population of Assamese monkey with western subspecies of Assamese macaques (*M. a. pelops*) from Sikkim, West Bengal and Bhutan, and eastern subspecies (*M. a. assamensis*) from Indochina and China would resolve the existing taxonomic uncertainties. The taxonomy of hanuman langurs is also incongruent among the primatologists, however, three species of them- *Semnopithecus ajax*, *S. hector*, and *S. schistaceus* have been reported from Nepal. Rhesus macaque is also interesting for phylogenetic and

population genetic studies, although local populations at different elevations and latitudes might be diverse in morphology and genetics; they are not classified as subspecies. It is probable that local populations in Himalayan Range have distinctive characters. Primate research in Nepal was started in the 1970s on urban rhesus monkeys (*M. mulatta*) near religious places initially, and then to wilder habitats for langur and assamese monkeys.

Nonetheless, for a year the decision of hosting the symposium remained uncertain because of political instability in the northeast India and Nepal. Eventually, Nepal took the responsibility of accomplishing the assignment at the end of the year 2017. The political turmoil in Nepal was still on, but the local organizer took courage to accomplish the primate symposium in the capital city, Kathmandu with no events of post or pre symposium tour outside the valley. A fast track plan was planned and the organizing committee communicated with all the previous organizers and well-wishers. Various organisations and university such as the NAST, NTNC, DNPWC and Tribhuvan University granted their gracious support morally. Within a short period of time the symposium was held from 17-20 February, 2018 in Kathmandu, Nepal. The international organizing team decided to name it as a "Satellite Symposium" as many of the regional organizations could not participate due to limited time of pre-information. Therefore, the National organizing committee decided to name it as Satellite symposium and proposed for the 6<sup>th</sup> symposium either in India or

China. The Chinese team led by Dr. Zhi-Pang Huang on behalf of Prof. Wen Xiao submitted a proposal that Chinese primatologists are ready to organize the 6<sup>th</sup> APS in Dali University, China.

Eventually the 6<sup>th</sup> Asian Primate Symposium & 5<sup>th</sup> Asian (Indochinese) Primates Conservation Symposium was held from 19<sup>th</sup> to 23<sup>rd</sup> October, 2018 at Dali University and Yunglong National Park.

### **6<sup>th</sup> Asian Primate Symposium & 5<sup>th</sup> Asian (Indochinese) Primates Conservation Symposium**

In the 6<sup>th</sup> symposium, more than 15 countries (China, Singapore, India, Indonesia, Germany, Switzerland, Myanmar, Philippines, Bangladesh, Nepal, Australia, USA, Thailand, Vietnam, Japan) participated. Yunnan, a province in China is well known for its rich and unique natural environment. Despite most of its area is located north of the Tropic of Cancer, the 'everlasting spring' climate and the influence of the southwest monsoon are ideal conditions for the survival of primates. Among all the regions in Asia characterized by a similar latitudinal range, Northwest Yunnan hosts the highest diversity of primates, including several rare and endemic species. The recently described *Rhinopithecus strykeri* and *Hoolock tianxing* were discovered in the Three Parallel Rivers region of northwest Yunnan, a UNESCO World Heritage site and outstanding biodiversity hotspot lying within the Hengduan mountains complex. It is generally believed that this region is the historical

birthplace of Ericaceae, Phasianidae, Asian colobines primates. In addition to currently living primates, the natural habitats of Yunnan were home to several ancient primates, as testified by the fossil evidence of *Lufengpithecus* and Yuanmou man. Thanks to its geographical location, Yunnan forms a migration corridor (dispersal route) between the Indochinese peninsula and South Asia. Unfortunately, cross-border wildlife trade is also using this route, from Southeast Asia passing through Guangxi, Yunnan and northeast India. These pressing and delicate issues are seizing an increasing attention from researchers and conservationists from all over the world. There is great hope that the scientific community, together with policy makers and involved stakeholders, consistently acknowledge the importance of this region and its biodiversity. By sharing efforts and building a solid and favourable communication environment, we can find efficient solutions to the problems that primates are facing and could be confronted in the future.

### **7<sup>th</sup> ASIAN PRIMATE SYMPOSIUM, GUWAHATI, INDIA, 2020**

During the 7<sup>th</sup> Asian Primate Symposium & 1<sup>st</sup> International Conference on Human-Primate Interface, primatologists from different corners of the world specially across Asia got a common platform to share their findings, views and ideas regarding diverse primate related issues through this symposium. The exchange of thoughts among veteran and budding primatologists contributed a lot to the field of primatology and

also helped in the ongoing efforts of conservation and management of non-human primates.

## The pre-symposium training Programme

The 1<sup>st</sup> International conference on human primate interface and the pre-symposium training programme was conducted from 5-7 February, 2020 on “Field methods, primate conservation biology & global health” to the interested beginners’ and field biologists. The host of event Dr. Dilip Chetry, as well as Prof. P. C. Bhattacharya, Prof. Mukesh K. Chalise, Prof. Randall C. Kyes and Prof. Ramesh “Zimbo” Boonaratna, Dr. H.N. Kumara, Mr. Udayan Borthakur, and Mr. Arup Kumar Das shed light on needs of the training program. They also took important classes on biodiversity and wildlife study, procedure, and field activities as well as scientific writings for wider circulation. The training was conducted in Scholars’ Institute of Technology and Management, Guwahati, Assam, India.

Specifically, the pre-symposium training included pre-evaluation, primate taxonomy & global diversity/ Highlights on primates of India, primate phylogeny, research design, overview of methods: study/survey primate populations (including GIS/GPS), biological sampling methods, research equipment (blow pipe, range finders, GPS, radio telemetry, camera trap, drone). Field visit/vegetation sampling/ plots/quadrates/herbarium preparation, human-primate interface (conflict health risks), conservation strategies, conservation photography, human-



*Photo by MPCD, Aaranyak*

primate conflicts & mitigation, disease related to primates and communication to human, field visit again for rescue & rehabilitation/translocation/impacts positive & negative to population, conservation breeding, meta-population managements, scientific communication/journalism/popular native papers and values, funding sources and proposal writing and concluded with post-evaluation and feedback from the participants.

The participants learnt the techniques of using dart gun, blow pipe, population count, sign survey, camera trap methods, herbarium collection and sheet preparation, various sampling techniques, plant identification and enumeration, use of GPS, radio collar and distant sampling. They were gifted with hand-notes, printed materials and stationaries by the organizers with certificates at the closing ceremony.

The symposium was organised at the Gauhati University, Zoology Department which is great venue for

conducting all symposium activities.

The symposium was formally inaugurated on 8th February, in presence of dignitaries, participants and other members. The hosts welcomed the guests in traditional Assamese welcome ceremony. Renowned primatologist and zoologists spoke on the heartfelt welcome to all participants and great satisfaction for successful organizing efforts of sponsored. Prof. Dr. P. J. Handique, Vice-chancellor, Gauhati University gave inaugural speech, alongwith speeches from Prof. P.C. Bhattacharjee, Dr. J.R.B. Alfred, Prof. P.K. Saikia, HoD, Zoology Department, Dr. B.K. Talukdar, CEO & SG, Aaranyak, and Prof. Dr. Mukesh Kumar Chalise. The venue was in the walking distance from Dr. Bhupen Hazarika Memorial Museum as well as a market place and highway.

Dr. Chalise, on behalf of the International Committee of APS, 2020 concluded the Inaugural session with his speech.



Photo by **MPCD, Aaranyak**

The symposium, with six plenary lectures, respectively by Prof. Mewa Singh, Prof. Randall C. Kyes, Prof. Suchinda Malaivisitnond and Prof. Yazuro Hamada and 54 Oral and 39 poster presentations was a huge success. The oral presentations were categorized in different sub-themes, namely Ecology, Behaviour and conservation, where 18 talks were presented, Primate biogeography, climate change and conservation which had seven talks, Primate trades and Transboundary issues had nine talks, Primate phylogeny, genetics and forensic had nine talks, Urban Primate Ecology and human primates interaction had 11 presentations. Besides, 39 posters were displayed outside the main lecture hall. The presenters were provided with best oral and poster presentation awards.

The closing programme was chaired by Dr. Dilip Chetry where Prof. Ramesh Boonratana of Mahidol University, gave a plenary talk on IUCN Best Practice

Guidelines for the Stewardship of Primates in Fragments. Following this talk APS-2020 felicitated two long-term field assistants of Dr. Chetry, Mr. Kamleswar Rabha from Chakrashila Wildlife Sanctuary working on Golden langur and Mr. Deben Borah from Hollongapar Gibbon Wildlife Sanctuary. During the closing ceremony it was announced that the 8<sup>th</sup> Asian Primate symposium will be held in Vietnam and for its bidding and highlights the represented team member Dr. Tilo Nadler presented the situation of organizer (Vietnam wildlife rescue center) and possibilities of different activities during 2022 APS in the country. Similarly, Malaysia group also presented their situation to organize Asian primate symposium in future.

For the young scientists and researchers an additional side event was organized where the participants interacted with the experts to clarify their doubts, discuss field methods and other related subjects. Dr. Narayan

Sharma, Prof. Dr. Mukesh K. Chalise, Dr. J.C. Kalita, Dr. Ramesh Boonratna, Prof. Dr. Randall C. Kyes, Prof. Dr. Farid Ahsan, Prof. Dr. Choudhury Parthankar were resource persons. The young researchers enquired on how to deal with locals, how to match with diverse climatic and weather system while in study, animal conservation and peoples' livelihood and interdependency and interactions, indigenous knowledge utilization, hardship and in the fields.

During the symposium, the participants were taken on a cruise in the river Brahmaputra where they witnessed and enjoyed local culture and cuisine. Post symposium they visited Kaziranga National Park, Manas National Park and Hollongapar Gibbon Sanctuary with the kind support of symposium organizers, specially Dr. Dilip Chetry. Now we are looking forward for the 8<sup>th</sup> Asian Primate symposium to be held in Vietnam in 2022.



## The **Pre-Symposium Training Program**, the **7<sup>th</sup> Asian Primate Symposium 2020 &** **1<sup>st</sup> International Conference on Human-Primate Interface**, and the **Post-Symposium Tour**

**Ramesh Boonaratana**

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Earlier this year, in February, I had a memorable opportunity in attending the 7<sup>th</sup> Asian Primate Symposium 2020 & 1<sup>st</sup> International Conference on Human-Primate Interface, being a mentor at the pre-symposium Training Programme on Field Methods, Primate Conservation Biology & Global Health, and a participant in the post-symposium Tour. This short write-up is to share my experience and personal thoughts on my participation in the events and tour.

The pre-symposium training programme on “Field Methods, Primate Conservation Biology & Global Health” was held from 5-7 February at the Scholar’s Institute of Technology and Management (SITM) in Guwahati, Assam. The pre-symposium training was attended by twenty participants, comprising 18 Indian nationals, one South Korean, and one Burmese. Besides myself, the trainers comprised Prof. Randall Kyes, Prof. Mukesh Chalise, Dr. H.N. Kumara, Dr. Dilip Chetry, Mr. Udayan Borthakur, and Mr Bankim Baruah.

I must admit that I thoroughly enjoyed and felt gratified delivering a session on “The Scientific Manuscript: Preparation to Publication”, providing tips and guidance on getting research

and conservation works published.

This was based on a need I identified after a number of years managing the Asian Primates Journal, a Journal of the Southeast Asia, South Asia and China Sections of the IUCN SSC Primate Specialist Group. This need was first publicly highlighted during an oral presentation at the 27<sup>th</sup> Congress of the International Primatological Society, held in Nairobi, Kenya in August 2018. In addition, I also delivered an impromptu session on tips and guidance to delivering oral presentations, to assist trainees to be better communicators.

Despite the modest facilities, I consider the training session was a success on three accounts: Firstly, the dedication of the trainers to sharing their expertise; secondly, the dedication of the trainees to learning; and thirdly, the efforts that Dr. Dilip Chetry and his team from Aaranyak invested into the preparations and the back stopping the program. In addition, the forest adjoining the institute (SITM) with its capped langurs, rhesus macaques, Asian elephants and leopards provided an easy access for outdoor exercises to be carried out. Moreover, the training was informal and highly interactive.

The “7<sup>th</sup> Asian Primate Symposium 2020 & 1<sup>st</sup> International Conference on Human-Primate Interface”, was held on 8-10 February at the Gauhati University, Guwahati, Assam.

The theme of the symposium was “Conserving Primate Diversity in the Anthropocene: Challenges and Strategies”. There were altogether 128 registered participants from 20 countries, and 350 student participants from the Indian universities. The 128 registered participants excluded the 29 participants from China who had to cancel their participation at the last minute due to the COVID-19 pandemic.

The symposium/conference allowed not only subject specialists and early career primatologists/conservationists and young researchers to present their research works, it also allowed individuals to have face-to-face discussions and strengthen their network. Personally, I found it quite gratifying to see young researchers and the early career primatologists/conservationists motivated by their exposure and interactions.

The highlight of the symposium was the awarding of the Life-Time Achievement Honour Awards to Prof. S.M. Mohnot, Prof. P.C. Bhattacharjee and Prof.



Photo by **MPCD, Aaranyak**

Mewa Singh for their contributions to the field of primatology. An impressive and highly commendable act that Dr. Dilip Chetry and party did was to publicly recognize and award two Forest Guards (both of whom are from the local stakeholder communities), Mr. Deban Borah (of the Hoollongapar Gibbon Sanctuary) and Mr. Kamleswar Rabha from (of the Chakrashila Wildlife Sanctuary) who have contributed significantly to primate conservation efforts and assisted many researchers with their PhD theses and Masters dissertations.

Despite the cancelled participation, which was highly unfortunate, I consider the symposium a success. Indeed, there were a number of hiccoughs, which is typical of many regional events organized without the assistance of professional event organizers. However, they were generally minor - mostly related to delays in presentations, time-keeping, overzealous members of the audience

(who spoke at length instead of asking short questions or making specific comments), and some fussy participants with complex dietary habits/requirements. Much of the credit of the success of the symposium/conference goes to the organizing committee, Aaranyak, and the student volunteers.

I should also commend Prof. Jogen C. Kalita for his dynamic vision, availing the presence of some of the big primatology/conservation names at the symposium/conference by acquiring them to have a few spontaneous discussions with the Gauhati University Department of Zoology research scholars. The discussions included various aspects and issues of research, conservation, and career guidance. It is due to his encouragement that many non-primatology research scholars participated in the symposium/conference – which I believe helped the scholars to understand the value of multi-disciplinary approaches to their

research works and the benefits of being a trans-disciplinarian.

The grand finale of my trip to Assam was the post-symposium tour managed by Aaranyak to Kaziranga National Park (KNP) and Hollongapar Gibbon Sanctuary (HGS) from 11-14, February. A visit to KNP made me feel I was on a safari in Kenya. It was especially meaningful for one who has most of his time doing research and conservation works in the tropical rainforests where animals are shy and visibility is poor. The small, fragmented, isolated and almost flat HGS would make an ideal site for carrying out multiple long-term research and training activities ecology, behavior, and conservation of primates.

I guess it's also important for me to highlight the hospitality of the Assamese people and the luxurious foods that made my trip such a memorable one. Maybe the relevant parties should consider hosting the 30<sup>th</sup> IPS Congress in 2025 (or whenever it will be scheduled)?



# Glimpse of Hope: APS 2020

**Prastuti Bhattacharya**

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Something too great to be true. Undoubtedly, a big bonus experience to be cherished by an undergraduate student. The “7<sup>th</sup> Asian Primate Symposium & 1<sup>st</sup> International Conference on Human-Primate Interference”, in short, APS-2020 was, indeed a journey with joy, excitement, knowledge and experience.

I am in the last semester of my undergraduate study in Zoology, Cotton University. I’ve been extremely passionate about primates. I do owe an explanation for this curiosity and affection I share with ‘monkeys’, to be specific. Ever since I can remember, we have been co-existing with Rhesus macaques (*Macaca mulatta*) at our village. What led me to know more about its behaviour, needs were the growing imbalance in the co-existence, thereby to adopt strategies of mitigation for the same.

I came to know about the APS and its pre-symposium training through the advertisement published on Aaranyak’s official Facebook page. And now I needed someone to sponsor me for the event, and fortunately enough, got a good one! I cannot be more thankful to Sir Jayanta Pathak & team Aaranyak for getting me the opportunity

to contact EECG (Environmental Education Conservation Global), USA for my sponsorship. Throughout all these months after being approved the sponsorship, Sir Dilip Chetry & team Aaranyak has been fervently cooperative and patient with all the technicalities regarding my enrollment in APS-2020. So, technically, I was in the ‘process’ of getting into APS for months, long before it started. Finally, all these preparations took its run on 5<sup>th</sup> February, 2020, our pre-symposium training started. I merely knew that as a student, I was thriving my entire three years of undergraduate study for this time, until got my heart and soul into the stuff we were to learn in the training. Of course, maximum of the technicalities we learnt were on the basic tools of research methodologies used in primatology, but for me, everything was new, exciting, everything I had only heard off, or seen on the TV Screen.

Right from the camera trapping to the usage of GPS tools, drones etc., our mentors and professors had also been very friendly and cooperative during the lessons. It brings a smile on my face always when I think of Professor Rendall Kyes, University of Washington, such a light hearted, joyful personality he had been showing us the ‘big picture’ behind

the research studies in primatology in many of his sessions. We, all the participants had to wish for, was to somehow, take some more days for the training!

We started attending the symposium from 8<sup>th</sup> February, 2020 at the Gauhati University, right after the pre-symposium training. I was literally shocked, and pleased to see so many people together working only on primates! All I could do was to listen to, and be confused of, take a bow at, was all primate talks, everywhere (there where I got my divine, to be precise!). Three parallel talks had been organised at three different floors, me and one enthusiastic friend of mine, we kept running floor to floor, listening, keep noting, questioning, and mostly, taking care of that we do not miss a thing we want to attend! I must thank GUIST for conducting an interactive session for the student with the great researchers.

I was the youngest one there, and met a whole bunch of wonderful people around the entire world, that too with same interests. As a new bud in this field, I wonder if anyone else had been so graciously overwhelmed with great knowledge, experience, sense of responsibility and a big magic bag of inspiration for life.



## Approaches to conservation of forest-dwelling and commensal species: Case studies of lion-tailed and bonnet macaques

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Habitat loss and fragmentation have led to population declines or local extinction of several primate species across the tropics. The lion-tailed macaque, endemic to the rainforests of the Western Ghats in southern India, largely inhabits isolated and degraded forest fragments and faces occasional local hunting pressures. Due to its late reproductive maturity and long inter-birth intervals, the species population turnover is low. The existing wild population of about 3500 individuals is distributed in 49 sub-populations but none of these appear to be viable in the long term. Field studies on the species and its habitats suggest several management measures, including enrichment of degraded habitats and linking of forest fragments with identified native tree species. Captive breeding has produced mixed results but needs to be taken up more seriously. Data on the species from the field and in captivity can now be used to build an integrative model for the management of endangered forest-dwelling primates. Our long-term studies on the bonnet macaque, another endemic, but largely commensal primate in southern India have also shown more than 50% population decline in the recent past. We now need to urgently develop comprehensive management and conservation strategies for such species, traditionally of no concern, as well.

**Key words:** Lion-tailed macaque, bonnet macaque, commensal species, western ghats

## Role of traditional institutions in the conservation of primates of Northeast

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The forest administration in North East India, sharply differ from management in the rest of India as large forest areas are under community control and customary ownership- as these are under special provision of the constitution of India. The region being abode of over 236 diverse tribal communities with their distinctive traditions and cultural practices exhibit the presence of traditional institutions, acting as a self-governing institution from time immemorial. These institutions act as social control mechanism, economic and land ownership under the aegis of customary laws.

The Sixth Schedule of the Constitution is applicable to specific districts or few districts under districts councils or autonomous councils which have given the authority to govern all departments except economy and law and order. Around 2/3 of the region's forest are officially under legal authority of autonomous districts councils and are controlled by the rural community. All forests other than the government reserved forests are to be managed by the district council and in bulk of the forest land customary laws, controlled by traditional institutions. Under this unique traditional and cultural landscape there are 17 species of primates scattered in the forested areas. Any short term or long-term conservation efforts for the conservation of non-human primates depends upon the communities which has high respect and influence of the traditional institutions, unlike other states of India. The advantage of involving traditional institutions is that decision making is faster, economical and received social acceptance. The paper discusses about the present and potential role of the traditional institutions in the conservation of the non-human primates of the region.

**Key words:** Primates of Northeast, traditional institutions, conservation

## The weed macaques: Uniquely adaptable, but ultimately threatened?

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Although, traditionally, various socioecological factors have influenced primate evolution, anthropogenic forces are, today, increasingly shaping the structure and dynamics of primate societies. In this talk, I will explore, in particular, how the provisioning of weed macaques, such as the bonnet macaque, by people can profoundly influence the socioecology of macaque populations at two organisational levels—those of the society and the individual—and, in the process, undermine their survival. In addition to demonstrating the remarkable behavioural and social flexibility of weed macaque populations in response to rapidly changing ecological regimes, these studies bring into focus our traditional disregard of these so-called pest species and question whether the time has come to consider conservation measures for such species of least concern.

**Key words:** Weed macaques, primate evolution, socioecological factors

## Promoting human-primate coexistence through field training and outreach education: Are we making a difference? Are we doing enough?

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Now more than ever, field-based research, training, and outreach education is of absolute, critical importance to help generate “on-the-ground” raw data needed to assess the growing threats to environmental health and our own global health and to provide the next generation of researchers with the purpose and skills needed to address the many challenges going forward. For the past 30 years, we along with our international partners have been conducting annual field training and outreach education programs that focus on promoting primate conservation and healthy human-primate coexistence. Our training programs, broadly titled: “*Field Course in Conservation Biology & Global Health: At the Human-Environment Interface*,” provide participants with an understanding of the principles, methods and applications of field research, experience with field equipment, and conclude with an outreach education program for children (K-12). We recently conducted our 10th annual (anniversary) field course in collaboration with Aaranyak at Gibbon Conservation Centre, in Assam, India. This field course has grown in popularity over the past decade and has provided training for 149 participants throughout Northeast India including undergraduate and graduate students and staff, wildlife professionals, public health workers, NGO staff, etc. A number of our alumni have returned to the program in recent years to serve as supporting instructors for the course. Globally (to date), we have conducted: 126 training programs in 9 program countries for 2,330 participants, and 152 outreach programs for over 9,000 children. We will conclude the talk with a review of our training and outreach milestones and metrics and address the questions: are we making a difference, are we doing enough to promote human-primate coexistence? Training and outreach supported in part by: Aaranyak, ASP; ASP Kyes Award; IPS; One Earth Institute; Woodland Park Zoo; Southeast Asia Center, UW; ORIP-NIH Grant No. P51OD010425 to WaNPRC.

**Key words:** Human-primate coexistence, conservation biology, human-environment interface

## Piak Nam Yai Island: A natural laboratory for macaque stone tool use research

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Stone tool use behavior in macaques was first discovered on Piak Nam Yai Island (PNY) in Thailand after the Tsunami on December 24, 2004. PNY is located in the Andaman Sea of Thailand, just south of the Mergui Archipelago in Myanmar. PNY's ecology includes dense forests, rocky shores with abundant oyster-covered rock outcrops, various species of marine invertebrates, and a high availability of rock pebbles that provide potential stone tools for monkeys to extractively forage upon marine food resources. The monkeys are unhabituated, but can be observed from boats or the mainland. The monkeys on PNY are morphologically and genetically identified as *Macaca fascicularis aurea*, the only stone-tool-using Old World Monkey. After this discovery was reported in 2007, research on macaque tool behavior has expanded into various fields including genetics, archeology, morphology, microbiome studies and neurobiology. This broad collaboration includes several research groups worldwide. PNY provides an excellent natural laboratory setting for further integrative research characterizing gene-culture co-evolution and the ecological influences affecting this process. Advanced DeepLabCut is a deep learning software package capable of non-invasively capturing the postural body motion of live animals (Mathis & Mathis, 2018). Using this technology, we propose to establish a remote, real-time monitoring system of PNY's macaques as an open-access digital zoo, while simultaneously developing a Learning and Research Center on Biodiversity on the adjacent mainland. This project aims to integrate scientific study, wildlife conservation, and cultural/socioeconomic promotion to eventually support the registration of Thai Andaman Sea Coast as a World Natural Heritage Site.

**Key words:** DeepLabCut, digital zoo, *Macaca fascicularis aurea*, gene-culture co-evolution

## Macaque diversity and the ecological segregation

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The genus *Macaca* is a diverse taxon with 23 extant species, which are widely distributed in Asia, excepting one species. Those species belong to species groups which are phylogenetic clusters within which evolutionary trend is represented. The problem here is the competition between taxa. The diversity of these taxa may exist due to either geographical segregation (isolation) between taxa that are ecologically similar with each other, that is, distributions in different areas, especially divergence by range fragmentation such as in Sulawesi macaques or to the ecological segregation. It is well known that the *M. fascicularis* and *M. nemestrina* segregate from each other by means of different habitat uses in Sundaland, arboreality and terrestriality, respectively. Five macaque species are parapatrically distributed in the Indochina Peninsula and vicinity. Among them there should be rather tight ecological segregations by means of micro-climate, habitat use (arboreality – terrestriality), positional behaviors (walk, gallop, leap, climb, clamber, scramble), micro habitat conditions (vegetation, topography). We examined post cranial morphology which should reflect these conditions to identify the mechanism of segregation between them. It was found that the topography, vegetation, locomotor behaviors differ between taxa for segregation, e.g., *M. assamensis* represents unique specialization into the cliffy habitats and arboreality which are not taken by other macaque taxa; *M. arctoides* into terrestriality on both level and inclined terrain and arboreality, and *M. mulatta* dry sparse forest, and so on. The *M. leonina* has adapted into arboreality in evergreen-broad real forest in level terrain, and *M. fascicularis* to bushy riparian forests.

**Key words:** Macaque diversity, ecological segregation, geographical segregation

## IUCN Best Practice Guidelines for the Stewardship of Primates in Fragments

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This is to introduce a global effort on an ongoing process to develop the IUCN Best Practice Guidelines for the Stewardship of Primates in Fragments. The construction of these guidelines by global subject matter experts is being done by accumulating and applying knowledge about what works and what does not work in different situations and contexts, including learning from experience, in a continuing process of learning, feedback, and reflection and analysis of all issues pertaining to the welfare of primates in fragmented habitats. It is the intention of the subject matter experts to have this work represent a “living” document, where concepts and suggestions are illustrated to be effective for the next 20 years. As projects succeed and fail, we hope that reports can be appended to this document so that all forms of conservation practitioners can be updated over time. This document will serve as a tool for conservation practitioners, policymakers, state/regional-level spatial planners, and other interested parties for mitigating development activities that impact primates throughout their range. We intend to have these global guidelines incorporated into the national policy for countries with primates in fragments, and to have the regional guidelines inform use of habitat by agencies and corporations interested in natural and biodiversity resource extraction. We will do this by (i) providing information on the current science of fragmentation, in all of its forms, with particular focus on primates; (ii) providing expertise on topics impacting the management and conservation of primates in fragments per country/region; (iii) advising on specific taxa and referencing existing Action Plans; and (iv) developing a combined comparative global use document and many regional supplemental guides.

**Key words:** Practice Guidelines, conservation evidence, decision makers, fragmentation, policy



## Interview with

### Dr. Anwaruddin Choudhury

#### What inspires you to work towards wildlife conservation in northeast India?

There was no turning point as such. Drawings and interest in wildlife were from unknown childhood. This childhood interest in wildlife gradually turned into scientific study on ornithology and mammalogy (my first article published in 1977 was on birds; Ph.D and D.Sc were on mammals) followed by effort for their conservation. Photography came later as good cameras were not available in India during our youth. In early 1980s when my late father Alauddin Choudhury brought a Canon T50 camera from Delhi that my serious photography took off. Simple interest and research was not enough as I found out during field works that until something can be done so that their habitat could be protected and the species could be saved from poaching.

#### Being a highly placed Government official, how did you manage your time to carry-out your incredible conservation work?

There is a saying that where there is will there is way. So in my case, that happened. Yes, at times I thought that the busy Government duties were a reason for my not getting enough time for wildlife conservation. But it had also helped me visit remote areas, helping needy people thus garnering their support for conservation and implementing many of my ideas and recommendations. A bureaucrat with lot of powers can initiate many good works and influence policy decisions that otherwise could be harmful for conservation. Moreover, family members provided me support as I could not give them much time as I should

have. At the end, of course it is the time management - normally I try to prevent wastage of time as far as possible.

#### Any interesting episodes or anecdotes of your conservation work that you would like to share?

There are many. Some are briefed below. It was in 1986, in Inner Line Reserved Forest in Hailakandi district that after hearing call of hoolock gibbon, myself and some locals followed the calls. Those people regularly hear calls but do not go for the animals and hence, many did not see them from close range. So we stumbled upon a troupe of Phayre's leaf monkeys and the locals shouted "we got the hoolock". Although it was not hoolock but we got a new record for Assam; however, it took me some time to convince them that this find is extremely important but it is not hoolock!

Then once in Dibru-Saikhowa in 1993-94, our country boat had a wallowing wild buffalo below it and the distance between my hand and buffaloe's eyes were just 3 feet! Rest you can imagine. Then in 1996, we were surrounded by more than 200 elephants in Bornadi Sanctuary. I was on the wheels and the elephants many of whom were surprised by sudden appearance of a gypsy in their midst charged at us, but surprisingly maneuvered their body in such a way that none even touched the vehicle although at several times they came within four feet - I could still remember huge eye-balls within touching distance. In fact Bornadi is a drier area owing to location in Bhabar zone and there are number of water holes on both sides on lower ground, hence, elephants standing on lower ground had their eyes at my eye level. Rest I leave to readers to ponder.

Then in late 1990s, after climbing Piri-la top, the highest area where wild Asian elephants roam in western Arunachal Pradesh we lost track while coming down. At one stage we stopped walking down and started sliding down along fairly steep slopes with great amount of risk as it was approaching dusk! There were black bear signs everywhere. At last we saw through a pair of binoculars a reflecting roof, some 15 kilometres away just around dusk (later confirmed it as near Rupa township). But still it was around 8pm by the time we reached our camp at Ramalingam, last leg was covered by a truck. The achievement of this 'lost track' episode was discovery



of flying squirrel *Petaurista nobilis singhei* subspecies in India.

Then in March 2003, I was on my way to Anini. Due to sudden heavy rain for several days we got stuck at 29th mile BRTF camp. Then we returned to Hunli but again got stuck as a part of the road near Mayodiya pass was washed away in a steep mountain slope. I started driving to and from 65th mile camp and Hunli. One day I found that the fuel stock did not allow my return to Hunli. So to save last bit of petrol, I decided to camp with the road-construction labourers at 65th mile. Then is a long story, which I would share separately in future as it, and all the above briefs actually requires a full chapter for each episode!

### **What obstacles do you see standing in the way of effective conservation in northeast India?**

There are several but foremost is lack of political will. It is not that governments are not interested but unless there is proper understanding they may not be able to feel that sometimes indifference and ignorance could become major obstacles and also reverse conservation. What is required is simple. The Chief Minister and Forest ministers of the states should sit in good 3–4 lectures on conservation at the beginning. Assam had two stints when late Nagen Sharma and then Sri Pradyut Bordoloi were ministers. Both their tenures were very effective for conservation as they had excellent homework at the beginning, not by routine presentations by officials but by people who were voluntarily contributing for the cause of conservation and had adequate expertise. That will help shape their mindset and would ensure better understanding of the conservation issues. Rest of the ministers and MLAs may also attend which would be helpful.

NGOs should take up regular awareness programmes in the fringe villages of important wildlife habitats, not necessarily just the fringe of protected areas. Now it is largely sporadic and there is generally no continuity.

### **Do you think the current education system encourages the younger generation to connect with the nature around them?**

Current education system and the text books have lot of coverage on nature and environmental issues. However,

students have taken these as part of their course and some even think that it is extra burden. It needs to be designed in a different way, may not necessarily be part of the course or additional burden but a few classes every week as extra-curricular activity and may be given to NGOs or groups with expertise. They may use visuals such as power point, posters, booklets, etc., as much as possible and informally impart knowledge. Schools may tie up with such groups for a longer term.

### **What would you suggest the younger generation conservationists of the region?**

Develop and nurture sincere interest with commitment. Acquire knowledge as a continuous process as “knowledge is power”. Conservationists must be honest, no fabrication of data or other fictitious activities. Involve local communities. Talk to everybody, treat everybody as important. Always remember that everything starts from one. Hence, do not feel that you are just one. Several ones become hundreds and thousands.

### **Can economic development in northeast India go hand in hand with ecological security. What are your views on this?**

Yes, can be done with proper planning and political will. One can opt for lesser evil but without proper planning and political will, things will be different. The recent State of the Forest Report is an indication of danger in front of us. For instance, the very dense forest cover in Assam is just 3%, which after a decade may be zero! Very dense forest cover is not 90 or 100% canopy cover but 70%, i.e., some trees were removed.

### **What are your views on Aaranyak and the work it is doing towards conservation?**

I knew Dr Bibhab Talukdar since late 1980s and was aware that Aaranyak has been formed. Bibhab was always sincere and committed and so he could carry along the NGO successfully during the past decades. Transparency is there and their activities are known to lot of people, which is a plus point.



# মানস অভয়াৰণ্যত মোৰ কৰ্ম অভিজ্ঞতা

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ইং ২০১৬ চন ৪ নভেম্বৰৰ দিনটো মোৰ বাবে আছিল এক স্মৰণীয় দিন।” আৰণ্যক”ৰ লগত জড়িত হৈ মানস অভয়াৰণ্যত” মানস ট্ৰেডিংছনেল ড্ৰেছক্লাষ্টাৰ” প্ৰকল্পটোৰ কাৰ্যনিৰ্বাহক হিচাপে কৰ্মজীৱনৰ পাতনি মেলাৰ এক সুযোগ উক্ত দিনটোতেই লাভ কৰিছিলো। পূৰ্বতে বিভিন্ন প্ৰকল্পত কাম কৰাৰ সুবিধা লাভ কৰিছিলো যদিও সেয়া নিজা চহৰ গোৱালপাৰাতেই সীমাবদ্ধ আছিল। মানস অভয়াৰণ্য বা বাকসা জিলাৰ কথা বাতৰিকাকত বা টেলিভিছনত দেখাৰ বাদে স্ব-চক্ষুৰে প্ৰত্যক্ষ কৰা নাছিলো। সেয়ে যথেষ্ট উদ্দীপ্ত তাৰে নতুন কৰ্মস্থলীত আহি উপস্থিত হৈছিলো। মানস অভয়াৰণ্যৰ দাঁতিকাষৰীয়া গাওঁসমূহত বসতি কৰা লোকসকলৰ জনজাতিৰ

হোৱা হেতুকে প্ৰথমৰপৰা ভাষাৰ ক্ষেত্ৰত কিছু অসুবিধা হৈছিল। প্ৰকল্পটোৰ মূলতঃ তাঁতশাল, চিলাই মেচিন আদি বিষয়ক হোৱা বাবে ইয়াৰ লগত মহিলা সকলহে অধিক জড়িত হৈ পৰিছিল। জনজাতীয় এই মহিলাসকল তেওঁলোকৰ নিজা ভাষাটোৰ বাহিৰে অসমীয়া ভাষাত কথা-বাৰ্তা পতাৰ অভ্যাস নোহোৱাৰ বাবেই কিছুদিনলৈ ভাৱৰ আদান প্ৰদান কৰাত অসুবিধা হৈছিল যদিও পিছলৈ নিজে বুজি পোৱাৰ উপৰিও তেওঁলোকৰ সৈতে ভাৱৰ আদান-প্ৰদান কৰিবলৈ সক্ষম হৈছিলো।

মানস অভয়াৰণ্যৰ দাঁতিকাষৰীয়া ভূঞাপাৰা, মাজুবাৰী, বামুনখাল, মদনগুৰী, কৰেবাৰী, কুশ্ৰাটাবী, দংপাৰ আৰু বৰগাওঁ মুঠ আঠখন গাঁৱৰ ২৬১ গৰাকী মহিলাকলৈ আৰম্ভ হোৱা “মানস ট্ৰেডিংছনেল ড্ৰেছক্লাষ্টাৰ” প্ৰকল্পটোৰ মুখ্য উদ্দেশ্য আছিল সমাজৰ আৰ্থিকভাৱে দুৰ্বল পৰিয়ালৰ মহিলা সকলৰ মাজত সজাগতাৰ সৃষ্টি কৰি উন্নত মানৰ তাঁতশালৰ লগতে চিলাই মেচিনৰ প্ৰশিক্ষণ দিয়াৰ উপৰিও কিছু উন্নত সামগ্ৰী যোগান ধৰি তেওঁলোকক আত্মনিৰ্ভৰশীল কৰা। উক্তপ্ৰকল্পটোৰ যোগেদি



মহিলা সকলক মুঠ ৫ খন সজাগতা সভা, ছটা উন্নত মানৰ জ্যাকাৰ্ট তাঁতশালৰ প্ৰশিক্ষণ, ৪ টা প্ৰাকৃতিক সামগ্ৰীৰে সূতা বং কৰা প্ৰশিক্ষণ, ২ টা চিলাই মেচিনৰ প্ৰশিক্ষণ আৰু এটা বেগ বনোৱা প্ৰশিক্ষণ দিয়া হয়। উক্ত প্ৰশিক্ষণসমূহ ভিন্নসময়ত আটাইকেইগৰাকী মহিলাক সামৰি দলভুক্ত কৰি অনুষ্ঠিত কৰা হৈছিল। ইয়াৰোপৰি মহিলা সকলৰ শাৰীৰিক দিশটোৰ প্ৰতি লক্ষ্য ৰাখি স্বাস্থ্য শিৱিৰৰ আয়োজন কৰি চিকিত্বেসকৰ পৰামৰ্শ অনুসৰি বিনামূলীয়া ঔষধ যোগান ধৰা হয়। প্ৰকল্পটোৰ অধীনত দি অহা বিভিন্ন প্ৰশিক্ষণৰ অন্তত প্ৰতিগৰাকী মহিলাক মুঠ পাঁচ কেজিকৈ সূতা বিনামূলীয়াকৈ প্ৰদান কৰাৰ উপৰিও তিনি বা চাৰিগৰাকীকৈ মহিলাৰ দল বনাই মুঠ ৮৮ খন আধুনিক জ্যাকাৰ্ট মেচিন তাঁতশালৰ লগতে প্ৰয়োজনীয় সকলো সা-সামগ্ৰী প্ৰদান কৰা হয়। ২০১৭ চনৰ ১৪ নভেম্বৰৰ পৰা ২৭ নভেম্বৰলৈ দিল্লীৰ প্ৰগতি ময়দানত আয়োজন কৰা “ইণ্ডিয়া ইন্টাৰনেছনেল ট্ৰেডফেয়াৰ” লৈ এগৰাকী শিপিনী সহযোগদান কৰা হয়। আমাৰ শিপিনীসকলে তৈয়াৰ কৰা বিভিন্ন ধৰণৰ কাপোৰ উক্ত ট্ৰেডফেয়াৰত

প্ৰদৰ্শন কৰাৰ উপৰিও বিক্ৰীৰ ব্যৱস্থা কৰা হৈছিল। ২০১৮ চনৰ ফেব্ৰুৱাৰী ২১ ৰ পৰা ২৮ তাৰিখলৈ পশ্চিমবঙ্গৰ সমুদ্ৰ গঢ়খৰতী গ্ৰামক্লাষ্টাৰ, শান্তিপুৰ লাইফলাইন হেণ্ডলুম চছাইটি, নতুন ফুলিয়াতনুবাঁই সমিতি আৰু বেগমপুৰ হেণ্ডলুম ক্লাষ্টাৰৰ বিভিন্ন কৰ্মৰাজি পৰিদৰ্শন কৰাৰ উদ্দেশ্যেৰে মুঠ ১২ গৰাকী শিপিনীক লৈ যোৱা হয়। পশ্চিমবঙ্গৰ বিভিন্ন ঠাইত হস্ততাঁতৰ ওপৰত চলিথকা কাম-কাজ, তেওঁলোকৰ কামকৰাৰ ধৰণ, ব্যৱসায়, লাভালাভ আদি পৰিদৰ্শন কৰি আমাৰ শিপিনীসকল যথেষ্ট উপকৃত হয়। ইং ২০১৯ চনৰ ২০ আগষ্ট তাৰিখে উক্ত প্ৰকল্পটোৰ অন্তত মানস অভয়াৰণ্যৰ দাঁতিকাষৰীয়া গাওঁৰ সকলো ৰাইজৰ সুবিধাৰ্থে মাজুবাৰী গাঁৱত এটি অত্যাধুনিক” কমন ফেচিলিটি চেণ্টাৰ” স্থানীয় সকলো শিপিনীৰ সুবিধাৰ্থে মুকলি কৰা হয়। উক্ত চেণ্টাৰটোত আধুনিক তথা উন্নত মানদণ্ডৰ জ্যাকাৰ্ট তাঁতশাল চিলাই মেচিন, অটমেটিক ইলেকট্ৰিক চিলাই মেচিন, আধুনিক সূতা বং কৰা, মেচিন কেলেভাৰিং মেচিন, বৰিনত সূতা লোৱা ইলেকট্ৰিক মেচিন আদি সংলগ্ন



কৰা আছে। ইয়াৰোপৰি চেণ্টাৰটো পৰিচালনা কৰিবলৈ এখন পৰিচালনা সমিতি গঠন কৰা হয়। অধিকসংখ্যক শিপিনীয়ে দলীয়ভাৱে আৰু কিছুসংখ্যকে নিজাৰবীয়াকৈ কাপোৰ বনাই ঘৰত ব্যৱহাৰ কৰাৰ উপৰিও বিক্ৰী কৰা পৰিলক্ষিত হৈছে। শিপিনীসকলে বনোৱা কাপোৰৰ বিক্ৰীৰ সুবিধাৰ্থে প্ৰকল্পটোৰ অন্তৰ্গত বাঁশবাৰী ফৰেষ্টৰেঞ্জত এখন চেলচ আউটলেট (বিক্ৰীকেন্দ্ৰ) নিৰ্মাণ কৰা হয়।

প্ৰকল্পটোৰ কাৰ্য সম্পাদন কৰোতে বিভিন্নসময়ত বিভিন্ন ধৰণৰ অসুবিধাই আগভেটি ধৰিছিল যদিও স্থানীয় সহকৰ্মী তথা ৰাইজৰ সহযোগিতাত সেয়া দূৰ কৰিবলৈ সক্ষম হওঁ। দিন বাগৰি যোৱাৰ লগে লগে আৰু নিজকৰ্মৰ খাতিৰত প্ৰকল্পটোৱে সামৰি থকা আঠখন গাঁৱৰ উপৰিও মানস অভয়াৰণ্যৰ কাষৰীয়া অঞ্চলসমূহৰ জনসাধাৰণৰ লগত এক সু-সম্পৰ্ক স্থাপন হয়। সৰ্ব-সাধাৰণ ৰাইজৰ লগত স্থাপন হোৱা এই সম্পৰ্কটোৱে প্ৰকল্পটোৰ কৰ্মৰাজি সফলভাৱে পৰিচালনা কৰাত যথেষ্ট সহায়ক হয়। প্ৰকল্পটোৰ অধীনত বিনামূলীয়াকৈ প্ৰদান কৰা আধুনিক তাঁতশালৰ সুব্যৱহাৰ কৰি অধিক সংখ্যক মহিলাই আত্মনির্ভৰশীল হোৱা পৰিলক্ষিত হৈছে।

এখন নতুন ঠাই নতুন সমাজত কাম কৰাৰ সুবিধাকণ লাভ কৰিছিলো আৰণ্যকৰ ড°

নমিতাব্ৰহ্মা বাইদেউ আৰু শ্ৰীযুত মানস ভট্টাচাৰ্য্যদেৱৰ জৰিয়তে। মুক্তমনেৰে এটা নতুন প্ৰকল্পৰ কৰ্মৰাজিত আগবাঢ়ি যাওঁতে বিভিন্ন সময়ত দিহা-পৰামৰ্শ আগবঢ়াই প্ৰকল্পটোৰ সফলতাৰ বাবে তেওঁলোকে আশানুৰূপ সহায়-সহযোগিতা, দিহা-পৰামৰ্শ আগবঢ়ায়। শ্ৰীযুত মানস ভট্টাচাৰ্য্যদেৱৰ প্ৰকল্পটোৰ প্ৰথম অৱস্থাৰ পৰাই পথ প্ৰদৰ্শকৰ ৰূপত অৱতীৰ্ণ হৈছিল আৰু কাৰ্যালয় ভিত্তিক সকলোকাৰ্য্য সম্পন্ন কৰি ক্ষেত্ৰপৰ্য্যায়ৰ কাৰ্য্য সমাপনত সহায় কৰিছিল। ড° বিভূতি প্ৰসাদ লহকাৰ চাৰৰ সহায়-সহযোগিতা আৰু মানস অভয়াৰণ্যৰ কাষৰীয়া অঞ্চলত বছৰ বছৰ ধৰি কাম কৰি যোৱাৰ অভিজ্ঞতাৰে যি দিহা-পৰামৰ্শ আগবঢ়াইছিল, সেয়া প্ৰকল্পটোৰ সফল পূৰ্ণতাত সমল যোগাইছিল।

যোৱা ২০১৯ চনৰ এপ্ৰিল মাহৰ পৰা “মানস ট্ৰেডিংনেল ড্ৰেছক্লাষ্টাৰ” প্ৰকল্পটোৰ উপৰিও অভয়াৰণ্যৰ দাঁতিকাষৰীয়া গাওঁসমূহত মানুহৰ জীৱনধাৰণ আৰু বনসংৰক্ষণৰ ওপৰত আৰণ্যকে চলাই থকা আন এটা প্ৰকল্পৰ কিছু কামৰ দায়িত্ব লাভ কৰে। এই প্ৰকল্পৰ জৰিয়তে অভয়াৰণ্যৰ দাঁতিকাষৰীয়া গাওঁৰ যিসকল লোকে বিভিন্ন সময়ত অকাৰণত অভয়াৰণ্যৰ ভিতৰলৈ সোমাই বিভিন্ন ধৰণৰ ক্ষতিসাধন কৰে বা কৰিবলৈ চেষ্টা কৰে সেইসকল লোকৰ লগত আলোচনা কৰা হয়। তেওঁলোকৰ জীৱিকাৰ এটি সঠিক

ব্যৱস্থা কৰাৰ প্ৰচেষ্টা কৰা হয়। ইয়াৰে কিছু সংখ্যকলোকে অভয়াৰণ্যৰ ভিতৰলৈ গৈ মাছ মাৰি বা গছ কাটি অন্যথা খৰি আনি বিক্ৰী কৰি জীৱন নিৰ্বাহ কৰাৰ এক সূচল পথ বাছি লয়। এইসকল লোকৰ লগত বিভিন্ন সময়ত বিভিন্ন আলোচনাৰ অন্তত জানিব পৰা যায় যে তেওঁলোকৰ কিছুসংখ্যক খেতিমাটি নথকাত অভাৱ অনাটনৰ বাবে এই সহজ পথটো বাছি লয় আৰু আন একাংশই পূৰ্বৰ পৰাই চলি অহা অভ্যাসবশতঃ অভয়াৰণ্যৰ ভিতৰলৈ সোমায়। যি সকললোকে অভাৱ অনাটনৰ বাবে এই কাৰ্য্য কৰে তেওঁলোকক জীৱন নিৰ্বাহৰ বাবে আলোচনাৰ মাধ্যমেৰে গাহৰি, ছাগলী আদি পোহনীয়া জন্তুৰ বাবে নানাধৰণৰ সহায়, ঋতুভিত্তিক কৃষিৰ বীজযোগান আৰু কিছুসংখ্যক লোকক বিভিন্নধৰণৰ ব্যৱসায়ৰ ব্যৱস্থা কৰি দিয়া হয়। এনেধৰণে সহায় কৰা বহুকেইজন কৃষকে বৰ্তমান নিজৰ জীৱনধাৰণৰ দিশটো উন্নত কৰিবলৈ সক্ষম হৈছে। অভয়াৰণ্যখনৰ কাষৰীয়া অঞ্চলৰ কিছুসংখ্যকলোকে অভয়াৰণ্যত নিৰ্ভিগ্নে সোমোৱাটো তেওঁলোকৰ জন্মস্বত্ব অধিকাৰ বুলি গন্য কৰে। এইসকল লোকৰ মাজত বিভিন্নসময়ত আৰণ্যকৰ ফালৰপৰা সজাগতাৰ সৃষ্টি কৰি থকা হৈছে যদিও আৰু অধিক সজাগ কৰাৰ প্ৰয়োজন আছে।

*Photos by Swapan Das*



# A Short Note from a Fresher

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After every few years we find ourselves standing at the crossroads. We are required to make important choices that eventually define the trajectory of our lives. The process of making these choices is often accompanied with confusion and disarray. One is bound to analyse and re-analyse all the choices at hand, over and over again, to the point that it may lead to more indecision. For a student, one such major decision is the choice that we make once we decide to immerse ourselves in the job market. I also found myself in a similar position during my Masters. Having graduated from the University of Delhi in Political Science and having completed my Masters from the Tata Institute of Social Sciences in Labour Studies and Social Protection with an exchange semester in SciencesPo, Paris in Public Policy, I was looking for an opportunity that would enable me to immerse myself at the very grassroots. Being a staunch believer of practical knowledge, I used to feel that somewhere during my studies the grassroots connect was missing.

Hence, I was moving with caution during the placement drive in our campus, looking for organisations that

do solid work on the ground. While looking for such an opportunity I came across the advertisement for the post of a Community Coordinator for the Pygmy Hog Conservation Programme (PHCP) under the Threatened Species Recovery Programme (TSRP) division of Aaranyak. I researched about the post and then decided to drop my CV for the same.

When I went for the interview, I was still a little undecided as this position would require me to move away from the core areas of my subject but it would enable me to have a more holistic perspective of the overlapping nature of social processes and ecological systems.

The project itself was a prestigious one which has sustained itself for more than 25 years with long term partners Durrell Wildlife Conservation Trust, Jersey in collaboration with IUCN/SSC Wild Pig Specialist Group, the Forest Department of Assam, the Ministry of Environment and Climate Change, India, EcoSystems-India and Aaranyak. The prime objective of the project is to save and nurture the population of the critically endangered pygmy hogs (*Porcula salvania*) across the sub-Himalayan grassland habitat. The community component of the project

was starting from this year, possible because of a strategic grant provided by The Habitat Trust, in order to work with the fringe communities living near the Manas National Park (MNP) to strengthen community conservation measures. After I was thoroughly apprised of the details of the project and its vision, I had made up my mind that this is exactly what I was looking for – grassroots engagement, community work, research and conservation.

One of the primary reasons for my decision was the significance of what the PHCP team was trying to achieve. Grasslands play a major role in maintaining ecological balance in the entire sub-Himalayan region but due to population boom and other contingencies, unfortunately, these grasslands which hitherto used to be spread in the entire stretch of the southern Himalayan foothills now exist only in pockets. The MNP is one such pocket. The significance of the ecological services provided by grasslands is enormous. It can be better highlighted if one compares the situation in the area which is hugged by the MNP with other areas like Lakhimpur, where the grasslands stand

completely destroyed. Since the region is geomorphologically young, the soil formations are loose. This effectively means that in the absence of such grasslands, rampant soil erosion and degradation takes place in the event of heavy rainfall and floods. This affects the agricultural sector tremendously. In the areas adjacent to MNP, however, the situation is not so bleak. This is because the grasslands provide a natural cushion to the movement of water downhill from the Himalayas by acting as a sponge which holds and releases water gradually. This water retention quality ensures that the ground water is adequately replenished and that the soil fertility is maintained. This in turn ensures better agricultural productivity for the communities living in the areas that lie immediately south of MNP.

Now, one might wonder, how does ensuring a healthy population of Pygmy hogs come into this picture of maintaining a healthy grassland eco-system? The answer is that pygmy hogs are indicator species of grassland health, if one has to save the pygmy hogs; one has to ensure the sustenance of the grasslands. Thus, a dwindling population of pygmy hogs in the wild would indicate that the grassland health is degrading. Hence, it becomes important to save this species from extinction and in turn saving the grassland or vice versa.

Another question might pop up in the mind of curious readers, how or where does the community component fit in into the greater scheme of things in PHCP? To put things simply,

humankind is intrinsically and critically linked with nature from mere survival to material well being. It is an illusionary construct of the neo-liberal world which has driven a wedge between humankind and nature, giving rise to a disconnection between the two. This disconnect has resulted in indiscriminate exploitation of the natural world as a result of which we are experiencing Anthropocene or the sixth mass extinction. With climate change, sea levels are rising, desertification is rapidly increasing, and natural calamities are becoming more frequent amongst other innumerable effects.

The all encompassing dependence on the environment makes the environment everyone's business - from the extractive industries, the economists, the policy makers and to world leaders. In this great scheme of things, the community component of the PHCP is a humble attempt at reconnecting the local population with the MNP by forging and highlighting the complementary relationship between them. This is to ensure that conservation of the grasslands takes place with the active participation of the local population. For the paucity of space I will not dwell too much on this, keeping it for an essay in the future.

The interview for the position was competitive and I was fortunate enough to get through. I eventually joined the organisation in the capacity of a Community Coordinator for the Pygmy Hog Conservation Programme (PHCP) in June.

This was the time when the pandemic was also nearing its peak. With a blend

of excitement at starting my first job and a fair degree of apprehension because of the situation, I joined our field camp (Re-wilding camp) in the Bansbari Range of Manas National Park.

There are two teams working in Manas; the grassland team and the community team. The grassland team, led by Dr. Dhritiman Das, has its expertise in grassland management and works inside MNP while the community team, under me, is designated to work on the other side of the boundary with the local communities. The grassland team further comprises of Jonmoni, Mahanta and Dwipen. The dots are joined at the top by Dr. Parag Deka, Project Director. Dr. Bibhuti Lahkar is an advisor for the team. The entire set up epitomises utmost dedication, hard-work and expertise towards a holistic conservation practice that aims to take everyone along. After being thoroughly briefed about my role in the organisation, I set out for the field with our team.

The community team is small yet vibrant. Amal Da is nothing short of a celebrity in the area having worked for nine long years with the local communities while he was with ATREE; the ever resourceful Manil Da is always at hand for any nuanced information that you might require and the volunteers, Jyotish, Riju and Mahadev, are some of the most enthusiastic and merry young folks I have ever met. With such characters in the team, one could not help but feel at ease from the very first day.

We would go to the field and conduct follow up meetings to share our daily observations, in between having a hearty laugh about one or the other peculiar incident from the day. This inculcated a joyful and conducive working environment that any fresher could ever hope for.

Backed with this dynamic team, we would go around the villages - maintaining all the necessary COVID 19 precautions – interacting with people, addressing their curiosity and getting acquainted with the old village lanes. The villagers are a joy to interact with. Once you are introduced, their faces would light up with bright smiles that could warm any heart. They would invite us for tea, food or at least tamul pan. With great reluctance; we would politely refuse and apprise them why it is important to strictly maintain the norms of the lockdown. The socialites in us would curse the pandemic on the face of such offers.

Most of the discussions with the villagers would revolve around issues like the overall well being of the local population, different social indicators, their relationship with Manas and their perceptions about the issues that these quaint little hamlets face. These serious conversations would be proliferated by the most exciting anecdotes of the past which enriched the field experience beyond my initial

expectations. The villagers, living in the very margins of the Indian state, were a proud people. They would always make sure to mention how they shared a complementary relationship with the forest. One elder once declared to us proudly, “We take care of our wildlife, there is a deer that has been giving birth in our homestead since the last three years. She trusts us.” This is not to say that there are no conservation challenges here but to highlight that these are the positive stories that makes working at the community level so much more worthwhile.

The village markets are also a delightful place to visit. This is the heart of the village where people converge not just to exchange goods but also news and the latest gossip. You would find a few people always relaxing on the porch of each shop, engaged in animated discussions. A few would be taking their afternoon nap on the floor of their shops, with enough trust in the community that no one would steal anything, something that is incomprehensible for urban dwellers. These instances paint a tranquil picture of the place but it also has its fair share of troubles. I will write about those issues some other time. In the midst of a pandemic, sometimes it is better to focus on these stories which have the power to make us long for brighter days.

As for myself, I had to cut my time in the field short because of the worsening COVID 19 situation and the accompanying restrictions. But with relaxations gradually being put in place, I am keenly looking forward to re-immersing myself in the field. At this point, nothing seems more tempting than the prospect of driving to Bansbari, hopping on to our motorcycles and veering into the distance with the vast lush green grasslands on our left, the blue Bhutan Himalayas in the distance and paddy fields on our right alongside meandering rivulets, with a cool breeze blowing on our faces. The experience is nothing short of extraordinary. It is not every day that you encounter deer, rhinos, elephants and peafowls, amongst other fauna, on a mundane working day.

Joining your first job comes with its own set of doubts and endless questions. Based on feedback from seniors and batch-mates - it felt like the first job is always a test, a draining experience that leaves you disillusioned. The friction of suddenly shifting from student life to a professional life takes its toll. My experience, on the contrary, has been entirely different. To say, that I am feeling restless in order to be able to resume working on the ground, hands-on would be an understatement.



# My experience at Manas National Park

**Ankur Barman**

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I would like to share one of the memorable jungle safaris of my life. It was nine years ago when I was at Manas National Park as a trainee working for Wildlife Tourism. Back in those days, night safaris were allowed by the authorities. I was guiding a group of tourists from West Bengal and we started our safari after lunch. That particular day was very lucky for me and my guests as we had spotted leopards, Elephants, Buffaloes, Sambar, and various bird species. We had tea at the Mathanguri Forest IB. We had spent almost six hours in the ride and while returning, it was already dark. At the back of Gypsy, I tried to stand straight, with a handheld halogen torchlight so that we can spot wild animals. You can imagine the thrills we felt during the dark. The thrills were enhanced with the calling of the crickets and other insects from the surroundings, even louder than our voices. I was focusing my light from right to left as well my behind, from time to time so that we can see an animal. Suddenly one of the tourists asked the driver to stop. I thought that they might have seen any animal so I was busy focusing the light in the surrounding area but could not find a single animal. All the guests were silent. I was confused about what was going on and thought that they might have seen something. Suddenly I heard the voice of one of the tourists talking with his colleagues describing “**how amazing the sky was with all the glittering stars**”. And they were all talking among themselves that they had never seen such stars for a long time. Then, I realized that they were actually enjoying the beauty of the stars in the sky in the lap of nature.

We are reluctant to appreciate the beauty of stars as we often can see it but for them, it was one of the ideal gifts from nature.



# প্রকৃতিৰ সৈতে আত্মীয়তাৰ শিক্ষা

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প্রাথমিক স্তৰৰ পৰাই শিশুক চৌপাশৰ পৰিবেশ শিক্ষাৰ সৈতে আত্মীয়তা গঢ়ি তোলাৰ বাবে উৎসাহিত কৰা উচিত। বিজ্ঞান আৰু প্ৰযুক্তিবিদ্যাৰ উন্নত শিক্ষা দিয়াৰ নামতেই হওক বা আন্তৰ্জাতিক মানৰ শিক্ষা দিয়াৰ নামতেই হওক আমি যদি শিশুসকলক চৌপাশৰ বোকা পানী, ঘাঁহ বন, কৃষি আৰু পৰম্পৰাগত স্থানীয় সংস্কৃতিৰ লগত অপৰিচিত কৰি ৰাখো তেনেহলে আমি মাৰাত্মক ভুল কৰা হব। কিয়নো পৃথিৱীৰ প্ৰতিখন ঠাইৰে কিছুমান নিজস্ব ভৌগোলিক বৈশিষ্ট্য থাকে। সেয়েহে মাটিৰ গুণাগুণ, জলবায়ু, পানীৰ প্ৰাচুৰ্য, বনাঞ্চল, জলাশয় আদিৰ ব্যাপকতা আদিৰ ওপৰত নিৰ্ভৰ কৰিয়েই একোটা অঞ্চলত পূৰ্ব পুৰুষ সকলে কৃষিকাৰ্য আৰম্ভ কৰিছিল। এনেদৰেই একোখন ঠাইৰ পৰম্পৰাগত কৃষি আৰু লোক সংস্কৃতি গঢ় লৈ উঠে। অৰ্থাৎ এখন ঠাইৰ পৰম্পৰাগত কৃষি আৰু লোক সংস্কৃতিৰ স্থানীয় প্ৰাকৃতিক পৰিবেশৰ সৈতে নিবিড় সম্পৰ্ক থাকে। তাৰ উপৰত নিৰ্ভৰ কৰি গঢ় লৈ উঠে এক বহনক্ষম অৰ্থনীতিৰ ধাৰা। অবশ্যে জনসংখ্যা বৃদ্ধিৰ লগে লগে পৰম্পৰাগত কিছুমান ৰীতি নীতি প্ৰকৃতিৰ প্ৰতি ভাবুকি স্বৰূপ বুলিও প্ৰমাণিত হৈছে। তথাপিও পৰম্পৰাগত থলুৱা প্ৰযুক্তি, লোক সংস্কৃতি প্ৰকৃতি, বা মানৱ সভ্যতাৰ প্ৰতি এতিয়াও হৈ আছে বুলি প্ৰমাণিত হৈছে। কিন্তু এইবোৰ কথা সঠিক ভাৱে বোধগম্য হবলৈ, ব্যৱহাৰিক দিশত সঠিককৈ মূল্যায়ন কৰিবলৈ হলে, আমাৰ আত্মীয়তা গঢ়ি উঠিব লাগিব অঞ্চলটোৰ প্ৰাকৃতিক পৰিবেশৰ লগত, আমি পৰিচিত হব লাগিব আমাৰ স্থানীয় সমাজ খনৰ পৰম্পৰাগত লোক সংস্কৃতিৰ লগত। তাৰ বিপৰীতে আমি এনেবোৰ সকলো কথাৰ যদি অশিক্ষিত সমাজৰ কৃষ্টি বা আউপুৰণি পদ্ধতি বুলি ওলাই কৰি আধুনিকতাৰ নামত জৰ্জৰ - মৰ্জৰ আমদানিকৃত কৃষি পদ্ধতি, খাদ্য সম্ভাৰ আৰু জীৱন শৈলীক আকোৱালি লও তেনেহ'লে আমাৰ পৰিবেশ, স্বাস্থ্য, অৰ্থনীতি বা মূল্যবান সামাজিক পৰম্পৰা বোৰবোৰে অবক্ষয় ঘটিব। সেয়েহে আমি যিমানেই অত্যাধুনিক প্ৰযুক্তিৰ শিক্ষাৰ ব্যৱস্থা নকৰো কিয়, সেইবোৰ যাতে আমাৰ অঞ্চলটোৰ চহকী প্ৰাকৃতিক পৰিবেশৰ বিপৰীতে যাব নোৱাৰে, সেই দিশবোৰ নিখুঁতভাৱে চলি - জাৰি চাবলৈ সক্ষম হব পৰাকৈ আমি আমাৰ নৱ প্ৰজন্মক শৈশৱৰ পৰাই স্থানীয় ঐতিহ্য, পৰম্পৰাগত প্ৰযুক্তি তথা সমাজ - সংস্কৃতিৰ লগতে চৌপাশৰ প্ৰাকৃতিক পৰিবেশৰ সৈতে প্ৰণালীবদ্ধ ভাবে একাত্মবোধ হোৱাৰ সুযোগ দিয়া উচিত। তাৰবাবেই আমি প্ৰাথমিক স্তৰৰ পৰাই চৌপাশৰ বাস্তব পৰিবেশৰ লগত সম্পৰ্ক ৰাখি প্ৰণালীবদ্ধ ভাবে পৰিবেশ শিক্ষা প্ৰদান কৰাটো নিশ্চিত কৰিব লাগিব। আমি কৃষক, ব্যৱসায়ী, উদগপতি, শিল্পী, প্ৰশাসক, যিয়েই নহওক কিয়, আমি আমাৰ চিন্তা, কাৰ্য, জীৱনধাৰা সকলো ক্ষেত্ৰতে প্ৰাকৃতিক পৰিবেশৰ প্ৰতি সচেতন হৈ, সন্মান ৰাখি আগবাঢ়িলেহে ভৱিষ্যৎ প্ৰজন্মৰ বাবে পৃথিৱীখন সুন্দৰ হৈ থাকিব।



# To cope with the crisis of COVID-19, Aaranyak undertook several measures

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## **Aaranyak Prepared Hand Sanitizer**

The Wildlife Genetics Division (WGD) of Aaranyak in its laboratory prepared few litres of hand sanitiser based on the recommendations of the World Health Organisation (WHO) for using them in our offices. Besides, a video was released on the procedures of preparing sanitisers and the same was made available to public through our social media handles.

## **Webinars conducted during COVID-19 lockdown**

The Media Production & Communications Division (MPCD), Aaranyak initiated a series of free educational webinars titled 'Eco talk' through online platform for effective utilisation of the COVID-19 lockdown period by both Aaranyak's experts as well as by interested students and professionals alike. The series included webinars on various subjects related to biodiversity and environmental issues, conservation science, endangered species conservation, technological applications in the field of research. It started from 20<sup>th</sup> April 2020 and so far, we have conducted 14 such webinars. Besides, Aaranyak's conservationists also took part as panelists/keynote speakers in several webinars organised by other Governmental organisations, institutes, and NGOs across India.

The Environment Education and Capacity Building Division (EECBD), of Aaranyak initiated another online programme on slightly different format, titled "Science, Environment & Mankind: Fundamentals". This is a panel discussion wherein people from different walks of life come together to discuss pressing issues on environment that is showcased on our official Facebook page as a Live event.

## **Aaranyak's Members Came Forward as Volunteers for 'PratirodhiBandhu'**

Aaranyak encouraged its staffs, and members to come forward and render their service to strengthen its fight against COVID-19 and requested them to register as a volunteer. A total of 11 members from 7 districts (Golaghat, Jorhat, Kamrup, Barpeta, Dhubri, and Bongaigaon) registered as volunteers to assist the Government of Assam in dealing with the crisis through 'ProtirodhiBandhu', an initiative of the Assam Disaster Management Authority (ASDMA).

## **Aiding Local Communities**

The Natural Resource Management Team of Aaranyak worked closely with the under-privileged households of four villages in Karbi-Anglong, aiding them with daily wages during this outbreak of COVID-19. As such, the people were engaged in planting saplings in a degraded community forest. So

far, thousands of saplings have been planted and 22 villagers were benefited with daily wage earning.

Further, the team devised mechanisms to encourage community-based business initiatives. Several natural products such as tea, broom, and handloom sling-bags were marketed through this. An ad-hoc committee named, "PIRBI Biodiversity Business Management Committee" was formed to manage the business. The team from Aaranyak would facilitate them with technical know-how, until they can independently manage the initiative.

## **Aaranyak Contributes to Assam Arogya Nidhi**

Aaranyak contributed an amount of Rs. 1,00,000/- as a token to Assam Government to help strengthen government initiatives to check COVID-19 in Assam.

## **Aaranyak Engaged Local Community for Making Face masks**

Aaranyak engaged local communities living in the fringe areas of high conservation-value landscapes across Assam for making cloth facemasks, following the guidelines suggested by office of the Principal Scientific Advisor to Govt. of India. This initiative helped the local communities in generating income, which was otherwise hit-hard due to the lockdown.

## Aaranyak ensured safety for their staffs

To ensure health and safety for their staffs, Aaranyak regulated its organizational activities and chalked-out a course of action. The management issued office notice on "ADVISORY ON PREVENTION OF COVID-19" to its employees regarding the rules and norms to be observed to cope with the crisis.

## Reaching-out to People

Mr. Jayanta Kr. Pathak, Manager, Environment Education and Capacity Building Division of Aaranyak published popular article encouraging the people to indulge in using soap and clothes for proper sanitation to combat the COVID-19 infection. The response received indicated that many people were benefitted from it. Mr. Pathak also communicated his thoughts to the Government of Assam on developing SoP for disposal of single-use masks.

## Aaranyak Developed Awareness Materials

Aaranyak developed multi-lingual outreach materials in order to generate awareness among people on the COVID-19 pandemic. Attempts were made to circulate these materialsthrough our social media outlets.

## Aaranyak Distributed Essentials

Aaranyak on several occasions distributed face masks, hand sanitisers, and other essentials to various Government agencies, journalists, flood relief campsto deal with the outbreak of this viral infection.

Further, two Bajaj Pulsar motorcycles and 500 units of face masks were provided to the Golaghat Districts Police to arrest poaching and deal with the pandemic.

## মই দিহিং পাটকাইয়ে কৈছে

হে জীৱ শ্ৰেষ্ঠ মানৱ,  
কেতিয়া জাগিবা তুমি?  
প্ৰকৃতিৰ ধংসলীলা দেখি  
কপানাই এতিয়াও তোমাৰ হৃদয়??

প্ৰতিশোধ লব প্ৰকৃতিয়ে  
আছিল ক'ৰণা, আক্ষফন  
আৰু বা আহিব কি!  
পাৰিবানে থাকিব জীয়াই?  
আৰু যদি থাকা,  
কি দি যাবা তোমাৰ উত্তৰপুৰুষক!  
নকপেনে হৃদয় তোমাৰ?

ক্ষনিকৰ সুখৰ বাবে  
নাপাতিবা ধংস যজ্ঞ মোৰ,  
আহিবা এবাৰ  
চাই যাবা মোৰ বিচিত্ৰ জগত  
তোমালৈ থৈছে সামৰি।।

অলপ শাস্তিৰে থাকা,  
আৰু মোকো থাকিব দিয়া  
দি যাম নিৰবধি  
নেদেখা সুখৰ খনি  
অনন্ত কাললৈ।।

**Mrs. Deepika Konwar**  
Retired Teacher, Army Public School



## শংকৰঘোলাই মনত ৰাখিব, অভাৱো অনুভৱ কৰিব

**Dharma Ranjan Rai**

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খবৰ এটা আগতেই আহিছিল। হেমন্তদা কৰ্কটৰোগত আক্ৰান্ত। তেতিয়াৰ পৰাই যেন সময়বোৰে লগত কঢ়িয়াবলৈ লৈছিল এটা অসুখ। হেমন্তদাৰ অসুখ। মানে শংকৰঘোলাৰো অসুখ। কিয়নো আজিৰ দিনত শংকৰঘোলা বুলি ক'লেই লগতে হেমন্ত ৰাভাৰো নাম ভাঁহি আহে। এটাৰ লগত যেন আনটো সংপৃক্ত। শংকৰঘোলাক হেমন্ত ৰাভাই কি দিলে বা শংকৰ ঘোলাই হেমন্ত ৰাভাক কি দিলে সেয়া অন্য এটা বিষয়। কিন্তু এইটো ঠিক হেমন্তদাই আমাক শংকৰঘোলা দিলে আৰু শংকৰঘোলালৈ গ'লেই এজাক আপোন মানুহ দিলে। ভৈৰৱচূড়াপাহাৰৰ নামনিত তামৰঙা বিলৰ পাৰত প্ৰকৃতিক ভালপোৱা সকলৰ বাবে হেমন্ত দাই দি থৈ গ'ল এখনি মনোমোহা। আগতে অহা-যোৱা বেছি আছিল যদিও পিচলৈ ব্যক্তিগত অসুবিধাই হওক বা দুৰত্বগত অসুবিধাই হওক বা আন কাৰণতে হওক শংকৰঘোলালৈ অহা-যোৱাৰ পৰিমাণ কিছু কমি আহিছিল। তথাপি হেমন্তদাহঁতৰ লালন-পালনত শংকৰঘোলা নিজৰ দৰেই আগবাঢ়িছিল। অৱশ্যে হেমন্তদাহঁতৰ পৰিয়ালটোৰ লগত ফোনত হ'লেও যোগাযোগ আছিল। সাংবাদিকতাৰ সৈতে জড়িত থকা সুত্ৰেই কেতিয়াবা অসাধুচক্ৰই গছ কাটি নিয়া বা ৰাইজে ধৰা খবৰো হেমন্ত দাই দিছিল। সেইখিনিতে কিছুমান ঘটনাও ঘটিছিল। কেতিয়াবা নিশা চোৰাং কাঠ ধৰিলেও বনবিভাগৰ লোকে যাবলৈ হোহঁকা-পিছলা কৰিছিল। সমাধান বিচাৰি সেইখবৰো লগে লগে মোলৈ পঠিয়াইছিল হেমন্তদাই। লগে লগে বনবিভাগৰ সৈতেও যোগাযোগ কৰিছিলো আৰু সংবাদ মাধ্যমৰ পৰা ফোন পোৱা হেতুকেই হয়তো বনবিভাগে লগে লগেই মানুহ প্ৰেৰণ কৰিছিল। ২০১৩ চনমানৰ কথা। শংকৰঘোলাক ভিত্তি কৰিয়ে অঞ্চলটোৰ আশে পাশে ৩০-৪০ টাকৈ অবৈধ কাঠফলা কলগঢ়ি উঠিছিল। অভিযোগ

অনুসৰি ইয়াৰ লগত বনবিভাগৰো কিছুলোক জড়িত আছিল। স্বাভাৱিকতে প্ৰকৃতিৰ বাবেই একপ্ৰকাৰ নিজক সপি দিয়া হেমন্তদা এই ঘটনাত উদ্ভিগ্ন হৈ পৰিছিল। উপায়ো নাছিল। অৱশেষত এই কথা মোৰ লগত আলোচনা কৰাত এদিন হেমন্তদা, ড° অশোক দাস ছাৰ (অশোকদাস) আৰু মই কাঠ ক্ৰেতাৰ বৈধ ধৰি প্ৰতিটো অবৈধ কাঠফলা কল পৰিদৰ্শন কৰি বিতং তথ্যৰে বাতৰিও পৰিবেশন কৰিছিলো। তাৰপিচতে কিছুদিনলৈ সেইবোৰ বন্ধ হৈছিল। বনবিভাগেও উৎখাত কৰিবলৈ বাধ্য হৈছিল। এনেদৰেই কলেজীয়া জীৱনতো, সাংবাদিক জীৱনতো লগ পাইছিলো হেমন্তদাক। পৰিয়ালটোও আপোনহৈ পৰিছিল। অতি সহজ সৰল, বৌৰ লগতে ল'ৰাদুজনো। সেই হেমন্ত দাৰ কৰ্কটৰোগ? খবৰটো প্ৰথমে দিছিল ড° হিল্লোলজ্যোতি সিংহছাৰে। কিছুদিন পিচত সুযোগ মিলাত ড° অশোক কুমাৰ দাস ছাৰ আৰু মই হেমন্তদাৰ ঘৰলৈও গলো। কৰ্কট হ'লেওভাগি নপৰা মানুহজনক দেখি কিছু সন্তোষ পালো। বি বৰুৱা হাস্পতালত কেনেদৰে চিকিৎসা হ'ল সেয়াও শুনিিলো। সেয়াই আছিল তেওঁৰ লগত মোৰ শেষ দেখা। পৰিৱেশৰ নিবলস সাধক, প্ৰচাৰ বিমুখমানুহ জনৰ কথা কিবা এটা লিখিম লিখিম বুলি ভাবি থাকোতেই হঠাতে এদিন খবৰ আহিল হেমন্তদা আৰু নাই। প্ৰকৃতিয়ে অতোদিনে কঢ়িয়াই লৈ ফুৰা অসুখটো যেন নিমিষতে চৌপাশে বিয়পি পৰিল। কিছুসময় ঠৰলাগি ললো যদিও বিশ্বাস নকৰি উপাই নাই। “মতুওটো এটা শিল্প”। মানি লাগিব হেমন্তদাৰ চিৰবিদায়ক। কিন্তু কৰিবলৈ যেন তেওঁৰ বহুখিনি থাকি গ'ল। সপোনবোৰ আধৰুৱা হৈ বল। তথাপি শংকৰঘোলাই হেমন্তদাক মনত ৰাখিব। একে সময়তে তেওঁৰ অভাৱো অনুভৱ কৰিব।



# হাড়গিলা চৰাই

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বৰটোকোলাতকৈ আকাৰত ডাঙৰ, টকলা মুৰৰ, ডিঙিত এটা বৈশিষ্ট্যপূৰ্ণ টোপোলা থকা, মিলিটেৰীৰ দৰে পোন হৈ চলা-ফিৰা কৰা চৰাইবিধেই হ'ল এসময়ত পৰ্যাপ্ত পৰিমাণে দেখা পোৱা বৰ্তমান বিলুপ্তিৰ পথলৈ গতি কৰা চৰাই হাড়গিলা। ঠাই ভেদে হাড়গিলাক বৰটোকোলা, বামুনী বৰটোকোলা, যমটোকোলা, হটটোকোলা, হদং, ধদং, হাৰুং আদি নামেৰে জনা যায়। আমি সচৰাচৰ দেখা পোৱা বৰটোকোলা আৰু হাড়গিলা একে জাতিৰ দুটা বেলেগ প্ৰজাতিৰ চৰাই। হাড়গিলা বৰটোকোলাতকৈ আকাৰত ডাঙৰ চৰাই।

হাড়গিলা ডাঙৰ আকাৰৰ চৰাই। ইয়াৰ উচ্চতা প্ৰায় ১৪৫-১৫০ চে. মি.। ইয়াৰ দেহৰ গড় দৈৰ্ঘ্য

প্ৰায় ১৩৬ চে. মি. আৰু ডেউকা প্ৰায় ২৫০ চে.মি. হয়। হাড়গিলাৰ ঠোঁটৰ দৈৰ্ঘ্য ৩২.২ চে. মি. আৰু ঠোঁটৰ বং শেঁতা মুগা বৰণৰ হয়। মুৰটো নোমহীন আৰু ডিঙিত এটা বৈশিষ্ট্যপূৰ্ণ টোপোলা (neck pouch) থাকে। হাড়গিলাৰ প্ৰজনন কালত ডিঙি আৰু টোপোলাটো উজ্জ্বল কমলা বৰণৰ আৰু ঠেং দুখন বগুচুৱা হয়। হাড়গিলাৰ মতা চৰাই আৰু মাইকী চৰাইৰ বিশেষ পাৰ্থক্য নাই। পূৰ্ণবয়স্ক হাড়গিলাৰ সৰু পাখিবোৰ পাতল মটীয়া আৰু ডেউকা ডাঠ বগুৰ। ইয়াৰ দেহৰ তলৰ অংশ বগা বৰণৰ। পোৱালিবোৰ পূৰ্ণবয়স্ক চৰাইতকৈ শেঁতা বৰণৰ। বহু লোকে ভবাৰ দৰে ডিঙিৰ টোপোলাটো খাদ্য মোনা নহ'য়, ডিঙিৰ টোপোলাটোৱে ইহঁতক শ্বাস-প্ৰশ্বাসত সহায় কৰে। ইয়াৰ পাচক

(পাচন) তন্ত্ৰৰ লগত কোনো সম্পৰ্ক নাই। শব্দৰ মাংসপেশী (vocal muscles) নথকাৰ বাবে হাড়গিলাই কেৱল ঠোঁটেৰে শব্দ কৰিব পাৰে। প্ৰায়বিলাক বগলী জাতীয় চৰায়ে ডিঙি মেলি উৰাৰ বিপৰীতে হাড়গিলাই ডিঙি কোচাই উৰে।

ভাৰতবৰ্ষত ৯ প্ৰজাতিৰ বৰটোকোলা জাতীয় চৰাই বা stork পোৱা যায়। এইবোৰ হ'ল ৰূপহীশৰ, তেলিয়াসাৰেং, কালশৰ, কনুৱা, শামুকভঙা, বৰটোকোলা, হাড়গিলা, হোৱাইট ষ্টৰ্ক, অৰিয়েনটেল ষ্টৰ্ক। ইয়াৰে ৰূপহী শৰ বাদে আটাইকেইবিধেই অসমত দেখা পোৱা যায়। গুৰুত্বপূৰ্ণ কথাটো হৈছে, বিশ্বৰ ভিতৰতে বিৰল, বিলুপ্তপ্ৰায় হাড়গিলা আমাৰ অসমতে সৰহ সংখ্যক পোৱা যায়। দক্ষিণ পূব এছিয়াৰ



কস্বোদিয়াত ১৫০-২০০ মান চৰাই পোৱাৰ তথ্য আছে। অসমতে কেৱল হাড়গিলাৰ প্ৰজননক্ষম আবাদীটো জীয়াই আছে। বিশিষ্ট পক্ষীবিদ ড. হিল্লোল জ্যোতি সিংহৰ নেতৃত্বত ১৯৯৫ চনত চলোৱা এক জৰীপ মতে অসমত ৫৭৩ টা হাড়গিলা পোৱাৰ তথ্য আছে। তেওঁলোকে ব্ৰহ্মপুত্ৰ উপত্যকাৰ মাত্ৰ পাঁচ খন জিলাত চৰাইবিধৰ উপস্থিতি ধৰা পেলাইছিল (নলবাৰী, কামৰূপ, মৰিগাঁও, নগাঁও আৰু শিৱসাগৰ)। ২৯ জোপা বিভিন্ন গছত ৭১ টা হাড়গিলাৰ বাহ গণনা কৰিছিল। ১৯৯৫ চনৰ ৮ জানুৱাৰীৰ পৰা ২৯ মাৰ্চলৈ ধুবুৰীৰ পৰা তিনিচুকীয়া লৈ মটৰ চাইকেলৰে জৰীপ চলাইছিল।

হাড়গিলা সামাজিক প্ৰাণী। শীতকালত বিশেষকৈ নবেম্বৰ মাহৰ পৰা ইহঁতে বাহ সাজিবলৈ আৰম্ভ কৰে। ইহঁতে কলনি পাতি বাহ সজা দেখা যায়। কেতিয়াবা বৰটোকোলাৰ সৈতে একে কলনিত বাহ সাজি পোৱালি জগোৱাও দেখা যায়। ওখ, মজবুত গছৰ মুখত গছৰ ডাল পাতেৰে ইহঁতে বাহ সাজে। সুবিধাজনক স্থানত বছৰ বছৰ ধৰি একেজোপা গছতে কেতিয়াবা বছৰৰ বাহ সাজি পোৱালি জগায়। যোৰ পতাৰ সময়ত মতা হাড়গিলাই মাইকী হাড়গিলাক গছৰ ডাল, ঠোঁট আদিৰে প্ৰেম নিবেদন কৰে। হাড়গিলাই এবাৰত ২-৪ টালৈ কনী পাৰে। মতা আৰু মাইকী উভয়ে মিলি উমনি দিয়ে। কনীৰ পৰা ২৮-৩০ দিনত পোৱালি জগে।

হাড়গিলা এবিধ সৰ্বভক্ষী চৰাই। ইহঁতৰ খাদ্য ভেকুলী, চৰাই, পোক -পতংগ, সৰীসৃপ আৰু নিগনি আদি। ইহঁতে কেতিয়াবা হাঁহজাতীয় চৰাই গোটে গোটে গিলা দেখা যায়। অৱশ্যে ই প্ৰধানকৈ মৰা জীৱ জন্তু খাই জীয়াই থাকে। ইহঁতক সততে পেলনীয়া জাবৰৰ দ'ম আৰু কচাইখানাৰ ওচৰে-পাজৰে দেখা পোৱা যায়।

হাড়গিলাৰ সংখ্যা ২৫ টাৰ অধিক শিৱসাগৰ জিলাত দেখা পোৱাৰ তথ্য ১৯৯০-৯১ চনৰ ড. আনোৱাৰোদ্দিন চৌধুৰীৰ তালিকাত উল্লেখ কৰিছে। তাৰপিছত ১৯৯৫ ড. হিল্লোল জ্যোতি সিংহৰ বাদে শিৱসাগৰ জিলাত হাড়গিলাৰ জৰীপ নাইবা সংৰক্ষনৰ বাবে বিশেষ পদক্ষেপ লোৱা দৃষ্টিগোচৰ হোৱা নাই। সেইবাবে জিলাখনত হাড়গিলা বৃদ্ধি নাইবা হ্রাস ৰ তথ্য জনা নাযায়। ২০১৯ বৰ্ষৰ নবেম্বৰ মাহৰ ২ তাৰিখৰ পৰা ৩০ তাৰিখলৈ জিলাখনৰ বিভিন্ন ঠাইত হাড়গিলাৰ সন্ধান কালত ২৬ টা হাড়গিলা দৃষ্টিগোচৰ হৈছিল। প্ৰায়বিলাক কচাইখানাৰ আশে পাশে দেখা পাইছিলোঁ। কিন্তু কেৱল মাত্ৰ তিনিটা বাহহে দেখা পোৱা গ'ল। এইয়া হয়টো সম্পূৰ্ণ তথ্য নহয়। এইক্ষেত্ৰত বনবিভাগ, প্ৰকৃতিপ্ৰেমী ব্যক্তি, সংগঠন আগবাঢ়ি অহা উচিত।

হাড়গিলাই পৰিস্থিতিতন্ত্ৰত এক প্ৰভাৱশালী ভূমিকা গ্ৰহণ কৰি আহিছে। খাদ্য শৃংখলৰ একেবাবে শীৰ্ষত অৱস্থান কৰিছে হাড়গিলাই। ফলত পৰিবেশ তন্ত্ৰৰ তাতকৈ তলখাপৰ

প্ৰানীসমূহৰ আবাদী হাড়গিলাই পৰোক্ষভাবে নিয়ন্ত্ৰণ কৰে আৰু প্ৰাকৃতিক ভাৰসাম্য ৰক্ষা কৰে। শগুনৰ দৰে হাড়গিলাও এবিধ অপমাৰ্জক চৰাই। গেলা পচা মৰাশ খাই ই আমাৰ পৰিবেশ চাফা কৰি ৰাখে।

হাড়গিলাৰ সংখ্যা দ্ৰুত হাৰত কমি আহিছে। বৰ্তমান বন্যপ্ৰাণী সংৰক্ষণ আইনৰ প্ৰথম দফাৰ অন্তৰ্ভুক্ত হাড়গিলা। চৰাইবিধ কমি যোৱাৰ কাৰণ নিশ্চিত কৈ ক'ব পৰা নাযায় যদিও মানুহৰ জনসংখ্যা বৃদ্ধি, লগে লগে গছ গছনি কাটি দ্ৰুত নগৰীকৰণ, বংশবৃদ্ধিৰ বাবে পুৰণি মজবুত বৃক্ষৰ অভাৱ, খাদ্য সংকট আদি এশ এবুৰি সমস্যাৰ বাবে হাড়গিলা হ্রাস পাব লাগিছে।

এই সকলোবোৰ সমস্যা সমাধানৰ সুত্ৰ মানৱ জাতিৰ হাতত। জীৱশ্ৰেষ্ঠ মানৱে এই ধুনীয়া চৰাইবিধৰ বিষয়ে ভাবিবৰ হ'ল নিশ্চয়। হাড়গিলা সংৰক্ষণৰ বাবে গ্ৰীন অস্কাৰ বাঁটা বিজয়ী পৰিবেশ কৰ্মী পুৰ্ণিমা দেৱী বৰ্মনৰ নেতৃত্বত হাড়গিলা আৰ্মী নামৰ এদল পৰিবেশ কৰ্মী আগবাঢ়ি আহিছে। তেওঁলোক এইক্ষেত্ৰত সফল হৈছে। নামনি অসমৰ দদৰাত হাড়গিলা বংশবৃদ্ধি তথা সংৰক্ষন কাৰ্যসূচী লৈ সফল হোৱা দেখা গৈছে। আমি সকলোৱে তেওঁলোকৰ লগত সহযোগিতা কৰা উচিত। নহলে চকুৰ আগতে হাড়গিলা এই পৃথিৱীৰ পৰা বিদায় মাগিব।

*Photos by Hiren Dutta*



# Can Forests heal us?

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*Photo by Bijoyinee Sarma*

We all need to know the answer to this question, especially now when our forests are at risk. Forest has a crucial role to play in our lives starting from birth to death. In every way, the forest has been a part of us, while we breathe, eat and live. Forest feels like home. The sound of the chirping birds, ticking insects, the wind, silence, fresh air, flowing river, etc allow us to feel peace. In today's stressful lives, a simple visit to the forest can result to be very relaxing. It provides us an instant sense of calm, that runs through and the feelings are infinite and can't be described in words. The greenery it contains leaves us refreshed and full of energy.

Imagine the view of the peeking sun and its rays cutting through the large trees and reaching our skin. There is no comparison to the feeling of warmth and brightness it gives. But sadly, the forests are taken for granted, the nature being breached and people underestimating the power of it, forgetting how precious it is for us, for humanity to exist on this planet. Learning the importance, everyone should start caring and saving the valuable forests near us. We all should share and exchange our

knowledge in the forest, elucidate more light on what forests do for us and how we cannot afford to lose them at any cost.

Green is a colour that cools our eyes. The green colour itself has a calming property. It kind of depicts hope for us in need, take us to an instant feeling of peace. Many people tend to go to the lap of nature to release stress and get away from the hectic schedules through retreats, treks, among others. Some take forests as a place to practice yoga or various other exercises. Meditating in nature's lap gives us a positive view of everything and motivates in every aspect. The beautiful view itself brings the urge to be there apart from all the rage. Being in nature is key to the world, comprising love and compassion.

Besides all these miraculous qualities, trees have many other properties such as helping at keeping the earth cool. The green scenery also helps humans to feel calm in the same way. Forests keep the dirt away and help rain clean it all. Forest feeds us, helps us fight climate change. As much as we have the forest on our planet, it will help reduce the carbon dioxide

from the atmosphere which tends to be one of the greenhouse gases responsible for speeding up climate change. Forest helps us slow it down.

It's time to start caring for the forest like one of the parts of the body.

*“Trees are the poems that the earth  
writes upon the sky.....”*

- Kahlil Gibran

The beautiful blend of shade, greenery, activity, and tranquility can yield concrete advantages for people. We shall appreciate and preserve old-growth for the future generation. Spending time in the forest is really proved good for our health. People around the world now seek nature's benefits with the Japanese practice of “Shinrin-Yoku”, known as Forest Bathing. It heals them from unwanted stress, any kind of mental pressure and provides mindfulness.

We all in the trees, in the breeze, shall now seek nature's peace and bliss.

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# পৰিবেশ সংৰক্ষণত শিক্ষার্থী আৰু শিক্ষানুষ্ঠানসমূহৰ ভূমিকা

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বিজ্ঞানৰ নতুন নতুন আৱিষ্কাৰে মানুহৰ জীৱন ধাৰণৰ পদ্ধতি সহজ আৰু আৰামদায়ক কৰি তুলিছে। মানুহৰ মগজুত উদ্ভৱ হোৱা চিন্তা-চৰ্চা আৰু তাৰ বাস্তৱিক প্ৰয়োগে মানুহৰ জীৱনধাৰণৰ প্ৰণালী অতি সহজ কৰি তুলিবলৈ সক্ষম হৈছে। এসময়ত হাজাৰ হাজাৰ কি.মি. দৈৰ্ঘ্যৰ বাট কেইবা দিন বা মাহ ধৰি খোজ কাঢ়ি অতিক্ৰম কৰি যাব লগা হৈছিল। মানুহৰ নিজৰ বুদ্ধিমত্তাৰে এতিয়া কম সময়তে গোটেই পৃথিৱীখন ঘূৰিব পৰা হ'ল। শীত, তাপ, বতাহ, বৰষুণ, বিজুলী খেৰেকণি আদিৰ সৈতে যুঁজ বাগৰ কৰি জীয়াই থকাৰ বাবে সংগ্ৰাম কৰা মানুহে আজি সহজেই সেই প্ৰাকৃতিক ঘটনা-পৰিঘটনাবোৰ মোকাবিলা কৰি এক নিৰাপদ বাসভূমি সৃষ্টিৰে নিজকে সুৰক্ষিত কৰি তুলিবলৈ সক্ষম হৈছে। গৰম হ'লে ঠাণ্ডা, ঠাণ্ডা হ'লে গৰম, ডাঙৰ অট্টালিকাত উঠিবলৈ লিফট, ভ্ৰমণৰ বাবে বাহন, দুৰ-দুৰণিৰ আত্মীয়ৰ লগত ফোনৰে যোগাযোগ আদি অদ্ভুত-পূৰ্ব উদ্ভাৱনে মানুহে পৃথিৱীৰ সকলো জীৱকে পিছ পেলাই বহুদূৰ আগুৱাই আহিলো। মানুহে নিজৰ প্ৰয়োজনীয়খিনি পূৰণৰ বাবে কৰা সংগ্ৰাম খনত সকলো ফালেই সফল হৈছে। অৰ্থাৎ, মানুহে ইচ্ছা কৰিলে কৰিব নোৱাৰা একো কামেই বাকী নথকাৰ দৰে হ'ল।

কিন্তু পৃথিৱীখন কেৱল মানুহৰ বাবেই নে! যে মানুহে ইচ্ছা কৰিলেই নিজৰমতে গঢ় দিব আৰু মন গ'লেই ধংস কৰিব। মানুহ পৃথিৱীলৈ অহাৰ আগতে পৃথিৱীৰ অন্য বাসিন্দা সকল মানুহৰ এনে কামৰ পৰা লাভান হৈছেনে? ক্ৰমবিকাশৰ কৌটিক কোটি বছৰীয়া দীঘলীয়া যাত্ৰাত প্ৰকৃতিলৈ মানুহৰ অৱদান কি? পৃথিৱীলৈ একেবাৰে

শেহতীয়াকৈ অহা মানুহে প্ৰকৃতিৰ পৰা কেৱল লোৱাৰ বাহিৰে দিছে কি, এক নিয়ন্ত্ৰিত ৰূপত পাৰিপাৰ্শ্বিকতাৰ ভাৰসাম্যতা বজাই ৰখা শৃংখলা বদ্ধপ্ৰকৃতিৰ জালখন ধংস কৰা অধিকাৰ পালে ক'ত?

জীৱজগত খন সু-নিৰ্দিষ্ট আৰু চিৰপ্ৰবাহমান একসত্যৰ বাঞ্ছনেৰে বান্ধ খাই আছে। জীৱজগতত থকা কোনো জীৱই স্বতন্ত্ৰ নহয়। কোনোবাখিনিত অন্যজীৱৰ লগত সাঙোৰ খাই আছে। প্ৰকৃতিৰ এই চিৰসত্যবন্ধন এৰাই কোনেও জীয়াই থাকিব নোৱাৰে।

যাৰ জন্ম হয় তাৰ মৃত্যুও অনিৰ্বাৰ্য। পৃথিৱীখনো এদিন জন্ম হৈছিল আৰু তাৰ মৃত্যুও হ'ব এদিন। কিন্তু পৃথিৱীৰ মৃত্যু বা আয়ুস জুখিবলৈ মানুহৰ হাতত এতিয়ালৈকে নিখুত আহিলা আৱিষ্কাৰ হোৱা নাই। তথাপি বৰ্তমানৰ পৰিস্থিতি চাই পৃথিৱীৰ মৃত্যুৰ বেছি দূৰত নাই তাৰ পূৰ্বানুমান বিজ্ঞানীসকলে কৰিছে। ইয়াৰ কাৰণ প্ৰাকৃতিক বিপৰ্যয়। বিভিন্ন সময়ত আমি শুনি আহিছো যে কিবা মহাজাগতিক পৰিঘটনাৰ বাবে কোনোবা এদিনা পৃথিৱীখন ভাগি চূৰ-মাৰ হ'ব আৰু নিমিষতে ধংস হ'ব পাৰে জীৱকূলৰ এইবিশ্ব। অৰ্থাৎ মানুহ তথ্য-প্ৰযুক্তিৰে যিমান ওপৰলৈ উঠিলেও মানুহৰ হাতত এতিয়াও প্ৰাকৃতিকভাৱে পৃথিৱীৰ ভৱিষ্যত কি হ'ব তাৰ সঠিক ধাৰণা অস্পষ্ট হৈয়ে আছে। ই যি কি নহওক, পৃথিৱীৰ ধংস হ'ব পৰা ভয়াৱহ কাৰণটো হ'ল অপ্ৰাকৃতিক, কাৰণ আৰু ইয়াৰ মূলতেই হ'ল মানুহ। আজিলৈকে পৃথিৱীৰ যিমানখিনি ক্ষয়-ক্ষতি হৈছে তাৰ বেছিভাগেই মানুহৰ বিভিন্ন কাৰু-কাৰ্যৰ প্ৰতিফলন। মানুহে নিজৰ জীৱনধাৰণৰ প্ৰণালী অধিক সহজ

কৰিবলৈ যাওঁতে প্ৰকৃতিক নিৰ্দয়ভাৱে ধংস কৰি গৈছে। উদ্যোগীকৰণ, কৃষিসম্প্ৰসাৰণ, নগৰীকৰণ, জলবিদ্যুৎ প্ৰকল্প, নদীবান্ধ আদি অনেক কাম কৰিবলৈ যাওঁতে প্ৰকৃতিৰ বুকুত আঘাত হানিছে যাৰফলত প্ৰকৃতিৰ প্ৰতিক্ৰিয়া অস্বাভাৱিক হ'ব ধৰিছে। ইয়াৰ ফলত নিৰপৰাধী জীৱকূলৰ ব্যাপক ক্ষতি হৈছে। মানুহৰ বাবে নদীৰ দিশ সলনি হৈছে, অৰণ্য ধংস হৈছে, হাজাৰ হাজাৰ জীৱ-জন্তু চিৰদিনৰ বাবে পৃথিৱী এৰি গুচি গৈছে। গছ-গছনি কমি অহাৰ লগে লগে পৃথিৱীৰ উত্তাপ বাঢ়ি গৈছে। এই গোলকীয় উষ্ণতা (global warming) বৃদ্ধিৰ ফলত বৰফাবৃত অঞ্চলসমূহৰ বৰফ গলি সাগৰৰ পৃষ্ঠৰ উচ্চতা বঢ়িছে। সাগৰ পৃষ্ঠৰ কম উচ্চতাত থকা ঠাইসমূহ পানীৰ তলত ডুবযোৱাৰ উপক্ৰম হৈছে।

পৃথিৱীখন এতিয়া ভীষণ জ্বৰত আক্ৰান্ত। পৃথিৱীখনক মানুহৰ দুষ্কাৰ্যই চাৰিওফালৰ পৰা কৰ্কটৰোগৰ দৰে চেপি ধৰিছে। পৃথিৱীখনক ভাল চিকিৎসাৰ দৰকাৰ হৈছে। সমগ্ৰ বিশ্বই, মানব জাতিটোৱে একেলগে মাৰ বান্ধি থিয়হৈ পৃথিৱীখনক বচোৱাৰ অপ্ৰাণচেষ্টা কৰিব লাগিব। বহুতো প্ৰকৃতি প্ৰেমীয়ে পৃথিৱীৰ এই ভয়াৱহ দুৰ্যোগৰ সময়ত পৃথিৱীখনক ৰক্ষা কৰিবলৈ অহৰনিশে চেষ্টা অব্যাহত ৰাখিছে। কিন্তু কোটি কোটি মানুহৰ বাসতিস্থলত কেৱল কিছু মানুহৰ চেষ্টাই পৃথিৱীক বচাব নোৱাৰে। কোটি কোটি মানুহে ধংসৰ গৰাহলৈ ঠেলি পঠিওৱা পৃথিৱীখনক ৰক্ষা কৰিবলৈ সেয়া যথেষ্ট নহয় বাকি কাৰণত সমগ্ৰ মানৱজাতিয়ে কৰা ভুলৰ পৰিণাম কিছুমানুহে মূৰ পাতি ল'ব!



বিশিষ্ট পৰিৱেশবিদ সকলৰ তথ্য অনুসৰি - কোনো এটা নিৰ্দিষ্ট অঞ্চলৰ পৰিৱেশৰ বাতাবৰণ সঠিক ৰূপত নিয়ন্ত্ৰিত হৈ থাকিবলৈ মুঠ ভূ-খণ্ডৰ ন্যূনতম ৩৩% বনাঞ্চল থকাৰ অত্যন্ত জৰুৰী। কিন্তু বৰ্তমান বিশ্বৰ কোনো এখন দেশতেই এই পৰিমাণৰ বনাঞ্চল নাই। যোৱা তিনিদশকৰ আগলৈকে অসমৰ ভূ-খণ্ডত ৩৩%তকৈ অধিক বনাঞ্চল আছিল, কিন্তু পৰ্বৰ্তী সময়ত চৰকাৰৰ শিথিল প্ৰশাসনিক ব্যৱস্থা আৰু এচাম প্ৰকৃতি ধ্বংসকাৰীৰ হাতত অসমৰ বনাঞ্চল দিনেদিনে কমি গৈ বৰ্তমান মাত্ৰ ১৮% বনাঞ্চলহে বৈছেগে। এসময়ত জংঘলীদেশ বুলি খ্যাত অসম এতিয়া মৰুভূমিলৈ ৰূপান্তৰ হোৱা দিশত ধাৰমান হৈছে। চোৰাং কাঠ ব্যৱসায়, বনবিভাগৰ নিষ্ক্ৰিয়তা, কৃষিসম্প্ৰসাৰণ, নগৰীকৰণ, নদীবান্ধ, ঘাইপথ উন্নীতকৰণ আদিৰ নামত যোৱা দুটা দশকত অসমৰ বনাঞ্চল ব্যাপক হাৰত হ্রাস পাইছে। এই হাৰত বনাঞ্চলৰ ধ্বংসযজ্ঞ চলি থাকিলে অন্য ৰাজ্যতকৈ অসম অতি সোনকালে ডাঙৰ বিপদৰ সন্মুখীন হব। বৰ্তমান বছৰি বাঢ়ি অহা বানপানী, গড়া-খহনীয়া, অতিবৃষ্টি, অনাবৃষ্টি, অতিমাত্ৰা শীত আৰু তাপ আদি সকলোবোৰ বনাঞ্চল ধ্বংসৰ কু-ফল। বনাঞ্চল ধ্বংসৰ লগে লগে সেই অঞ্চলত বাস কৰা চৰাই চিৰিকতি, পশু-পক্ষী, দুপ্পাপ্য কপৌফুল, ঔষধি গছবন আদি নোহোৱা হৈ পৰিছে। এইদৰে আমাৰ জৈৱ-বৈচিত্ৰ্যৰ (biodiversity) ধ্বংস হৈ পৰিছে। গতিকে আমি মানুহ জাতিটোৱে বেছিকৈ বৃক্ষৰোপণ কৰিব লাগিব, প্ৰদূষণ সৃষ্টিকাৰক সকলো কামেই যিমান পাৰি কম ব্যৱহাৰ কৰিব লাগিব। নহলে আমাৰপ্ৰকৃতি আৰু এই বিনন্দীয়া পৃথিৱী কালগহুৰত বিলীন হৈ যাব। তাৰ বাবে প্ৰতিজন

মানুহে প্ৰতিদিনাই যিমান পাৰি গছ পুলি ৰোপণ কৰিব লাগিব। জনা গৈছে যে যিবিলাক দেশে সৰ্বাধিক প্ৰকৃতি ধ্বংসযজ্ঞ চলাই প্ৰতিপত্তিশীল হৈছিল সেইবোৰ দেশে পুনৰ বনানীকৰণৰ দ্বাৰা বনাঞ্চলৰ পৰিসৰ বঢ়াবলৈ সক্ষম হৈছে। আমেৰিকা, জাপান, ৰাছিয়া, অষ্ট্ৰেলিয়া আদি ধনী দেশবোৰত বছৰি ১% কৈ বনাঞ্চলৰ পৰিসৰ বঢ়াবলৈ সক্ষম হৈছে। ভাৰততো দক্ষিণাত্যৰ কিছু ৰাজ্যই বনাঞ্চলৰ পৰিসৰ বঢ়াবলৈ সক্ষম হৈছে।

প্ৰকৃতিৰ এই দুৰ্যোগৰ সময়ত আমি সকলোৱে একেলগে কাম কৰিব লাগিব। আমি যিহেতু সকলো শিক্ষানুষ্ঠানৰ সৈতে জড়িত গতিকে আমাতকৈ ডাঙৰ শক্তি হয়তো আন কাৰোৱেই নাই, কোৱা হয় আজিৰ ছাত্ৰ কালিলৈ দেশৰ ভৱিষ্যত। অৰ্থাৎ শিক্ষানুষ্ঠানৰ বিদ্যাৰ্থী সকলৰ ওপৰতেই সমাজখনৰ বহুখিনি কথা নিৰ্ভৰ কৰে। ইচ্ছা কৰিলে ছাত্ৰ-ছাত্ৰীসকলে ঐক্যবদ্ধভাৱে সমাজৰ ভালৰ বাবে বহুতেই কৰিব পাৰে। ছাত্ৰ এজন পঢ়িবলৈ আহে কোনোবা ভিতৰুৱা দুৰণি গাওঁ এখনৰ পৰা। মনত বহুতো আশা, আকাঙ্ক্ষা, ভৱিষ্যতৰ বহুতো সপোনলৈ আহে। সেয়েহে ঘৰৰ আৰু চুবুৰীয়া সকলোৱে আশাকৰে ভৱিষ্যতে নিজৰ লগতে সমাখনৰ বাবেও কিছু অৰিহণা যোগাব। সকলো ছাত্ৰ-ছাত্ৰী একগোটহৈ পঢ়াৰ ওপৰিও অন্য কিবা সমাজৰ বাবে ভাল কাম এটা কৰিবলৈ সংকল্প বদ্ধ হব লাগিব! কিন্তু এইবোৰ কৰিবলৈ সকলোৰে মনত কিছু প্ৰশ্ন উদয় হয়। যেনে - কেনেকৈ কৰিম, কেতিয়া কৰিম, কোনে সহযোগ কৰিব, খৰচ পাতি ক'ব পৰা আহিব, সফল হ'মানে, আনে দেখি কি

বুলি বা কয় আদি ধাৰণা। সকলো কথা চিন্তা নকৰি মন দৃঢ় কৰি স্কুল, মহাবিদ্যালয়ৰ দৰে শিক্ষানুষ্ঠানৰ জৰিয়তে বন্ধু, শিক্ষক সকলৰ সহযোগত ভাল কাম কৰিবলৈ আগবাঢ়ি আহিব লাগে। যিহেতু ভাল কামবোৰত শিক্ষানুষ্ঠানৰ লগত সমাজখনটো আছে। গতিকে এতিয়া মাত্ৰ লাগে প্ৰত্যেকজন শিক্ষাৰ্থীৰ মনৰ উদ্যম, দলীয় সমৰ্থন (group approach) আৰু কাম কৰা মানসিকতা। প্ৰতিবছৰে শিক্ষানুষ্ঠানে অহা প্ৰতিজন ছাত্ৰ-ছাত্ৰীয়ে বাধ্যতামূলকভাৱে বৃক্ষৰোপণ কৰা আৰু স্কুল বা কলেজত পঢ়ি থকালৈকেতাৰ চোৱাচিতা চোৱা-চিতা কৰা আদি এনে ধৰণৰ কাম কৰিব লাগে। এই ক্ষেত্ৰত কলেজ কৰ্তৃপক্ষই প্ৰয়োজনীয় আচনি যুগুত কৰিব লাগে। এয়া যদি কৰিব পাৰি প্ৰতিবছৰে শিক্ষানুষ্ঠানত শিক্ষাগ্ৰহণ কৰিবলৈ অহা লাখ লাখ শিক্ষাৰ্থীৰ পৰা লাখ লাখ গছ আমি প্ৰকৃতিৰ বুকুত দান দিব পাৰিম। স্বইচ্ছা থাকিলে কৰিব নোৱাৰা কাম একো নাই। উদাহৰণ স্বৰূপে, পদ্মশ্ৰী যাদৱ পায়ংৰ কথা ক'ব পাৰো। যিজন মানুহে একনিষ্ঠভাৱে যোৰহাট জিলাৰ ককিলামুখত ৪১২৫ বিঘা (৫৫০ হেক্টৰ) মাটিত গছপুলি ৰুই এখন বনাঞ্চল গঢ়ি তুলিলে যাক মলাই বনাঞ্চল (molai forest) নামাকৰণেৰে পৃথিৱীতে জনাজাত হ'ল। এনেধৰণৰ বহুতো উদাহৰণ পোৱা যায় য'ত প্ৰকৃতি প্ৰেমীয়ে প্ৰকৃতিৰ নিৰ্ধনৰ বিপৰীতে কাম কৰি আছে। তেস্তে আমি প্ৰত্যেকজন শিক্ষাৰ্থীৰ লগতে সচেতন নাগৰিকে প্ৰকৃতিখনক সুৰক্ষাৰ লগতে গছ-গছনি ৰোপণ আৰু পৰিবেশ সংৰক্ষণ কৰিবলৈ দৃঢ় সংকল্পবদ্ধ সিদ্ধান্ত লবলৈ হৈছে।

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**Gokul Tanti**



**Bijoy Panika**

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