

বনবীথি

বন্যপ্রাণ দিবস

ডিসেম্বর - ২০১৩



Banabithi

Wildlife Issue

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সম্পাদকমন্ডলী

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সম্পাদকীয়

বন্যপ্রাণ দিবস ২০১৩ অনুষ্ঠিত হতে চলেছে ১৮ই ডিসেম্বর। এই অনুষ্ঠানকে লক্ষ্য করে প্রতি বছরের মতন এবছরেও আমরা বনবীথি বন্যপ্রাণ সংখ্যা প্রকাশ করছি। বন্যপ্রাণ সংক্রান্ত বিভিন্ন ছোট-বড় তথ্য, অভিজ্ঞতা, অনুভূতি ইত্যাদির সংকলন এই সংখ্যা।

রচনাগুলির মাধ্যমে বন্যপ্রাণ সংরক্ষণের প্রয়োজনীয়তা প্রস্ফুটিত হয়েছে। বন্যপ্রাণ সংরক্ষণ আমাদের দায়িত্ব। ভারতীয় সংবিধানের ৫১ এ ধারা অনুযায়ী প্রাকৃতিক সম্পদ রক্ষা করা এবং প্রাণীদের প্রতি সহানুভূতি দেখানো প্রতিটি নাগরিকের দায়িত্ব বর্তায়। এ ব্যাপারে জাগরুক করার অভিপ্রায়ে বনবীথি সদা সচেষ্ট। বনবীথি প্রকাশের মাধ্যমে যদি আমরা কিছুটা হলেও এই জাগরুকতার উন্মেষ ঘটাতে পারি, তাহলে আমাদের প্রয়াস সার্থক হবে। এই দিশায় প্রতিটি প্রকৃতিপ্রেমী মানুষের সাহায্য আমাদের অনুপ্রাণিত করবে।

ধন্যবাদান্তে –



বন্যপ্রাণ দিবস – ২০১৩

শুভেচ্ছা


সাধারণ ভাবে বন্যপ্রাণ বলতে আমরা বুঝি বাঘ, হাতি, গন্ডার প্রভৃতি বিশালাকার প্রাণী আর মহীরুহের উপস্থিতি। আমাদের এই ধারণাটা স্বাভাবিক কিন্তু সামগ্রিক নয়। বন্যপ্রাণের সংজ্ঞা প্রকৃত পক্ষে আরো ব্যাপক এবং অনেক বিস্তৃত। আরণ্যক প্রকৃতিতে জন্মায় সকল বিশালাকার প্রাণী, কীট-পতঙ্গ, বিহঙ্গ, লতা-গুল্ম, বৃহদাকার বনস্পতি ইত্যাদি সবই বন্যপ্রাণের অন্তর্ভুক্ত। আমাদের অনুভূতিতে অনুধাবন করতে হবে বন্যপ্রাণের এই বৃহৎ পরিমন্ডলকে।

প্রাকৃতিক ভারসাম্য বজায় রাখার ক্ষেত্রে প্রত্যেকটি বন্যপ্রাণের একটি নির্দিষ্ট ভূমিকা আছে-যা একেবারে স্বতন্ত্র এবং সুনির্দিষ্ট। কোন একটি অবলুপ্ত হলে বিপর্যস্ত হলে এই ভারসাম্যের। ফলে মানুষ সহ অন্যান্য প্রাণীর অস্তিত্বও বিপদাপন্ন হয়ে পড়বে। তাই মানব সভ্যতার অস্তিত্ব বজায় রাখার স্বার্থেই বন্যপ্রাণের সংরক্ষণ করা জরুরী। আমরা যেন ভুলে না যাই যে পৃথিবী শুধুমাত্র মানুষের জন্য। সেই কারণে বনাঞ্চলের মানুষজন এবং বন্যপ্রাণের মধ্য সংঘাত নয়-চাই শান্তিপূর্ণ সহাবস্থান।

এই লক্ষ্যেই আগামী ১৮ই ডিসেম্বর পশ্চিমবঙ্গ জুড়ে পালিত হচ্ছে বন্যপ্রাণ দিবস-২০১৩। প্রকাশিত হতে চলেছে বনবীথি পত্রিকার বিশেষ সংখ্যা। আমি এই পত্রিকার সর্বাঙ্গীন সাফল্য কামনা করি।

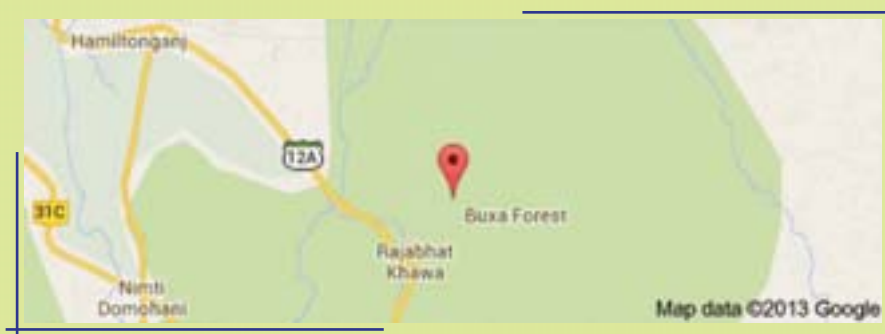
আসুন এই বন্যপ্রাণ দিবসে বন্যপ্রাণ রক্ষায় দৃঢ় শপথ গ্রহণ করি এবং পশ্চিমবঙ্গের অনুপম জীববৈচিত্র্য রক্ষা করি।

কলকাতা
১৮ ডিসেম্বর, ২০১৩


(হিতেন বর্মন)
মন্ত্রী
বনবিভাগ
পশ্চিমবঙ্গ সরকার

Buxa Tiger Reserve – Conserving Biodiversity

** Dr.R.P.Saini (Ravi)*



The **Buxa Tiger Reserve** is a 761-square-kilometre reserved forest area located in West Bengal, India.

Location

Buxa Tiger Reserve (BTR) lies in Alipurduar Sub Division of Jalpaiguri district of West Bengal. Its Northern boundary runs 65 Km along the international border with Bhutan. The Sinchula hill range lies all along the Northern side of BTR and the Eastern boundary about 35Km touches that of the Assam State. National Highway No.31 C roughly runs along its Southern boundary. It is the Eastern most extension of extreme Bio-diverse North-East India and represents highly endemic Indo-Malayan region flora and fauna. The fragile "Terai Eco-System" also constitutes a part of this Reserve. The Phipsu Wildlife Sanctuary of Bhutan is contiguous to North of BTR. Manas National Park lies on East of BTR. It serves as an important corridor for Asiatic Elephant migration between India - Bhutan and neighbouring State of Assam. To the South-West, the Chilapata Forests form a wild life corridor to the Jaldapara National Park. The Reserve encompasses as many as ten forest types. The Head Quarter is located at Alipurduar. The Forest is divided into two Divisions, i.e. East & West. Buxa Fort is an important landmark for this Reserve. This fort was captured by the British-India in 1865 after the Duars War from Bhutan. Later this fort was used as Detention Camp for the Indian Freedom fighters during the Indian Freedom Movement.

Approach

Nearest Airport: Bagdogra – 195 km away Nearest Rail Station: Alipurduar Junction / New Alipurduar – 17 km Nearest Town/City: Alipurduar – 17 km By Road: NH 31 is the main highway. One can hire a Jeep from Alipurduar.

Conservation History

Buxa Tiger Reserve created in 1983 as the 15th tiger reserve. In 1986, Buxa Wildlife

Sanctuary was constituted over 314.52 km² of the Reserve forests. In the year 1991, 54.47 km² areas were added to Buxa Wildlife Sanctuary. A year later, in 1992, Government of West Bengal declared its intentions to constitute a National Park over 117.10 km² of the Buxa Wildlife Sanctuary. State Government finally declared National Park vide notification No.3403-For/11B-6/95 dt. 05.12.1997.

Forest types

- Northern Dry Deciduous
- Eastern Bhabar and Terai Sal
- East Himalayan Moist Mixed Deciduous Forest
- Sub-Himalayan Secondary Wet Mixed Forest
- Eastern Sub-Montane Semi-evergreen Forest
- Northern Tropical Evergreen Forest
- East Himalayan Subtropical Wet Hill Forest
- Moist Sal Savannah
- Low alluvium
- Savannah Woodland

● THE FLORA :

BTR has a wide range of flora owing to a range of natural parameters like topography, climate, temperature and rainfall. It represents several elements of biodiversity of North-East India and Indo Malayan region, one of the most biodiverse Indian regions. Around 60% of floral endemic species of NE India are encountered in BTR. It possesses around 1,000 floral species including over 100 species of medicinal plants. More than 352 species of trees, 133 species of shrubs, 189 species of herbs, 108 species of climbers, 43 species of grasses, 16 species of sedges, 6 species of canes and 4 species of bamboo have been recorded in Buxa Tiger Reserve (TCP-2013).

● MEDICINAL PLANTS :

Buxa Tiger Reserve is home to plethora of medicinal plants. FRLHT, Bangalore through botanical inventerisation has identified several medicinal plants in Medicinal plants Conservation Areas of BTR. Some important medicinal plants are ***Abelmoschus Moschatus*** (Maskdana), ***Ageratum Conyzoides*** (Dochunty), ***Arisaema Torusosum*** (cobra plant), ***Asperagus Racemosus*** (Satmuli), ***Alpinia Nigra*** (Kulanjan), ***Cinnamomum Bejolghota*** (Ram Tejapata), ***Cureulio Orchioides*** (Talmuli), ***Curcuma Aromatica*** (Ban halud), ***Elephantopus Scaber*** (Samdulum), ***Gynocardia Ororate*** (Gante), ***Machilus Villosa*** (Kawla), ***Phologanthus Thyriformis*** (Ram Basak), ***Urea Lobata*** (Bank Okra)

● ORCHIDS

Orchid diversity of BTR is comparable to diversity found in North Eastern India. As many as 144 species of orchids have been recorded by S S Bist et al. Some of the important and rare orchids of BTR are, ***Agrostophyllum Callosum*, *Arachnis Cathcarti*, *Bulbophyllum Bisetum*, *Coelogyne Cristata*, *Calanthe Biloba*, *Dendrobium Devonianum*, *Cymbidium Gigantenum*, *Gastrochilus Dasypogon*, *Kingidium Taenialis*, *Epigeneium Amphum*, *Phaius Maculatus*, *Paphiopedilium Venustum*, *Saracanthus Insectifolia*, *Vanda Alpina*.**

● THE FAUNA :

The Tiger Reserve has a spectacular range of faunal variety. It harbours over 1,000 faunal species including endemic Indo-Malayan species like Chinese Pangolin, Reticulated Python and some endemic species of North-East Indian zone like clouded leopard, Marble cat, Black Necked Crane.

● MANMALS :

● 68 species of mammals are reported in BTR : Important ones are :

- Felines : Tiger, Leopard, Clouded Leopard, Marble Cat, Leopard Cat, Fishing Cat.
- Canines : Wild Dog, Jackal, hyena
- Primates : Rhesus Macaque
- Rodents : India Giant Squirrel, common Hare, Porcupine
- Hoofed animals : Bison, Sambar, Spotted Deer, barking Deer, Hog deer
- Pachyderm : Elephant.

● REPTILES, AMPHIBIANS AND FISHES :

- Snakes : King Cobra, Cobra, Reticulated Python, Krait, Vipers etc.
- Lizard : Common Monitor Lizard. Garden Lizard, Gecko, Skink etc.
- Amphibians : Common Indian Toad, Indian Bull Frog, Indian Skipper, Rice Field Frog.
- Fishes : Boal, Kalbus, Mrigel, Chital, Sole etc.

● BIRDS :

- A total of 279 species were recorded in BTR by BNHS in 2000-2001 (Vibhu Parakash et al) In all 225 species are residents, 22 long distance migrants and 32 local migrants. Highest species richness is found in undisturbed semi evergreen forest and hill forests.

Type wise notable Bird species are :

- Aquatic : Common Pochard, Little Grebe, Ducks, Lesser Whistling Dduck, Common Teal, Northern Pintail, Moore Hen.
- Terrestrial : Red wattled Lap Wing, Jungle Fowl, Bengal Floricon.
- Frugivorous : Hill Myna, Large Indian Parakeet, Pied Horn Bill.
- Insectivorous : Streaked Spider Human, Grey Headed Fly Catcher, Black Napped fly catcher.
- Fish Eaters : Small Blue Kingfisher, Stork Billed Kingfisher, White Breasted Kingfisher
- Birds of Prey : Black Baza, Osprey, Greater spotted eagle, Peregrine Falcon, Shikra.
- Nocturnal Birds : Spotted Scoops Owl, Jungle Owlet, Spotted Owlet.

● **INSECTS :**

Buxa Tiger Reserve is extremely rich in terms of invertebrates viz insects Spiders and butterflies etc. Insect individuals recorded from BTR belong to 544 recognizable taxonomic units. These species in insects belong to 13 orders, 65 families and 229 genera. Most of the species belong to Indo Malayan and oriental origin. BTR is also home to more than 180 species of eye-catching butterflies (Prof. D. Roy Choudhuri, Calcutta University)

● **FISHES :**

Interestingly there was no record of fish's inhabiting North Bengal forests and streams, though there are sporadic records, available in general. In order to record the Ichthyofauna found in rivers and streams of Buxa Tiger Reserve a survey was carried out by Himalayan Nature and Adventure Foundation where in they recorded 33 species of fishes along with 75 species of ornamental fishes. some of the important category of fishes found in BTR are Barbs and Minnows, Gourami, Glass Fish, Perch, Needle fish, Knife fish, Puffer fish, Snake headed fish, Cat Fish, Pipe fish, Mullet, Eel, Loaches etc.

● **STATUS OF TIGER :**

The Reserve being low density area for Tigers and with viewing difficult due to dense woodlands predominance the census for tigers presently done by genetic analysis, where in the tiger scats (feacal matter) were collected from all over the BTR and their DNA fingerprinting done at world renowned genetic Laboratory at Centre for Cellular and Molecular Biology (CCMB), Hyderabad. Recent census in 2011 and 2012 has revealed presence of at least a 20 tigers (16 male and 4 female). The tigers are distributed all over the tiger reserve.

● **BTR AS EASTERN DUARS ELEPHANT RESERVE :**

Along with being a Tiger Reserve BTR is also a part of Eastern Dooars Elephant Reserve (EDER). Of the total area of 977.51 sq km of EDER, 693.68 sq km of BTR is included in the

reserve, of which 369 sq km is notified as the core area of the elephant reserve. BTR is the largest intact forest patch of the elephant reserve. During 2012 elephant census BTR reported presence of 215+ elephants, which is highest in North Bengal.

- **THE DEMOGRAPHY OF BUXA :**

Like its biological diversity BTR is very rich in its Anthropological diversity There are 38 Forest Villages, 4 Fixed Demand Holdings and 49 Fringe Villages in the Buxa landscape. A substantial proportion of the population inside BTR comprises of tribes such as Rava, Garo, Mechia, Modesia (Santhal), Rajbanshi, Nepali, Bhutia etc. The people are mostly farmers or labourers in farms and Tea Gardens. Relationships of villagers within their own group and with other groups are normally good.

- **EMPLOYMENT AND LIVELIHOOD :**

Forest villagers are totally dependent on the forest for firewood, small timber, cattle grazing and NTFPs, 62 Joint Forest Management Committees (JFMC) have been constituted to involve people in forest protection and in turn share the revenue generated with the people. Forest Department provides employment opportunities to the people in various forestry works as plantation watchers, fire watchers, eco guides, anti depredation helpers, they constitute the chief labour force in various forestry works taken up all through the year. Vocational training like carpet weaving, sewing, preparation of jute and bamboo handicrafts, apiculture, computer education, soft toys making driving, pisciculture etc. are being given to the people to improve their livelihood and in turn reduce dependence on forests.

- **WELFARE MEASURES :**

Various community developmental works like construction of low cost houses, toilets, culverts, community halls, elephant proof trenches, energized fences, electrification, communication, vocational training etc. are being taken up in the forest villages under various developmental schemes of the government. Because of these measures the relationships between forest villagers and forest officials are cordial.

- **PORO ECO PARK :**

An Eco Park has been established near Poro Forest village for visitors and is exclusively managed by Poro JFMC and Women Self Help groups. Ever since the inception of this park the dependence of Poro forest villagers on Forests has gradually reduced. More than one lakh visitors visit the park every year during picnic season JFMC earns good amount of revenue from visitors. It also helps in reducing tourist pressure on the Tiger Reserve by diverting tourists to Eco Park.

- **ECO-TOURISM :**

Owing to its picturesque landscape comprising of misty mountains roaring rivers,

blooming orchids and wildlife, BTR is a huge attraction among the tourists. Regulated, low impact tourism is allowed in the buffer zone of the reserve in such a way that integrity of wilderness is protected and livelihood requirements of the locals are met. Some of the important tourism sites are : Poro Ecospot, Rajabhatkhawa, Uttar Panialguri, Buxaduar, Jainty, Shikiajhora, Narathali wet land, Garam, Pukri Pahar, Mahakal. Trek routes (Raimantong to Adma-5km and Jainty to Mahakal 7km) criss crossing the dense forests and rivers can seduce any nature lover. Nature interpretation Centre (NIC) at Rajabhatkhawa and Buxaduar provide glimpses of rich biodiversity and ecological importance and cultural heritage of BTR forests.

Endangered species

Some of the endangered species found in BTR are Indian Tiger, Asian Elephant, Leopard cat, Bengal Florican, Regal Python, Chinese Pangolin, Hispid hare, Hog deer Lesser Adjutant "Leptoptilos javanicus", White-rumped Vulture "Gyps bengalensis", Slender-billed Vulture "Gyps tenuirostris", Chestnut-breasted Partridge "Arborophila mandellii", Rufous necked Hornbill Aceros nipalensis "Ferruginous", Pochard "Aythya nyroca" and Great Hornbill "Buceros bicornis".

Threats to the Reserve

- Most rivers enter BTR from Bhutan. They carry huge amount of bed load. They obliterate beds of BTR rivers. Flooding is frequent. Critical habitats are lost.
- Over one lakh cattle graze in the Reserve daily. Weeds, unpalatable grasses and shrubs have invaded the over grazed areas.
- Hilly, Bhabhar and riverine tracts of core suffer from fire. Generally Non Timber Forest Produce collectors and shepherds put forests on fire.
- No frequent poaching cases. Tribal population in tea gardens poach small mammals during Holi festival illicitly as part of ritual hunting.
- Bodo militants from Assam occasionally enter core. Timber thieves operate in the area.
- Five forest hamlets in hilly tract viz. Adma, Chunabhati, Santrabari, Tobgaon and Tashigaon have some encroachments by way of unauthorised Orange Orchards.
- Park activities

Trekking

Buxa (2,600 ft above msl) is a One hour fifteen minutes (5 km) trek through picturesque surroundings from Santrabari, the starting point. The historic Buxa Fort People have sentimental attachment with the fort on accounts of its association with the struggle for freedom. The Historical Buxa Fort was coming under the British India after the 2nd Duars War (1865) between the Bhutan and the British, the subsidiary alliance of Princely state Cooch Behar. This was used as a Detention Camp by the British, because of its remoteness during the Indian Freedom Movement. Many freedom fighters were imprisoned here. After independence, it

served as a refugee camp for Tibetans and Bangladeshis. A sacred temple – Mahakaleshwar Jyotirlinga - lies just after crossing the border with Bhutan near Jainty. Around 10,000 devotees of Lord Shiva congregate here on "Shiva Chouturdoshi".

There is a 4 km further trek to Rovers' Point (the land of beautiful birds at 4,500 ft or 1,400 m) or a 14 km trek to Rupang Valley or Rupang Valley bordering Bhutan. From Buxa, one can also take the 13 km trek to Jainty through the dense jungle preferably with an Expert Guide (subjected to get permission from B.T.R.). There is a stalactite cave, popularly known as the Mahakal cave at Jainty. Another entry point Rajabhatkhawa (17 km from Alipurduar) has an orchidarium, and a Nature Interpretation Centre. One can go for a Circular Trekking from Buxaduar via Chunabhati-Adma to Raimatang. This is actually 8 hours tough trek with an expert guide but usually trekkers prefer to make it as 3 days comfortable Trek to understand Nature & the Ethnic Culture of this region. Local tour Operators at Alipurduar provides tent & other materials to the Trekkers.

Park safari

One can have a park safari by car or jeep by taking permission from the Forest Office at Rajabhatkhawa or at Jainty.

Other Places of interest

You can trek to “Pukri Mai”, a small sacred pond (Karts Lake) situated inside the park where fishes like Magur and Singi and Turtles are kept. Festivals are held at certain time of the year by both Buddhist and Hindus and local ethnic groups like Dukpas. 'Dukpa: the Word probably comes from Drukpa, the people from the land of Thunder storm. They are the ancient Ethnic group among the other inhabitants of Buxa Tiger Reserve. Dukpas used live in the different Hamlets of Buxa Hills from east to west. The seasonal migratory Dukpas are divided mainly into 30 different sects. They originally were the followers of (Drukpa Kagyud) Mahayana Buddhism. Some of them are converted into Christianity. A Finnish Church is still exists along with the age old Buddhist Gumba at Chunabhati. A Grave yard with Tomb stone at Sadar Bazar bears the testimony of Britishers.



Paphiopedulum ventusum



Chinese Pangolin



Ghoral



Stanley Nawab



Ornate Flying Snake



Tokay Gecko



Narathali Beel



Buxa Forest from Buxaduar



Trek to Mahakal (Jainty)



River Forest



Hill Forest



Himalayan Bulbul



Hog Deer



Bison



Elephant



Horn Bill

Medicinal plants and role of Forest Department in conservation, cultivation, harvesting, marketing and benefit sharing by the Communities *P.K.Pandit**

Introduction

Records of use of plants for curing disease dates back 5000 years ago in Rig Veda. The Indian Materia Medica gives the description of a large number of plant and animal product which have medicinal value. In Ramayana, there is a record of Sanjibani booti (an herb) which cured Laxmana who was injured during Rama-Ravana war.

Charak and Shushrut were the pioneers in the field of medicine in India. In the work of Shushrut, 700 medicinal plants were recorded, most of them indigenous. Out of the 2000 drugs mentioned in the Indian Materia Medica, 1800 are supposed to be of plant origin. These plants mostly occurred in natural forests. Forests were the traditional source of medicinal plants used for curing human as well as veterinary diseases. Aborigines and tribals use those traditional medicines.

Knowledge of use of traditional medicine has been transferred from generation to generation on verbal information, a lot many of which are not recorded properly and therefore gradually disappearing.

As major medicinal plants are found in the forests so Forest Department can play important role for proper conservation, harvesting, storing, marketing and benefit sharing with the local communities. Forest department should first identify the problems and then effective strategies can be adopted to solve the problems.

A. Management problems

There is no present data regarding the present production of various medicinal plants. A large number of medicinal plants are collected and utilized by the forest dwellers in large quantities. These are not recorded systematically and therefore a large part of production goes unrecorded.

Medicinal plants play a significant role in the life style of mankind. Primitive man depended solely on such plants for their cure of ailments. Gradually, as times passed, dependency on forest based medicinal plants reduced on invention of new medicines and development of various branches of medicinal science. Despite such advancement in medicinal science a large part of rural community depend entirely on forests for satisfying various needs. Leaving aside a few specific localities and recent plantations, management of forests for the production of medicinal plants did not receive much attention to the forester and forest managers. Some important reasons are as follows.

- i) Scattered distribution of important plant species.
- ii) Over exploitation.
- iii) Method of collection and harvesting.

- iv) Lack of proper, scientific management strategy.
- v) Poor yield.
- vi) Poor transport and storage facility.
- vii) Poor marketing infrastructure.
- viii) Inadequate organization.
- ix) No records of inventory, area availability quantification, time of flowering, fruiting and collection etc.

i) Scattered Distribution

Scattered distribution of medicinal plants leads to problems of collecting, quantification, harvesting and transportation and above all marketing. During different tending operations of forests, many plants having medicinal value especially shrubs, herbs and climbers are eliminated. So management of forests for production of timber and medicinal plants often get complicated. Many plants having medicinal value often go unnoticed due to lack of inventory data.

ii) Over Exploitation / Unsustainable collection

Most of the plants yielding medicinal plants have been traditionally exploited by the tribal and other rural communities living in and around the forests. Continuous unsustainable collection without bothering for the regeneration has led to extinction of some plants, few have become endangered and some become extinct. The biotic pressure on forest like grazing, fire, illicit felling of plants, collection of firewood and timbers by miscreants and local villagers has led to disappearance of many plants having good medicinal value on one hand and colonization unwanted species are on other hand. One example in South West Bengal is collection of kalmegh (*Andrographis paniculata*) by middle man before seeding has led to serious problem on sustainable availability.

Non Wood Forest Produce (NWFP) and medicinal plants are generally removed by forest dwellers free of cost and there is no restriction to any person on collection. Training to staff and villager regarding process of collection is lacking. Virtually collection done on competition basis on demand of middleman without knowing anything by Forest Department as there is no system of issue permit or others generally. Some herbs are collected before fruiting and some are collected before dispersal of seeds so chances are gradually reduced for further natural regeneration. Proper training to staff, middleman as well as forest dwellers are needed. Some plants are commercially used by pharmaceutical companies which is one of the reasons of over exploitation of those species. Some plants which were found abundantly in the forest has now become scatteredly distributed due to over exploitation.

iii) Collection and Harvesting

The way of collection of utilizable products differs depending upon the parts of a plant which is used. For harvesting seeds, fruits and flowers from the trees, often the branches are shaken and sometime even cut down, which leads to destruction of species and reduction in

future yields. For herbs and shrubs whole trees are generally uprooted or cut down prior to fruiting and seeding, due to lack of knowledge. So proper knowledge and training should be given to forest dwellers who are generally engaged in collection of medicinal plants.

iv) Lack of proper Management Strategy

Owing to lack of resources, State forest Department cannot inventories or quantify the collection of medicinal plants. Working Plan or Management plan on which management of forest is done hardly provide any prescription for the management of medicinal plants. Studies relating to growth, development, productivity, yield, flowering, fruiting and seeding time, area of availability etc. are limited. Therefore, suitable strategy has not yet been formulated for the management of medicinal plants. There has been little effort to ensure natural regeneration or promote artificial regeneration and plantation of those species in a big way. Actually medicinal plants are basically managed by unorganized sectors. The forest dwellers are almost free to collect the medicinal plants. Very little or no investment was done either by the Government or by villagers for the regeneration and development of deforested new species. Immediate steps should be taken by State Forest Department for devising a strategy for conservation, development, propagation, collection, storage and marketing medicinal plants.

v) Poor Yield

Most of the trees, shrubs, herbs and climbers having medicinal value are scantily distributed in the forests. The management prescriptions for the forests do not support the growth and development of such vegetation. Causes of poor yield of medicinal plants are –

- i) Lack of proper management strategies.
- ii) Over exploitation, unsustainable and unscientific collection by villagers.
- iii) Biotic pressure on forests caused by grazing, fire, illicit collection of firewood, illicit felling of trees.
- iv) Encroachment.

vi) Poor transport and storage facilities

The medicinal plants are large in number and require different ways of collection, processing, storage and utilization. Collection is generally limited to the quantity which is consumed locally. Due to unavailability of transport facilities, these are not transported to other places for marketing. Several medicinal plants can not be stored for longer period and have to be consumed soon after harvesting which create problems in the utilization of those produces. The medicinal plants which can be dried, processed and stored also becomes problem as sufficient storage facilities do not exist.

vii) Poor marketing infrastructure

The marketing infrastructure for medicinal plants is more complicated and less developed than wood products. Local villagers / Tribal who collected these products are generally not

trained in collecting and processing techniques which gives middle man opportunity to directly purchase those materials from the villagers at very cheap rate. Even sometime price paid is so little that there is hardly any incentive for collection of valuable forest products. The villagers / tribals are not aware of the market prices of the commodities which they sell to middle man.

viii) Inadequate organization

As organized developed market in forest areas are limited villagers do not get much incentive for collection of medicinal plants. Some NTFPs like Tendu leaves and sal seeds are collected by Tribal co-operative societies but they have poor organizational infrastructure throughout the area so they don't function effectively and provide low and untimely incentive to villagers which do not attract the villagers to collect those produces.

B. Management strategies for Medicinal Plants

Clear felling of forest by Government is a standard practice for timber harvesting. Somewhere it is done in a restricted way by observing all guidelines of working plan. The yield of medicinal plants can be obtained continuously if the plants yielding medicinal value are retained. Necessary steps for ensuring proper management of forests for obtaining increased yield of medicinal plants from forests are as follows :—

- i) Inventory of Medicinal plants.
- ii) Preparation of management plans.
- iii) Plantation of medicinally important species.
- iv) Germplasm protection, collection, storage and improvement.
- v) Development of improved technologies.
- vi) Improving storage and transport conditions.
- vii) Effective organization.
- viii) Improvement in processing.
- ix) Establishment of market and marketing facilities.

i) Inventory of Medicinal Plants

Various types of medicinal plants occur in forest in varying density and the resources in terms of number of plants and yield are not known. It is therefore, necessary to carry out inventory of species having medicinal value and also approximate yield of those specific plants. Such inventory in respect of all categories of medicinal plants will be difficult to plan and execute. However, inventory of valuable plants can be done and reasonably accurate data can be obtained to assess the existing growing stock, existing rate of growth and expected yields. It is necessary that first survey of the forest areas should enlist the existence of various medicinal species. Depending upon the concentration of the species and expected yield, it is necessary to delineate areas which may be managed for specific kind of medicinal plants.

ii) Preparation of Management Plan

Forests are managed on the basis of Working Plan or Management Plan. No management plan has been prepared for proper management of medicinal plants because the number of medicinal plants is many and the quantity of produce obtainable from the specific areas is not significant to justify preparation of separate management plan. Some plants used to be managed primarily with a view to enhancing the yield of products like tendu leaves in Madhya Pradesh, Maharashtra, Orissa and Andhra Pradesh. Several operations like pruning, thinning, lopping, trenching, fertilization etc. may be prescribed in management plan to increase the yield. To enhance the productivity it is required to identify more plants having medicinal value and proper management of those.

iii) Plantation of species yielding valuable medicinal products :

There is a sizeable area of forest department is degraded land and wasteland and these areas are afforested regularly with various plant species. It is necessary to raise plantation with plants having medicinal value. Some of such plantations have already been started but it is very insufficient as a commercial way. Selection of species should be done in such a way that it should be environment friendly and provide benefits to the local population to a large extent. During species choice opinion of forest dwellers must be considered. For example tribal people never fell mahua, kusum and karanj tree so these trees can be planted in tribal based areas. Tree species should be preferred more than herbs and shrubs as these are very difficult to maintain. As an intercropping herb, shrubs and climber species can be planted. Some commercially important as well as mostly needed species by pharmaceutical companies should be planted as intercropping and forest fringes to stop overexploitation.

iv) Germplasm collection, storage and improvement both in situ and ex situ

It is well known that there has been loss of genetic diversity due to various reasons. There are number of species which are gradually becoming extinct from forests. Botanical Survey of India indicated that many important plants (800 species) have reached the verge of extinction and some are threatened. There is urgent need to preserve the biological diversity pertaining to medicinal plants. Efforts are already underway to preserve genetic diversity by preserving the eco system consisting of biosphere reserve, national parks, sanctuaries, reserve forests etc. It is necessary to identify those species which are threatened or have become endangered, their habitat should be identified and effort must be taken to protect that habitat. Species diversity should also be preserved by establishing arboretum, medicinal plant garden etc. Preservation of genetic material i.e. seed or clone should be taken up in case of several species whose specimen is limited. Selection of high yielding provenances and varieties need to be taken up on the priority basis. Once identification of superior genotype is done further propagation can be taken up by the method of vegetative propagation or through tissue culture. State Forest Department of Government of West Bengal has developed some medicinal plants garden at different climatic condition for ex situ conservation of germplasm. One of the famous of them is Amlachati which is situated 8 km away from Jhargram town.

v) Development of improved technologies

Different technologies like propagation, tending, thinning, growth, yield, processing etc. are not known in case of many species. So such study is urgently needed. Phenology and details about seed and planting material is not standardized for many species. It is necessary to study the phenology and other aspects pertaining to seed which can help propagation. Some important species do not regenerate naturally so method of artificial regeneration should be standardized. Proper time and method of harvesting, frequency etc. have to be worked out to know the chemical constituent which is medicinally more important in its highest concentration.

vi) Improving storage and transport conditions

Some medicinal plants are collected, stored and transported to Ayurvedic and other concerns for processing, extracting, making herbal medicines etc. If storage and transport facilities are not developed, those materials would be destroyed. Leaves, foliages, flowers and other tender parts of plants should be storage properly. Locally consumable species should be stored to get high market price during peak period. As most of the industries are located in distant places proper transport facilities are required.

vii) Processing

Several species require processing for their storage and utilization. Most of the species collected are taken to industries in raw condition. This necessitates heavy expenditure on transport which in turn provides fewer prices to collectors. If processing could be carried out in the forest fringes by collectors themselves there will be some saving on the transport and also collector will get some better price for their labour. It is, therefore, necessary to train local people in the forest fringes to carry out low cost processing.

viii) Organization

There is no effective organization for the management, collection, harvesting, processing, utilization and marketing of medicinal plants. Most of the villagers collected those in free of cost. Only a few are under control of state government. Sal seeds and kendu leaves are only collected by LAMPS (Tribal co-operative societies) and marketed by them. But scenario is not as a whole good. So it is necessary to establish separate organization.

Recent forest policy of India has recommended that tribal communities should participate in management, collection, processing, marketing and utilization of various NTFPs including medicinal plants for betterment of their life style. State Government, Non Government Organizations, Universities, Research Institutes, Local bodies and others should be involved in the process related to betterment of medicinal plants.

Pharmaceutical companies should come up with good approach so that they can provide monetary and other inputs to the JFMC members and private cultivator who can cultivate medicinal plants on getting assurance of buy back. Intercropping should also be increased by providing ensured marketing. NGOs, pharmaceutical companies and other

organizations should take important role by imparting training and providing other necessary facilities to the growers.

ix) Market and Marketing

One of the major problems for management of medicinal plants is the absence of suitable marketing infrastructure for these products. Most of the produces are collected locally by villagers for their own use, sold in local market or to middleman for which no suitable marketing infrastructure is available. Forest dwellers of JFMC members are compelled to sell these to local traders at very cheap rates. They do not know the exact value of such products due to lack of knowledge on market value. Even they are also cheated by physical measurement. In one hand they get very low price and on the other hand they destroy valuable species by unscientific and unsustainable collection due to lack of knowledge. Hence the development of marketing facilities will help in getting the actual price to the JFMC members which will help in larger collection and greater outturn of various medicinal plants found in the forests as well as uplift socio economic condition.

Photographs of Some medicinal Plants



Haritaki- Terminalia chebula



Kalmegh- Andrographis paniculata



Dhadki - Woodfordia fruticosa



Talmuli - Curculigo orchioides



Kemuk - *Costus speciosus*



Basak - *Adhatoda vasika*



Brahmi - *Bacopa monnieri*



Ghritakumari - *Aloe vera*



Satamul - *Asparagus racemosus*



Anantamul - *Hemidesmus indicus*

“Bholu, the IR Mascot In Distress”

Kalyan Das *

West Bengal, owing to its strategic geographical location, acts as inter- state and inter-country elephant corridors, both at south Bengal and at North Bengal. The present report emphasises upon **Elephants** in North West Bengal (primarily Duars-Terai). The conflict is most starkly manifest in the accidental death of 51 elephants since 2004. Over the years, the pathetic deaths of so many elephants have brought forward a newer and more severe dimension of man-elephant conflict.



The northern districts of West Bengal provide a suitable habitat for elephants in the region extending from the Sankosh river in the east to the Mechi river in the west. These forests in North Bengal and adjoining territory in Eastern Nepal, Sikkim, Western Bhutan and Assam display a rich biodiversity in its diverse ecosystems. This has been possible because of this region's location at the confluence of several bio-geographic realms, e.g. Mediterranean, Ethiopian, Indo-Malayan, Sino-Japanese, Palaeartic and Oriental. Presence of animals likes Tiger, Elephants, One-horned Rhino etc.



and existence of trans- boundary corridors for gene flow have enhanced the global significance of this tract for conservation.

About 650 elephants occur in West Bengal over two distinct regions :

- a) North Bengal (Jalpaiguri & Darjeeling) : 529
- b) South Bengal (West Midnapur, Bankura & Purulia) : 118

Fragmentation of habitat has primarily occurred as a result of infrastructure development, widening of road, conversion of railway line to broad gauge including heavy traffic, river training works through large scale construction of embankments, deposition of dolomite in rivers in the foothills bordering Bhutan and particle containing dolomite in the flowing river coming from Bhutan hills.

EFFECT OF RAIL & ROAD :

The physical presence of the roads & rails and their widening/conversion in the habitat creates habitat edges, alters the hydrological dynamics and create a barrier to the movement of elephants & other animals leads to habitat fragmentation and loss, apart from death due to collision with speeding train & vehicle.

In the past, elephant casualty for accidental death on meter gauge line was not very frequent, a chart of elephant death by accident has been placed below from which it appears that death between 1974-2002 was only 27, whereas the number of deaths after conversion to broad gauge is 51 since 2004.

Based on study and feedback from the field officers, 9 points had been selected as high risks/ vulnerable zones, where mishaps occurs in a range of 3 – 5 kilometers of the locality.

SL. No.	Location	Tentative Railway KM Post	Total Distance
1	Gulma-Sevoke	16/5 to 24/4	7.9 Km.
2	Sevoke – Bagrakote Railway Station	29/7 to 33/9	4.2 Km
3	Damdim Railway Station – New Mal Jn.	50/3 to 51/6	1.3 Km
4	Chapramari rail gate to Jaldhaka river	68-71	3.0 Km
5	Chengmari Railway Station – Banarhat Jn.	86/2 to 86/8	0.6 Km
6	Banarhat - Binnaguri	95/1 to 96/6	1.5 Km
7	Binnaguri Railway Station – Dalgaon Railway Station	103/3 to 103/8	0.5 Km
8	Madarihat-Hashimara	128/3 – 130/7	2.4 Km
9	Dima railway gate to Damanpur, Buxa Tiger Reserve	157-163	6 Km.

Elephant (*Elephas maximus*) is a keystone species in the Asian Tropical Forest. It can act as an flagship animal for conserving biodiversity. Asia's largest Vertebrate requires living space, food, water and the search for these often conflicts with human aspirations & needs. The Govt. of India has notified the magnificent animal as the **National Heritage Animal**. E8 Meet was held on 24.05.2011 in New Delhi to chart a 50 years global vision for saving Pachyderms.



Elephants being animals with wide range of movement have biological requirement of migration from one forest to another. This process has been carried out for hundreds of years through tracks passed down the generations through heredity and life of socialization – which cannot be changed by human being.

- Free ranging wild animals of this species generally consume about 270-320 kg. feed materials in a day and will be spending most of the time mainly in foraging grass materials.
- Drinks about 200-250 litres of water per day and about 50-60 litres of water at a time.
- Range of body weight in adult Asiatic elephants in kg: 3700-4500.

- Longevity is about 70-90 years.
- Gestation period is about 22 months.
- Weight of new born elephant calf is 90-110 kg.
- Calves are milk dependant for the first two years and may often suckle up to the age of four to five years.
- Walking speed is 4 km./hour.
- Running speed is 25 km./hour for short distance (or) 30-40 km./hour.
- Eye sight is very poor.
- Smell and hearing capacity are significant.

PROPOSED ACTION TO PROTECT PACHYDERMS :

All the 9 vulnerable points will require elevated corridors with under passes for safe train passage. The railway authorities had been requested to look into the feasibility of construction of such elevated railway passage at these vulnerable points.

1) Vulnerable zone mitigation measures :

It has been suggested that an elevated railway track with underpass below, may be constructed in the high risk vulnerable zones. These points are 1) Gulma-Sevoke, 2) Sevoke-Bagrakote Railway Station, 3) Damdim Railway Station-New Mal Jn., 4) Chapramari rail gate to Jaldhaka river, 5) Chengmari Railway Station-Banarhat Stn., 6) Banarhat-Binnaguri, 7) Binnaguri Railway Station-Dalgaon Railway Station, 8) Madarihat-Hashimara, 9) Dima railway gate to Damanpur. These points will require very slow train movement specially during paddy & maize crop seasons. Establishment of underpasses with funnelling patterns including ramps for the animal to cross the railway track is urgently necessary.

2) Watch Towers :

Constructions of watch towers at Vulnerable points adjacent to Railway track. Joint placement of forest and railway staff in the watch towers and joint patrolling in the vulnerable railway tracts are also suggested so that necessary action can be taken.

- 3)** The traffic on track passing through forests of North Bengal be rescheduled as such that maximum trains passes during dawn to dusk. During night minimum trains should ply with speed restrictions within corridors as well as forest tracts.
- 4)** Restrict the movement of goods trains between sunset and sunrise.
- 5)** Reduction of speed to 25 KMPH at the accident prone tracts with frequent use of whistles for all moving trains.
- 6)** The doubling of Falakata track by Rail should be expedited.

- 7) For tracking elephant movement, locals as trackers can be engaged in forest areas and stationed with high frequency Walki-Talkies at make shift temporary towers – Machans as per seasonal requirements. They would be trained and would have connectivity with Forest Ranges which in turn would alert Rails Control/Concerned Stationed Master to alert about the elephants movements. Co-ordinations and communication between North Frontier Railway and Forest Personnel may be maintained.
- 8) The trainings for refresher courses for sensitizing of Loco drivers and concerned traffic staff by Forest should continue on monthly basis.
- 9) Public awareness campaigns for keeping tracks clear from food articles and prevention of growing of crops within Rail land and have to be taken up jointly for public as well as Rail/ IRCTC pantry staff etc.
- 10) Signage boards has to be provided on both sides of the Rail Track in identified locations to alert and pre-warn the train drivers.
- 11) Clearance of Vegetation on the sides of Rail Track on regular basis for view clearance for both Drivers as well as wild animals.

12) Habitat development programme :

With the increase in the elephant population, the requirement of the herd have been increased many-folds, whereas in 1980, the population of elephant in North Bengal was 150+ , the present population as per 2010 census is more than 550+ . Since there is no scope of increasing the forest areas, habitat enrichment at a large scale has to be done specially in the vulnerable areas to provide as much as possible requirement of the herd to give.

A pilot project for development of water bodies, necessary fodder grass and mixed Plantation as required by elephant herds needs to be taken up in 3 locations of Buxa Tiger Reserve, Jaldapara National Park and Gorumara National Park and to be extended in Moraghat, Chilapata and Apalchand areas also integrated approach is required to be adopted.

13) Genetic conservation of wild rice :

Previously the forest of North Bengal have a genetic biodiversity of wild rice which was consumed by both man and animal. Many of the water tracts, which has now been restricted at a genetic variation of wild rice, these wild rice are good source of protein and sugar for the elephants and is one of the prime consideration of the Govt. of India for conservation and preservation of such genetic diversity. In the habitat development so proposed a pilot project will include the planting, genetic preservation and planting of such varieties of wild rice for meeting the needs of wildlife.

14) Advanced technology application :

The prospect of an application of advance technological gadgets for tracking and information transmission technology, where in movement of major elephant herds can be detected in advance and same can be transmitted to the Forest and Railway headquarters, needs to be probed into. A proposal has been given by WWF, Kolkata who are currently making use of similar technology in tracking tigers in Sundarbans. They have developed certain gadget and cages which are tuned to mobile phones. A similar pilot project has been sought from the WWF, which will create electronically enabled 10 meter wide platforms. When Elephants step on the platform, SMS will be sent to at least 5 sets of mobile phones. WWF, Kolkata has been asked to submit project proposal for elephant crossings in North Bengal so that detection of herds and their information to both forest and railway authorities near railway track can be transmitted electronically.

- 15)** Solar application on electronic tracking device.
- 16)** Establishment of spaces left by tea estates and devise a natural path for the elephant with sufficient amount of favoured food.
- 17)** Crop cultivation patterns in the restrained zones to be studied and altered, if necessary.
- 18)** Amendment to EIA notification should be made by insertion of provision that any new investment of value INR 100 million and above on forest lands already authorized for non-forest uses will be subject to clearance again by the ministry with compulsory EIA.
- 19)** Realignment of the track inside Mahananda Sanctuary (and elsewhere as needed near the highway (and /or away from forest) to ensure that elephants are not required to cross railway track.
- 20)** Legal entity should come into force for Elephant Reserve/ Critical Corridors & separate Unit should be created to look after.
- 21)** A proposal was sent by the Railway for renovation and conversion of Rly. Track from Alipurduar to Jainti. This tract is one of the prime important habitat in relation to wildlife movement specially elephant and is the major area for prey base of Tiger. Conversion of this track will create enormous problems in future and will be a serious accident prone point for elephants.
- 22)** A similar conversion and renovation between New Mal to New Mainaguri is under process. This line would be passing through 3 important stretches of forest land. This may create another threat to nature. It should be sorted out immediately.
- 23)** Better veterinary facilities (with mobile unit).

CRITICALLY ENDANGERED AMPHIBIANS AND REPTILES OF INDIA

*Dr. Mousumi Pal * Mr. Akash Pal***

India has some of the world's most bio diverse regions. The political boundaries of India encompass a wide range of ecozones—desert, high mountains, highlands, tropical and temperate forests, swamplands, plains, grasslands, areas surrounding rivers, as well as island archipelago. It hosts 3 biodiversity hotspots: the Western Ghats, the Himalayas and the Indo-Burma region. These hotspots have numerous endemic species.

According to the 2011 quantitative evaluation done by the International Union for Conservation of Nature (IUCN), there are 57 critically endangered species of animals in India. According to the IUCN conservation status, animals are primarily divided into three main categories: lower risk, threatened and extinct. These three categories are again divided into sub-categories, e.g. the lower risk category is divided into least concern, near threatened and conservation-dependent; the threatened category is divided into vulnerable, endangered and the critically endangered, and the extinct category is divided into extinct and extinct in the wild.

Critically endangered is the highest risk category assigned by the IUCN (International Union for Conservation of Nature) Red List to wild species. There are five quantitative criteria to determine whether a taxon is threatened. A taxon is critically endangered when the best available evidence indicates that it meets any of the following criteria :

- I. Populations have declined or will decrease, by greater than 80% over the last 10 years or three generations.
- II. Have a restricted geographical range.
- III. Small population size of less than 250 individuals and continuing decline at 25% in 3 years or one generation.
- IV. Very small or restricted population of fewer than 50 mature individuals.
- V. High probability of extinction in the wild.

The main reasons behind the threat to the animals are human disturbance, modification, degradation and loss of habitat, illegal hunting, pesticide pollution, drastic weather changes, natural disasters like tsunami and disturbance from tourism and recreational activities.

The Ministry of Environment and Forests (MoEF), Government of India, in collaboration with the Zoological Survey of India released a comprehensive document on critically endangered animal species of the country on 9 March 2011. There is so far a paucity of information for the general public on the status, bio logy and major threats to the endangered species of our country. This booklet on critically endangered animal species of India catalogues and shares information on these species, presented in a concise and visually appealing format.

* Assistant Professor, Sovarani Memorial College, Howrah.

** 3rd Year Student of B. Tech. Biotech., VIT University, Vellore, Chennai.

This booklet will raise the level of awareness among people from all walks of life and strengthen our efforts at conservation. These 57 animals include birds, mammals, reptiles, amphibians, fishes, spiders and coral of which 19 species of amphibia and 6 species of reptiles are dealt here.

REPTILES

1. The Gharial : (*Gavialis gangeticus*) is the most uniquely evolved crocodile in the world, a specialized, river-dwelling, fish-eater. The dire condition of the gharial reflects the tragedy of our rivers, where we stand to not only lose other endangered taxa such as the Ganges River Dolphin (*Platanista gangetica*) but also the use of their waters for human consumption and otherer needs.

Habitat : clean Rivers with sand banks.

Distribution : Only viable population in the National Chambal Sanctuary spread across three states of Uttar Pradesh, Rajasthan and Madhya Pradesh in India. Small non-breeding populations exist in Son, Gandak, Hoogly and Ghagra rivers. Now extinct in Myanmar, Pakistan, Bhutan and Bangladesh.

Threats : The combined effects of dams, barrages, artificial embankments, change in river course, pollution, sand-mining, riparian agriculture and ingress of domestic and feral livestock caused irreversible loss of riverine habitat and consequently of the gharial.

2. The Hawksbill Turtle (*Eretmochelys imbricata*) is a heavily exploited species. The species is migratory in nature and nesting occurs in about 70 countries across the world. Maturation is slow and is estimated between 25 – 40 years.

Habitat : Nesting occurs on insular, sandy beaches.

Distribution : In India they are found in the Andaman and Nicobar Islands, the coast of Tamil Nadu and Orissa.

Threats : Turtle shell trade, egg collection, and slaughter for meat, oil pollution and destruction of nesting and foraging habitats.

3. The Leatherback Turtle (*Dermochelys coriacea*) is the largest of the living sea turtles, weighing as much as 900 kg. Adult leatherback turtles are excellent swimmers. They swim an average of 45-65 km a day, travel upto 15,000 km per year and can dive as deep as 1200 m. Jellyfish is their primary food. The population spikes of leatherbacks coincide with abundance of jellyfish, making them important top-predators in marine environments

Habitat : Tropical and subtropical oceans.

Distribution : Found in tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans

Threats : High sea fishing operations, harvesting of eggs, destruction of nests by wild predators and domesticated species such as cats, dogs and pigs. Artificial lighting disorients

hatchlings and adults and causes them to migrate inland rather than towards the sea. Threats to habitat include construction, mining and plantation of exotics.

4. Four-toed River Terrapin or River Terrapin (*Batagur baska*) is a critically endangered turtle. The omnivorous diet of the river terrapin and other terrapin species makes them an essential part of the efficient clean-up systems of aquatic habitats.

Habitat : Freshwater Rivers and lakes.

Distribution : Bangladesh, Cambodia, India, Indonesia and Malaysia.

Threats : Use of flesh for medicinal purposes, demand for eggs, which are considered a delicacy.

5. Red-crowned Roofed Turtle or the Bengal Roof Turtle (*Batagur kachuga*) is a critically endangered turtle mainly restricted to the Ganga basin. Males have a bright red coloration during the breeding season.

Habitat : Deep, flowing rivers but with terrestrial nest sites.

Distribution : Found in India, Bangladesh and Nepal. In India it resides basically in the watershed of the Ganga.

Threats : Water development projects, water pollution, human disturbance and poaching for the illegal wildlife marker.

6. Sispara day gecko (*Cnemaspis sisparensis*) is a large gecko which dwells usually in forests; it is largely insectivorous and is active by night.

Habitat : It is known from tropical evergreen forests to mixed dry deciduous forests. It is a fast-moving diurnal species being mostly active during dawn and dusk. It has been reported to inhabit rocky streambeds in forested tracts. It is solitary in nature.

Distribution : Endemic to Western Ghats, and found in Sispara, Nilgiris, Kavalai near Cochin.

Threats : Habitat conversion and modification.

AMPHIBIANS

1. The Anamalai Flying Frog (*Rhacophorus pseudomalabaricus*) is confined to rainforests of south-western Ghats and lives at elevations greater than 1,000 m above mean sea level.

Distribution : It is found in Andiparai Shola, Pudothottam and the Anamalai Hills of Tamil Nadu and Kerala.

Threats : Conversion of forest to cultivated land (including timber and non-timber plantations) outside the Indira Gandhi National Park, and extraction of wood and timber by local people are the major threats to this species.

2. The Gundia Indian Frog (*Indirana gundia*) is found at an elevation of around 200 m above mean sea level.

Distribution : Known only to exist in Gundia, Kempholey in the Western Ghats region of Karnataka, South India.

Threats : Habitat loss caused due to intensive livestock production, harvesting of wood and timber by local people, road construction, and the development of tourism facilities.

3. The Kerala Indian Frog (*Indirana phrynoderma*) is found at elevations of around 500 m above mean sea level. Due to the presence of prominent warts and tubercles of various sizes and glandular folds on its dorsal surface, it is commonly also known as the toad-skinned frog.

Distribution : Anamalai Hills of Kerala and Tamil Nadu in the Western Ghats of south India.

Threats : Habitat loss due to subsistence wood collection is the major threat to this species.

4. The Charles Darwin's Frog (*Ingerana charlesdarwini*) is found at elevations below 500 m above mean sea level.

Distribution : This species is currently restricted to its type locality of Mount Harriet in South Andaman Island and Saddle Peak in the North Andaman Island, India.

Threats : Clear felling of forest.

5. The Kottigehar Bubble-nest Frog (*Micrixalus kottigeharensis*) is only known to occur in Kottigehar, Kadur in the Western Ghats of Karnataka state. Its distribution is restricted to elevation around 1000 m above mean sea level.

Distribution : This species is known to occur in Kottigehar, Kadur in the Hassan district and Bhadra in Chikamangalurdistrict, Karnataka, India.

Threats : Habitat loss as a result of conversion to agriculture, including paddy fields and cash crops such as coconut and cashew.

6. The Amboli Bush Frog (*Pseudophilautus amboli*) was recently discovered in 2009 in Amboli forest in the Western Ghats of Maharashtra. It is found at elevations ranging from 550 m to 940 m above mean sea level.

Distribution : This species has been recorded from its type locality of Amboli forest, Sawantwadi district; and Amba, Kolhapur district of Maharashtra; Londa, Belgaum district, Jog Falls-Mavingundi, Shimoga district, Castle Rock, Uttara Kannada district, Kudremukh-Malleshwaram, Chikamangalur district of Karnataka.

Threats : Habitat loss and fragmentation due to urbanization and tourism development

are the major threats to this species.

7. The Chalazodes Bubble-Nest Frog (*Raorchestes chalazodes*) was described in 1876 based on a single female specimen, from “Travancore”, south India. There was no authentic report of this species since 1876 until its rediscovery in February 2011.

Distribution : All recorded specimens have been from the Western Ghats, India.

Threats : Conversion of forest to intensively cultivated areas.

8. The Small Bush Frog (*Raorchestes chotta*) is the smallest bush frog found in India with a snout to vent length of 1.7 cm only. It was recently discovered in 2009 in Ponmudi, Kerala in the Western Ghats. It is found at elevation of 980 m above mean sea level.

Distribution : Known only to occur in Ponmudi in Thiruvananthapuram district of Kerala, south India.

Threats : Extensive tea and Acacia plantations threaten the habitat of this species. While the species has been found to occur in abandoned plantations, its decline suggests that this species may not be tolerant to habitat changes or other unknown and less obvious threat.

9. The Green-eyed Bush Frog (*Raorchestes chlorosomma*) was discovered in 2009 from Munnar in Idukki district of Kerala. This species has greyish green iris with irregular brown lines, bordered by a blue ring.

Distribution : Known only to occur in the type locality of Munnar, Idukki district, Kerala in the Western Ghats of South India.

Threats : Extensive degradation of habitat by large-scale tea, Eucalyptus and wattle plantations. The expanding tourism industry is also becoming a cause of concern. Though the species seems to be adaptable, its tolerance to degraded habitats is not precisely known.

10. The Griet Bush Frog (*Raorchestes griet*) is a small frog of snout to vent length ranging from 2-2.2 cm only. This species occurs at elevations between 600–1, 800 m above mean sea level.

Distribution : Munnar, Devikulam and Vagaman in Idukki district of Kerala; and Anamalai Hills and Iparai in Coimbatore district of Tamil Nadu.

Threats : Habitat fragmentation due to tea and Eucalyptus plantations. It is not likely to survive in the face of extensive habitat loss.

11. The Kaikatt's Bush Frog (*Raorchestes kaikatti*) was discovered in 2009 from Kaikatti-Nelliyampathi, in the Western Ghats of Kerala. This species occurs at an altitude of 1000 m above mean sea level.

Distribution : Known only to occur in the type locality Kaikatti-Nelliyampathi in Palakkad district of Kerala, south India. It is believed to be endemic to the Nelliyampathi Hills.

Threats : Habitat loss and fragmentation due to small and large-scale agricultural practices and infrastructure development for tourism over the past five years.

12. The Mark's Bush Frog (*Raorchestes marki*) was discovered in 2009 from Kaikatti-Nelliyampathi, in the Western Ghats of Kerala. This species is found at an altitude of 1000 m above mean sea level. Mark's Bush frog is a small frog with snout to vent length ranging between 2.1-3 cm only.

Distribution : Currently known to occur only in Kaikatti-Nelliyampathi in Palakkad district, Kerala, India.

Threats : Habitat loss and fragmentation due to small and large-scale agricultural practices, infrastructure development and construction for tourism over the last five years. However, adaptability of this species to disturbed environments is not known.

13. The Munnar Bush Frog (*Raorchestes munnarensis*) was discovered in 2009 from Munnar in Idukki district of Kerala. It is found at an elevation of about 1,400 m above mean sea level.

Distribution : Currently known only to occur in two locations, Devikulam and Munnar, Idukki district, Kerala, south India.

Threats : Habitat clearance for tea and eucalyptus plantations. This threat is very serious as there are no other known areas in the surrounding region that could be considered as suitable habitat for the species.

14. The Large Ponmudi Bush Frog (*Raorchestes ponmudi*) is the largest bush frog of India with a snout to vent length upto 4 cm.

Distribution : Ponmudi and Agasthyamala Hills, Thiruvananthapuram district, Gavi, Pathanamthitta district, Vagaman, Idukki district., Wayanad Plateau, Kalpetta, Mananthavady and Sultan's Battery, Wayanad district of Kerala; Anamalai Hills and Valparai, Coimbatore district, Tamil Nadu.

Threats : Habitat decline and the rate of forest loss is likely to further intensify due to the expansion of surrounding tea plantation.

15. The Resplendent Shrub Frog (*Raorchestes resplendens*) was described in 2010 to occur in Anamudi summit, Eravikulam National Park in the Western Ghats. The Resplendent Shrub Frog is a unique bush frog having brick red dorsal skin with black irregular furrows and prominent glands. This is the highest elevation bush frog reported from the Western Ghats from an altitude of 2,695 m above mean sea level.

Distribution : Currently known to occur in Anamudi Summit, Eravikulam National park in the Idukki district, Kerala.

Threats : Occurs in a highly protected national park with secure habitat. Cause for

observed declines remains unknown in view of its protected habitat.

16. The Sacred Grove Bush frog (*Raorchestes sanctisilvaticus*) is known to occur only in the Kapildhara Falls, Madhya Pradesh.

Distribution : Known only to occur in Kapildhara Falls, Amarkantak, Jabalpur District, Madhya Pradesh.

Threats : Habitat loss due to harvesting of wood for subsistence purposes, infrastructure development for tourism, and occurrence of fires are the major threats to this species.

17. The Sushil's Bush Frog (*Raorchestes sushili*) was discovered in 2009 in Andiparai Shola, Valparai in the Western Ghats of Tamil Nadu. It is found at an altitude of around 600 m above mean sea level.

Distribution : Known only to occur in Valparai and its vicinity, Coimbatore district, Tamil Nadu.

Threats : Habitat loss due to small and large-scale agricultural activities such as tea and coffee cultivation in the Anamalai Hills.

18. The Shillong Bubble-nest Frog (*Raorchestes shillongensis*) was discovered in Shillong, Meghalaya.

Distribution : Currently known to occur in the type locality of Malki Forest, Shillong, Meghalaya and in Mizoram.

Threats : Selective logging, collection of wood for subsistence use and urbanization are major threats to the habitat of this species.

19. The Tiger toad (*Xanthophryne tigerinus*) was discovered in 2009 from Amboli in the Western Ghats of Maharashtra state. It is found at an altitude of around 720 m above mean sea level.

Distribution : Found only in Amboli, Sindhudurg district, Maharashtra.

Threats : Loss of forest and habitat fragmentation.

Out of 57 critically endangered species, MoEF has taken up interventions for nine species and their respective habitats. Recovery programmes are ongoing for the Leatherback turtles and marine ecosystems, Malabar Civet and low elevation moist forests of the west coast, floricans and grasslands, four species of critically endangered vultures, and the Jerdon's Courser. The first meeting of the National Tri-State Coordination Committee for the Conservation of the Gharial was held recently, and a recovery programme is being formulated by leading wildlife scientists across the country.

Project Tiger, Project Elephant and Integrated Development of Wildlife Habitats are three centrally sponsored schemes. One of the components under the Integrated Development

of Wildlife Habitats provides recovery programmes to save critically endangered species and their habitats. The reparation of recovery plans involves assessing the current status of species and preparation of a year-wise five-year plan in collaboration with a reputed scientific institution. There is an urgent need to better understand the ecological needs of the other critically endangered species in India and design relevant scientific conservation interventions. For instance, the Chalazodes Bubble-nest Frog (*Raorchestes chalazodes*) was recently re-discovered after 135 years in February 2011. In addition, there are many other species that have been assigned as data deficient and not listed in any of these categories. More studies are needed to obtain basic information to assess the status of these species.

However, public awareness about the rich wildlife heritage of our country, the factors affecting the survival of the species and an understanding of how we contribute to their well-being are the keys to successful conservation. David A. Munro, a former Director-General of IUCN, made the following statement during a presentation on 'A Strategy for the Conservation of Wild Living Resources' at the 44th North American Wildlife and Natural Resources Conference in 1979 at Toronto, Canada:

“Conservation is on the brink of massive failure. Paradoxically it also faces opportunities for success that it has never had before”.

Our success in the future depends upon seizing these opportunities and making conservation a people's movement. If the efforts made in India for conserving our wildlife in the last three decades provide any indication of the future, there is enough scope for optimism.

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REPTILES



Gharial



Hawksbill Turtle



Leatherback Turtle



River Terrapin



Bengal Roof Turtle



Sispara day gecko



Anamalai Flying Frog



Gundia Indian Frog



Charles Darwin's Frog



Chalazodes Bubble-Nest Frog



Amboli Bush Frog



Kottigehar Bubble-nest frog



Munnar Bush Frog



Small Bush Frog



Resplendent Shrub Frog

Encounter with the Cherub of the Mist: A Memory to be treasured

*Ishani Chatterjee**



The Fire Cats as sighted within the Zoo premises

A rusty bear-like animal with long bushy tail was textually known to me while studying in college under the topic of Endangered Fauna. Gradually this fascinating creature started catching my attention through its cuddly features and interesting activities as shown in the Discovery and National Geographic channels of the television. During the screening of the Documentary film- Cherub of the Mist filmed by Naresh Bedi and Rajesh Bedi at the Aranyak Wildlife Film Festival in Nandan, Kolkata, I no longer could wait to meet this adorable animal! This animal is none other than the Red Panda (*Ailurus fulgens fulgens* F.Cuvier). The French naturalist Fredrick Cuvier described it as “a beautiful species, handsomest of the known quadruplets”. Cherub of the Mist is based on the life of two Red Pandas- Mini and Sweety, who were released into the Singalila National Park in Darjeeling.

Brief introduction to this unique mammal:

Medium sized bear like mammal with rusty to deep chestnut coloured. The muzzle, eye patches and the fronts of the large pointed ears are white along with white cheek patches. Tail is long and bushy with rings. Nose is black. Head and body length: 51- 64 cm, tail: 128-48 cm. They feed primarily on young leaves and tender shoots of Bamboo. There are two subspecies *Ailurus fulgens fulgens* and *Ailurus fulgens styani*, of which the former occurs in Nepal, Assam, Sikkim, Bhutan, Darjeeling. Temperate forests with an understorey of bamboo leaves and the rest consisting of shoots, fruits and berries form its ideal habitat. It is a solitary animal, mainly active from dusk to dawn, and is largely sedentary during the day. The Red Panda is the only living species of the genus *Ailurus* and the family *Ailuridae*. It has been previously placed in the raccoon and bear families, but results of phylogenetic research indicate strong support for its taxonomic classification in its own family *Ailuridae*, which along with the weasel family is part of the superfamily *Musteloidea*. It is not closely related to the giant panda. It is commonly named as Lesser Panda or Fire Cat.

Breeding : Mating season is between January to March. Gestation period is 100-159 days to deliver 1-4 cubs during May to June. Survives and breeds well in captivity.

Threats : The population continues to decline and is threatened by habitat loss and fragmentation, poaching, and inbreeding depression, although red pandas are protected by national laws in the states they are found.

Status : Red Panda is listed in *Appendix II* of *CITES* and *Schedule I* of *Wild Life Protection Act*. It has been classified as *Vulnerable* in the IUCN Red List since 2008, as the global population is estimated at about 10,000 individuals with a decreasing population trend.

The Red Panda is protected in all range countries and hunting is illegal. India has 20 protected areas with known or possible Red Panda populations in Sikkim, Arunachal Pradesh, and West Bengal and a coordinated conservation policy for the Red Panda. Since the Red Panda is quite adaptable to living in captivity, it is common in Zoos worldwide. The Padmaja Naidu Himalayan Zoological Park in Darjeeling has successfully released four captive bred Red Pandas to the Wild in August and November 2003. This Zoo is greatly devoted to research, conservation and Captive Breeding of the Red Pandas. It is situated within natural distribution zone of red panda. The zoological park has proper housing facilities required for Red panda.

To the general people, the Red Panda is not as familiar as the Giant Panda, as per my survey. Surprisingly, around 70% of a population surveyed in Kolkata have been found to be unaware of this so called *Red coloured Panda*. Giant Panda is more or less familiar to 98% of population. Even children can recognise the giant panda through the Logo of WWF! After screening of the movie *Cherub of the Mist*, followed by its Bengali version, a good percentage of people probably became aware of this shy friend residing in the hilly areas of their own state!

Last year I got the opportunity of visiting *Padmaja Naidu Himalayan Zoological Park*, the only zoo in West Bengal housing the Red Panda, as a part of my research survey. The name of this Zoo at once reminded me of this amazingly beautiful creature! I went during the month of May (the month after which they are generally supposed to give birth). I was extremely elated on the day of my visit. Prior to my visit I was on a conversation with the local people, where I heard that the Zoo is reputed for keeping this Fire cat in two ways- firstly in its natural habitat which is a very large area with just a boundary wall separating from the visitors, and secondly in a much larger spacious cage with all the arrangements of a mini natural environment. They said that since these animals are extremely shy by nature, sighting them in the large natural habitat is merely a chance and hardly do people sight them naturally roaming about in that huge enclosure. It is much easier to locate them within the cages. I wondered whether I may be lucky enough to encounter with my much awaited desire !

Before entering the Zoo, my heart started beating fast for I was counting seconds to meet my so called *friend* for whom I had waited for all these years! I could really not believe that I was finally about to meet this sweet friend though everytime I felt the comment of the local people-

“..Didi apni khanchar vitor dekteri paben *Panda* tike, kintu natural enclosure e dekhata vaggyer baepar....” dominating all other audible murmurings.

Anyway with a fully positive bent of mind, finally I entered the Zoo. Right from purchasing the entry ticket to this zoo, I found myself to be heading close to my goal. The tickets contained photographs of the attractions of this Zoo and to my utter satisfaction, my ticket contained the photograph of the Red Panda! As we entered the Zoo, and about to start my survey (which dealt with the display and maintenance of the fauna in the Zoo) beginning with the display of birds, I sighted a familiar colour amidst the greenery – a striking reddish brown animal engaged in some activity in its natural habitat! I could no longer resist myself, and leaving aside all the other animals, at once rushed to the spot. To my utter happiness, it was the same *Cherub of the Mist* which so long fascinated me! I jumped with joy to find myself the lucky one to have spotted the creature within the natural enclosure, where sighting the creature was a matter of dispute all this time.

The Red panda was almost at a distance of 5 ft from me, bounded by an enclosure, busy in cleaning itself. Soon it was joined by another panda that descended from a tree, and believe me, they stayed there cleaning, playing with each other for about 30 minutes. I wasted no time in clicking a series of photographs alongwith a video recording. I was at a loss of words and spellbound by the innocence and charm in the faces of these animals. After playing for some time, one of them started chasing the other and within a flash of a second, they went up a tree and could no more be sighted. Turning around, I found my parents and in-laws to be silent spectators to this *mega event*. At that time, the Zoo was not so crowded and others who gathered around us to see the creature were good enough to quietly watch the activities of the panda, for a slightest sound or vibration would have led them to hide away from the spectators. After this memorable moment, we strolled through the road leading to the Zoo office. That zone was dedicated to Red Pandas within cages. There too we found the Pandas engaged in different activities in different cages. In the last two cages, two expecting mother Red pandas were found to be resting on branch of a tree, probably in sleep.

After a complete survey of the Zoo, when I was about to leave the premises, I once again rushed to the enclosure where I first met the adorable creature. But it was no more and not only that, the Security personnel informed that after that precious *half an hour*, those two pandas were not sighted! I felt happy to be one of the luckiest persons in getting a full 30 minutes time in observing my dream-friend for the first time in my life! I felt sad and depressed to leave the Zoo. But life has to go on. So I finally left the Zoo and till the time I reached Kolkata, kept watching the 30 minutes memorable video at regular intervals.

Hence, I feel that if one has the love and willpower to achieve anything, he or she will be inevitably find that their dream has turned into reality. I will definitely visit the Zoo again in the future as well as the National Parks and Sanctuaries housing this adorable Panda. Till then, those thirty minutes of my life in the Zoo in 2012 will stay afresh by the video clippings of the Panda which will be cherished forever.

The Red panda population is falling prey to various illegal human activities that cause a threat to their population. Zoos have taken special interest in the study and conservation of Red Pandas. At present about 85 zoos of the world hold more than 300 pandas and in the last two decades more than 300 have been born in Zoos. Zoos having Red panda in their collection participate in Management programs designed to ensure that a viable zoo population survives for the future. This program maintains a stud book of all red pandas in zoos, uses genetic and demographic management analyses to determine which animals should be mated, thereby developing long term management and research strategies for the species. *Padmaja Naidu Himalayan Zoological Park* had and is undertaking various measures and Breeding programmes to restore the Red Panda population to a sufficient number. The Conservation Breeding Programmes have been very successful. The baby pandas are reared in the zoo and after their full maturity, some of them are released in the wild and regularly monitored. The Zoo also undertakes various educational programmes to inculcate the general mass about the significance of these creatures. Let us hope the future sees the Red pandas as we see today and stop illegal activities that serve to eliminate these harmless wonders of Nature. As for me, getting so close with the Red panda is indeed a memory to be treasured forever !

References :

Communication with the local people, Information Boards at *Padmaja Naidu Himalayan Zoological Park* and Zoo Reports.



If shoot someone you love, shoot with Camera

Bikasranjan Chakrabarti*

A leaf from the Photo Album, some moments at a glance

1. স্তন্যপায়ী (Mammalia)



Indian palm squirrel, *Funambulus palmarum*
Captured By: Bikasranjan Chakrabarti

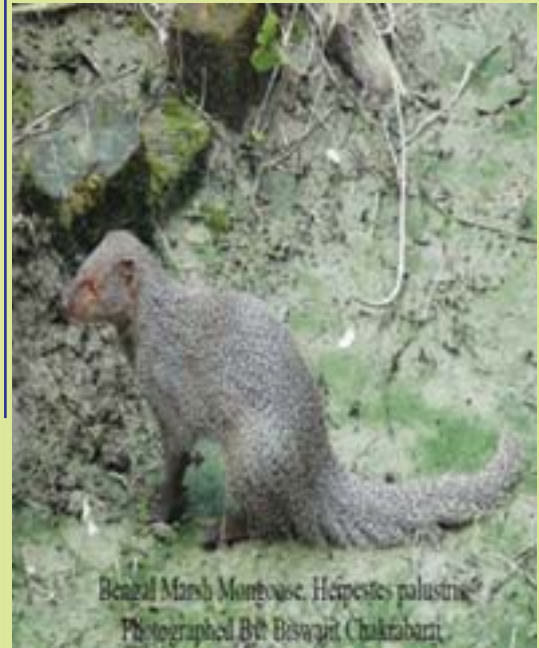
তিন ডোরা কাঠবেড়ালি

(Three-striped Palm Squirrel)

বাংলা নাম (Bengali Name)	: কাঠবিড়ালি (Katbirali)
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Common Palm Squirrel, India Palm Squirrel, Three-striped Palm Squirrel
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: <i>Funambulus palmarum</i>
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্ত প্রজাতি, সংরক্ষণ অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
বর্গ (Order)	: Rodentia
গোত্র (Family)	: Sciuridae

নেউল (Newul)

বাংলা নাম (Bengali Name)	: নেউল বা বেজি
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Mongoose
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: <i>Herpestes palustris</i>
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপন্ন প্রজাতি, সংরক্ষণ অবস্থা (Conservation Status)	: IUCN Red List of Endangered species. Red List Category- EN
ভারতীয় বন্যপ্রাণী (সংরক্ষণ) আইন ১৯৭২ অনুযায়ী তপশীল-২ অন্তর্ভুক্ত বন্যপ্রাণ	: Protected under Schedule - II
বর্গ (Order)	: Carnivora
গোত্র (Family)	: Herpestidae



Bengal Marsh Mongoose, *Herpestes palustris*
Photographed By: Bikasranjan Chakrabarti



চিতল হরিণ (Chital Deer)

বাংলা নাম (Bengali Name)	: চিতল হরিণ
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Chital, Indian Spotted Deer, Axis Deer
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: Axis axis
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্ত প্রজাতি, সংরক্ষন অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
ভারতীয় বন্যপ্রাণী (সংরক্ষন) আইন ১৯৭২ অনুযায়ী তপশীল - ৩ অর্ন্তভুক্ত বন্যপ্রাণ	: Protected under Schedule - III
বর্গ (Order)	: Cetartioctyla
গোত্র (Family)	: Cervidae

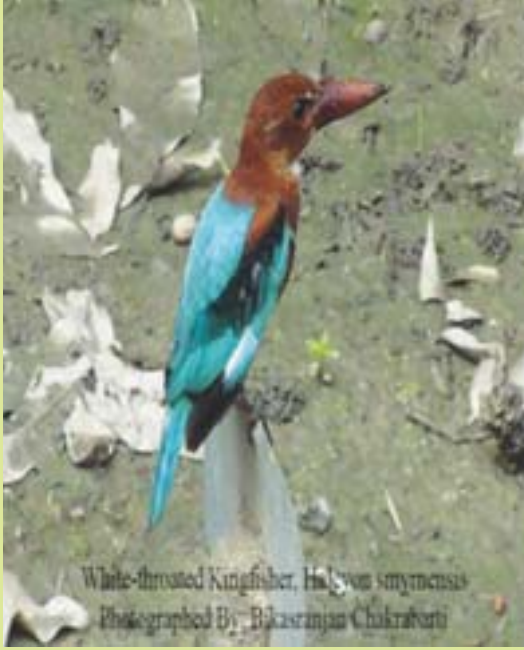
২. সরীসৃপ (Reptilia)

তারাহাপ কচ্ছপ

বাংলা নাম (Bengali Name)	: তারাহাপ কচ্ছপ
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Stared Tortoise, Indian Star Tortoise
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: Testudo/Geochelone elegans
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্ত প্রজাতি, সংরক্ষন অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
ভারতীয় বন্যপ্রাণী (সংরক্ষন) আইন ১৯৭২ অনুযায়ী তপশীল - ৪ অর্ন্তভুক্ত বন্যপ্রাণ	: Protected under Schedule - IV
বর্গ (Order)	: Testudines
গোত্র (Family)	: Testudinidae



3. পাখি (Aves)



White-throated Kingfisher, Halcyon smyrnensis
Photographed By: Bikasranjan Chakrabarti

সাদাবুক মাছরাঙ্গা (Machhraanga) পশ্চিমবঙ্গের রাজ্যপাখি

বাংলা নাম (Bengali Name)	: মাছরাঙ্গা
সাধারণ (ইংরেজি) নাম (Common / English Name)	: White-throated Kingfisher, White-breasted Kingfisher
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: Halcyon smyrnensis
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্থ প্রজাতি, সংরক্ষন অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
ভারতীয় বন্যপ্রাণী (সংরক্ষন) আইন ১৯৭২ অনুযায়ী তপশীল - ৪ অর্ন্তভুক্ত বন্যপ্রাণ	: Protected under Schedule - IV
বর্গ (Order)	: Coraciformes
গোত্র (Family)	: Alcedinidae

শালিক (Shalik)

বাংলা নাম (Bengali Name)	: শালিক
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Common Myna, Indian Myna, Myna breasted Kingfisher
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: Acridotheres tristis
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্থ প্রজাতি, সংরক্ষন অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
ভারতীয় বন্যপ্রাণী (সংরক্ষন) আইন ১৯৭২ অনুযায়ী তপশীল - ৪ অর্ন্তভুক্ত বন্যপ্রাণ	: Protected under Schedule - IV
বর্গ (Order)	: Passeriformes
গোত্র (Family)	: Sturnidae



Shalik, Acridotheres tristis
Captured By: Bikasranjan Chakrabarti



হাঁড়িচাচা (Hnari Chancha)

বাংলা নাম (Bengali Name)	: হাঁড়িচাচা
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Tree-pie, Rufous treepie
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: Dendrocitta vagabunda
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্ত প্রজাতি, সংরক্ষন অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
ভারতীয় বন্যপ্রাণী (সংরক্ষন) আইন ১৯৭২ অনুযায়ী তপশীল - ৪ অন্তর্ভুক্ত বন্যপ্রাণ	: Protected under Schedule - IV
বর্গ (Order)	: Passeriformes
গোত্র (Family)	: Corvidae

মুখোমুখি (Face to Face)

- Hello! Rufous. Good morning. Have a nice day.
- Yes, Tristis. A very good morning.
- Have you taken your breakfast?
- Not yet. I am searching for food.
- Ok. Fine
- What a nice look you have, Tristis. The beauty queen of nature.
- Is it so, Rufous?
- Yes.
- You also look handsome is your resplendent plumage.
- Thanks, Tristis.
- Both of us are good friends, Rufous.
- Yes, Tristis.
- Let us start jointly for searching & eating food in our territories.
- OK.
- We are playing an important role to maintain the ecological balance in nature. Is'nt it Rufous?
- Yes. Of course, Tristis.
- But we are not safe. Our lives are getting end-angered.
- Who is responsible for that?
- Obviously. Man's cruelty!
- We have also the right to live in nature like man and other living creatures.
- We say to Man "Stop cruelty. Shoot with camera, not with gun".
- We say unanimously to Man "Conserve nature. Save & love us".



4. উদ্ভিদ (Plants)

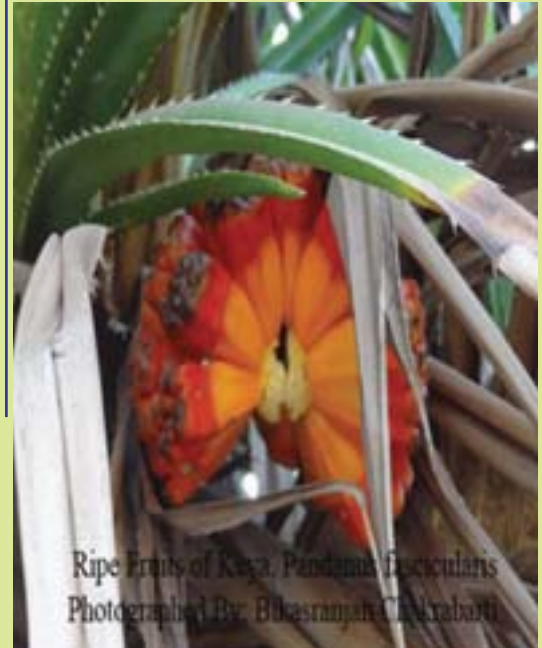


মনিরাজ ফুল (Moniraj Ful)

বাংলা নাম (Bengali Name)	: মনিরাজ ফুল
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Sago Palm (Cycads)
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: <i>Cycas revoluta</i> <i>vagabunda</i>
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্ত প্রজাতি, সংরক্ষণ অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
পুষ্পোদপ্ন (Flowering) ও ফলোদপ্ন (Fruiting)	: November to August
বর্গ (Order)	: Cycadales
গোত্র (Family)	: Corvidae

কেয়া (Keya, Ketaki)

বাংলা নাম (Bengali Name)	: কেয়া, কেতকী
সাধারণ (ইংরেজি) নাম (Common / English Name)	: Screw Pine
বিজ্ঞানভিত্তিক নাম/প্রজাতি (Botanical / Scientific Name / Species)	: <i>Pandanus fascicularis</i>
আই. ইউ. সি. এন লাল তালিকা অনুযায়ী বিপদগ্রস্ত প্রজাতি, সংরক্ষণ অবস্থা (Conservation Status)	: IUCN Red List of Threatened species. Red List Category-Least Concern (LC)
পুষ্পোদপ্ন (Flowering) ও ফলোদপ্ন (Fruiting)	: July to May
বর্গ (Order)	: Pandanales
গোত্র (Family)	: Pandanaceae



The Unexplored Sundarbans

*Somnath Chattopadhyay **



It is said that nature is full of beauty and surprises. It is even more, if it is the forests of Sundarbans.

The co-existence of Mangroves and Tiger, Estuarine Crocodile and King Cobra, Dolphin and Otter and lot many more is the essence of Sundarban.

With its 2584.89sq.km. area, Sundarban Tiger Reserve can really claim itself as an “Exceptional Gift” of Nature to mankind. Being a field level staff of this Tiger Reserve, I really feel proud and honoured to get the opportunity to serve this part of nature. After working here for more than four years, I feel that there are lots of things inside Sundarban Tiger Reserve, which still remain unexplored even to the staffs who are working here for more than fifteen years. An incident which happened in July, 2013 has made me to think this way.

As tasked, we were on a look out for a suitable place in Chandkhali Block of National Park East Range, for making a new landbased protection Camp, which would be close to International border. Myself along with my Beat Officer and staff and on some occasion our Field Director Shri S. Dasgupta had inspected different islands on Compartments Chandkhali – I and III on both sides of Chhoto Chandkhali Khal. Each time we had to get down on the island and waded through mud and water for comprehensive area check for sustainability of site.

After doing this exercise for almost a month, we finally found a piece of land on Compartment Chandkhali-I, which matched with our required criteria.

Now our duty was to make a demarcation over the area for making a temporary fencing

** Forest Ranger, Sundarban Tiger Reserve*

वनवीथि ४९

with nylon net before we go for boring a tubewell for search of drinking water, because without availability of drinking water, a permanent camp cannot be started.

With this objective in mind, we decided to start the demarcation work on 12th July, 2013.

During demarcation, we would have to enter deeper inside the forest of the selected land. We decided to make a big team of ten members including myself, the concerned Beat Officer (Sri Jahangir Kayal, DR/Fr), two Forest Guards, two Boatmen and four labourers. Keeping the safety and security in mind, we were carrying four nos. loaded Firearms with us for any sort of confrontation with the big cat, but we were completely unaware about what was waiting for us.

We started our walk on the land at around 2-20pm. Two labourers were leading us with cutting implements for making way through the dense thick Garan, Genwa forest. Two armed staff were also walking with them and we with arms in our hand were following them. We decided to go for southwards at first and then turn to eastwards and finally move then north. We proceeded as planned.

As we entered more inside the forest we found the jungle was getting denser and darker. In some places the vegetation was so dense and thick that we could not walk straight and we had to proceed sidewise.

While walking, we were talking with each other in loud voice- firstly, to keep track of all of us and secondly to keep predator at bay. We were also observing and discussing among ourselves, that the land was good and high and considered good to make the new camp.

However, in between all these, we were always cautious about protection from the big cat.

In this way after trudging through the thickets for about 350 metres, we decided to turn to the other direction.

I, myself with two staffs and two labourers were few steps ahead of the rest of the team. Suddenly, we got confused with the direction and a labour got up on a Genwa tree to ascertain the direction. But, he got down very fast and showed us a very big Honey-Comb on a Dhundhul (*Xylocarpus granatum*) tree just seven-eight feet away from us. We saw the big Honey-Comb, but could not match it with other combs, as this one was large, vertical on the stem of the tree and the colour was completely black.

We just watched the honey-comb for a few seconds and could not turn back, that we were attacked by the Honey-Bees. Probably the whole comb attacked us, as all of the ten members of our team were attacked.

They primarily attacked and bit our face and head. The attack was so severe that I could not open my eyes and ran like just anything through that dense thick vegetation. I did not know where I was running to, but only knew that I had to go farthest from that place to save myself from the dangerous bites of the bees.

Suddenly I found two men running by my side- they were Sri Niranjana Gayen, Boatman and a labourer of our team. They suggested to sit somewhere to get rid of the bees and accordingly we sat on the muddy land under a tree. Sri Gayen covered my head with a piece of cloth (“Gamchha”) he was carrying for himself. But, the attack became more severe and the bees covered our full body and continued biting. They were innumerable, might be in hundreds or thousands.

At that moment I heard someone behind us was groaning in pain, probably the other members of our team who were some steps behind us. We could not sit on that place anymore as the attack and pain were getting more severe. We got up and ran-probably to the direction from where we entered the forest,. We could only scream in pain, ask for help and run. It seemed like I was running for hours, but could not find the finishing point.

The bees continued to bite us on whole of our body while we were running for life. I could not run for long on the land which was infested with thousands of breathing roots, thorns of Hental (Phoenix paludosa) and thick undergrowth of Jhamti Garan (Ceriops decandra). I tripped several times on the ground and Sri Gayen and that labourer (unfortunately whose name I cannot remember at present) dragged me and helped me run.

In this way after running for almost half an hour we could reach the place where our boats were close by. Still the bees continued to bite us for this 350 metres way.

Sri Gayen suggested me to jump into the water, as that was the only way to distract them. I took his advice and could get rid of the bees By the time I jumped in to the boat. I was almost senseless.

The other staff and labourers could also reach their boat except two – the Beat Officer and another staff Sri Khagendra Nath Das, F.G. They could not be traced by the other staffs who were calling by their names. At last after 10-15 minutes they replied to their calls and they came out of the forest on the side of another creek.

We then asked our boats to start for the nearby Chamta Beat Office for having some first-aid. All of us were almost senseless by the deadly pain of the bites as well as the shock of such an unprecedented incidence. My face, back almost whole body was swollen by the virulent bites. Same happened to the other members of our team also.

The two members who were rescued later said, that, they had heard sounds of tiger walking nearby to them, when they were running for life from the honey-bees.

Some of the dead honey-bees were stuck to my shirt and were very big in size, black in colour and completely different from the type of honey-bees which we generally see. The staffs who were working in STR for more than fifteen years also admitted that they had never seen such type of honey-bee before and also have not known, that bees can attack in such manner, breaking their comb without any provocation. These Honey-Bess were completely different ones and have not been seen elsewhere in Sundarbans.

Everyone had to be treated with anti-allergic medicines and were taken to Gosaba Hospital(which was an eight hours journey from the place of occurrence).

I had to rush to SSKM Hospital, Kolkata (it was found that I was the worst affected and did not find any treatment at Gosaba) – had got treatment there and was under medication for next fourteen days. The bite of the bees was so dangerous that I could find their stings on my back and head even ten days after that incidence.

We all know about Royal Bengal Tiger of Sundarbans. We entered the forest with four loaded guns to protect ourselves from the mighty big cat of the jungle. But we never knew that a small insect could kill us within few minutes. It was by the grace of the almighty that all of us could get out of the forest alive, on that very Friday. We could have easily fallen prey to Tiger, venomous snakes, Crocodile while we were running for our lives without exactly knowing our direction. Apart from all these, the Honey-Bees could themselves have killed us if we could not find the way out of the forest and if they could bite us for another half an hour.

I will be ever grateful to Sri Niranjan Gayen, Boatman and that very person (the labour who had come to work with us) – who appeared before me like God and helped to save my life. I will never forget their service.

This episode is a pointer to the fact, that, Sundarbans' looks are deceptive. Though it appears serene and beautiful, it could, within its territory have lurking danger.

It provokes to think that the forests of Sundarbans has still lots of things unexplored, which we may or may not know in coming future.

Reference:-

I am thankful to Sri N.C. Bahuguna, IFS, PCCF, Wildlife who had personally visited the place of occurrence and talked with the staff who were injured on that day and has expressed his anxiety regarding the matter. I am also thankful to Sri S. Dasgupta, IFS, Field Director, STR and Sri Dr. K. S. Mankar, IFS, DFD, STR who constantly monitored the matter of well being of the affected staffs and encouraged me for this writing.

INAUGURATION OF LANDSCAPING AND BEAUTIFICATION WORK UNDER PARKS & GARDENS (NORTH) DIVISION

Rana Datta *



1. Pakhihaghat Gobindo Mohon High School. Mathabhanga -1 Panchyat Samity Dist Coochbehar,

Parks & Gardens (North) Division has undertaken landscaping and beautification work at Pakhihaghat Gobindo Mohon High School. Said work was inaugurated on 24th September 2013 by Sri Hiten Barman, Hon'ble, MIC Forests Govt of West Bengal by planting tree. Large number of students, teachers, panchyat representatives attended the programme.

2. Goplapur Lakkhimandir Primary School

A children Park has been created by Parks & Gardens North Division within the premises of Goplapur Lakkhimandir Primary School. Mathabhanga -1 Panchyat Samity Dist–Coochbehar, For this project Rs. 1.00 lakh has been allotted by Hon'ble Sri Hiten Barman, MIC Forests Govt of West Bengal from his MLA fund The Park was inaugurated on 24th september 2013 by Sri Hiten Barman Hon'ble MIC Forests Govt of West Bengal by planting trees. seedling were distributed among the students by Coochbehar Division. Large number of student, teachers, panchyat representatives, local villagers attended the programme.

3. Mathabhanga Sitala Mandir

Sri Hiten Barman Hon'ble MIC Forests Govt of West Bengal inaugurate landscaping and beautification Work at Sitala Mandir, 10 no Ward Mathabahnga, Coochbehar on 2nd October, 2013. was inaugurated by Sri Hiten Barman MIC Forests Govt Of West Bengal by tree planting, Sri Binoy krishna Barman MLA Mathabhanga, Sabhapati Mathabhanga 1 no panchyat samity, local councillor and large no of people were present in the inauguration programme.

BOOKS

Prithwish Pandit *

You flip through me	I know what is alpha, beta and gama
You search and you find	And also the vegetation of Panama.
I have tons of knowledge	But.....
To share it I don't mind.	Take care of me
But.....	Please be kind
When you drop me on the floor	Be careful of my loose pages
My pages tear and my sides are sore	Do bind.
Torn out pages make me groan	You can take a trip to the sun
To feel as if I have been thrown.	Sometime I am fun
I teach you to maintain good health	Before a quiz go through me
And I give you knowledge that is wealth	You will surely win you will see.

** BD Memorial International School, Kolkata Class-XI, Science*

Loss of Spirit

Krishna Chandra Bhaskar *

The saliva of the spider is venomous
It is killed with poison by us.

The cobweb is created with fine art

Its beauty is lost with not pity in heart.

What a loss of spirit, alas! A loss of spirit, alas!

An Evening At Neora Valley

Bijoy Kumar Dhar *

Sun Set behind the hill of Neora Valley
When I was sitting on the
Stair of Alubari camp,
Then flew a wonderful scenery
From the decline sun to opposite hill.
Whole of the east hill flourished
By shining light.
And the west hill
Goes to dark for a moment.
Suddenly a full moon
Rising just top of the east hill,
Who spread her beauty
On the breast of surrounding hill
Both of the amazing light was playing
For just few moments at the
Neora Valley.
Alas (Ah!) Beauty where you went away ?
Please come back again---
I was whispering,
I was overwhelmed.
Some unknown night birds suddenly
Flutter harshly.
Then I recollected.
Never seen before anywhere
such amazing show of light of
Sun and Moon.

‘ হঠাৎ অজগর ’

সমীর মজুমদার *

সেদিন সন্ধ্যা হবো-হবো করছে। এমন সময় খবর এল, ‘মস্ত এক সাপ দুবরাজপুর বস্তিতে, জলদি আসুন’।

সন্ধ্যার সময় পদদ্বজে একটু টেনশন কাটাতে বাইরে বেরোবো ভেবেছিলাম। ‘সাপের’ খবরে গম্ভ্যস্থল বদলাতে হল। মিনি জু’তে আমার অভিজ্ঞ কর্মচারীরা আছে। তারা সাপ, হনুমান, বাঁদর, পাখী, হরিণ, নানান বন্য জন্তু ধরতে পারদর্শী। এদের মধ্যে চুনারাম হাঁসদা, লালচাঁদ ও মহিষা এরা অভিজ্ঞ। মিনি জু ঝাড়গ্রাম রেঞ্জের ধবনী বীটের অধীনে। বীট বাবুকে ফোন করলাম।

- হ্যালো?
- হ্যালো। গুড ইভিনিং বড়বাবু।
- গুড ইভিনিং। এইমাত্র খবর এল দুবরাজপুরের কাছে একটা সাপ বেরিয়েছে। চুনারামদের একটু খবর দিন যত জলদি সম্ভব সাপ ধরার সরঞ্জাম নিয়ে ঝাড়গ্রাম রেঞ্জে চলে আসুক। এখান থেকে আমরা যাব।
- ঠিক আছে বড়বাবু। তবে সামান্য দেরী হবে, কারণ এইমাত্র চুনারাম কাজ সেরে বাড়ি গেল। ওর তৈরী হতে একটু সময় লাগবে।

বললাম, চেষ্টা করবেন যাতে যত জলদি সম্ভব যেন চলে আসে।

- ঠিক আছে, বড়বাবু। গুড নাইট।
- গুড নাইট।

আমার রেঞ্জ অফিস থেকে মিনি জু’র দূরত্ব তিন কিলোমিটার হবে। ওখানেই বীটবাবু সহ কর্মচারীরা থাকে আমার সাপ ধরার প্রক্রিয়া জানা আছে তবে কাগজ-কলম আর বাস্তবে বিরাট ফারাক। বন্য জন্তু সহ সাপ ধরা, পোষ মানানো এ সব কাজে জীবনের ঝুঁকি আছে। ভয় পেলে বিপদ অনিবার্য। মনের আর কলজের জোর যাদের আছে তারাই এ কাজে পারদর্শী। আমার মনের জোর আছে বটে কিন্তু কলজের জোর বড্ড কম। তাই এইসব কাজে ভয় করে।

আবার ফোন। এবারে বাঁদরভোলা বীটবাবুর।

- হ্যালো।
- গুড ইভিনিং বড়বাবু।
- গুড ইভিনিং।
- বড়বাবু, দুবরাজপুর জঙ্গলের কাছে নতুন বস্তিতে একটা বিশাল সাপ এসেছে। জলদি লোক পাঠান। প্রচুর লোক। পুলিশকে খবর দিন।

আমি বললাম, খবর পেয়েছি। দশ-পনেরো মিনিটের মধ্যে লোক যাচ্ছে। আপনি কর্মচারী নিয়ে ওখানে যান। পরিচিত লোকদের সাহায্য নিয়ে একটু দেখে রাখুন। আমি ব্যবস্থা করছি।

- ঠিক আছে, গুড নাইট।

এবারে ঘন-ঘন ফোন আসবে। বন সংলগ্ন গ্রামের মানুষদের সঙ্গে আমাদের যোগাযোগ ভাল। যোগাযোগ ভাল মানেই তারা ও চায় বনের সম্পদ বন্য প্রাণী বাঁচুক।

সুভাষ, সুরেশ ও চুনারাম অত্যন্ত দায়িত্বশীল, দক্ষ ও পরিশ্রমী কর্মচারী। এরা আছে বলে অনেক কঠিন কাজ সহজে হয়ে যায়।

খানিক বাদেই চুনারাম, মহিষা, লাল সুরেশ, সুভাষ হাজির। আমি তৈরী ছিলাম। ওরা আসতেই ওদের নিয়ে রওনা হলাম।

তখন সন্ধ্যার অন্ধকার নেমে এসেছে। দূর থেকে নানান টর্চের আলো আর মানুষের জটলা দেখতে পেলাম। বেশী লোকজন দেখলেই ভয় লাগে, কি জানি, কি গণ্ডোগোল হয়। যতই ঐ ভীড়ের দিকে এগোচ্ছি ততই হৃদপিন্ডের ধুক-পুকানি ক্রমবর্দ্ধমান হারে বাড়ছে।

আমাদের গাড়ীর আলো তার সাজ সরঞ্জাম দেখে উৎসাহী মানুষেরা অরও উৎসাহী হয়ে উঠল। যারা এতক্ষণ দূরে দাড়িয়েছিল তারাও আমাদের সঙ্গে সাপ ধরতে চায়। বিপদ বুঝে আমি চিৎকার করে বলতে লাগলাম, আপনারা সরে যান। আমাদের কাজ করতে দিন। যে কোন দূর্ঘটনা ঘটে যেতে পারে।

কিন্তু কে-কার কথা শোনে। পুলিশকে খবর দিয়েছি। এখনো আসেনি। কয়েক শত লোককে ঠেকিয়ে রাখার মত ক্ষমতা আমাদের নেই। পাঁচ বছরের বাচ্চা থেকে আশি বছরের বৃদ্ধ সবাই সচক্ষে সাপ ধরা দেখতে চায়। এ এক মহা বিপদ।

এর মধ্যেই আবার মাতালদের আগমন ঘটেছে। এদের সামলানো ভয়ঙ্কর কাজ। জায়গাটা জঙ্গল থেকে কয়েকশ মিটার দূরে। বন সুরক্ষা কমিটি এই জায়গায় নেই। নেই বলে, আমাদের কমিটির লোকজন কিছু বলতে পারছে না।

বাদরভোলার বীটবাবু আগেই কর্মচারী নিয়ে এসেছেন। এত লোককে ঠেকানোর সাধ্য বনরক্ষী করুণা সহ চার জনের নেই। আমাদের দেখে বুকে বল পেয়েছেন। সাহস করে সামনে এসে বললেন, অজগর ! প্রায় দশ ফুট !

আমি জিঞ্জেস করলাম, সাপটা কোথায় ?

বীটবাবু অন্ধকারে আঙ্গুল দেখিয়ে বলল, ঐ ঘরটাতে ঢুকেছে। ঘরটা বন্ধ করে রেখেছি।

অজগর শুনে কেমন খটকা লাগল। এখন ও বাড়গ্রামের জঙ্গলে অজগর আছে? মনে সন্দেহ ছিল। যদি থাকে তবে দুবরাজপুর জঙ্গল থেকে এসেছে। খাবারের খোঁজে মনে হচ্ছে এদিকে এসেছিল। মানুষের তাড়ায় ভয় পেয়ে ছুটোছুটি করে অবশেষে একটা মাটির ঘরে ঢুকে পড়েছে। দশ ফুট লম্বা মানে ছোট-খাটো ছাগল বা বন্য জন্তু অনায়াসে ধরে ফেলার ক্ষমতা আছে। একবার খাবার জাড়িয়ে ধরলে সেটা ছাড়ানো কষ্টকর। অজগর বা পাইথন বন্য প্রাণীর (সংরক্ষিত) সারনী-১ এ অন্তর্ভুক্ত।

আমরা ঐ কাঁচা বাড়ীর দিকে যত এগোচ্ছি ততই আমাদের সামনে—পেছনে উত্তেজিত জনতা বাড়ছে। ওরা এমন ভাব দেখচ্ছে যেন আমাদের অনুমতি পেলে সাপটিকে হাতে ধরে আনে। ওদের সাহস আছে। এ সব কাজে আমার উত্তেজনা বাড়ে। ভয় হয়, কখন কি অঘটন ঘটে যায়। কিন্তু ভয় পেলে চলবে না। আমার বলেই কর্মচারীরা বলিয়ান।

চুনारাম অর্থাৎ চুনार হাতে একটা শক্ত লম্বা লাঠি, আর কোমরে গামছা বাঁধা। সুরেশের হাতে হ্যালোজেন আলো। লালের হাতে নাইলনের জাল। মহিষার হাতে চটের বড় থলে। সুভাষের হাতে লম্বা, শক্ত ও সোজা লাঠি। বাকী সকলের হাতে টর্চ আর লাঠি।

ঘরটার চারদিক দেখে লাল বললো, সাপ ভেতরে আছে। জানালা বন্ধ, বেরোনোর রাস্তা নেই।

চারিদিক ঘন অন্ধকার। সব জায়গায় কিছু ভাল মানুষ থাকে। তাদের সাহায্যে আমরা সাপটিকে ঘিরে ফেললাম। আমরা সকলেই চিৎকার করে বলতে লাগলাম, সামনে থেকে সরে যান। যে কোন দৃষ্টিনা ঘটে যেতে পারে। ভীড় করবেন না। আমাদের কাজ করতে দিন।

কিন্তু কে, কার কথা শোনে। এরই মধ্যে কাজ করতে হবে। টর্চের আলোতে চারিদিক ঘরটা দেখে নিয়ে যে যার কাজের দায়িত্ব নিয়ে নিল। মহিষা দরজার মুখে চটের বস্তা ফাঁক করে শিকার ধরার জন্য তৈরী। সুরেশের হাতে টর্চের আলো লক্ষবস্তুর দিকে। লাল, নাইলনের জাল পেতে ঠিক দরজার পাশে বসে।

ছোট ঘর বড় জোর দশ বাই আট ফুট। এক কোনে অন্ধকারে কুণ্ডলী পাকিয়ে সাপটি বসে। বীটবাবু যা বলেছেন সেটাই ঠিক। এটা অজগর। ভয় পেয়ে শব্দ করছে।

অপারেশনের নেতৃত্ব চুনার হাতে। আমি দরজার পাশে। বাইরে ঠেলাঠেলি, চিৎকার—চেচামেচি। সকলে যেমন ভাবে হোক সাপ ধরার পর্ব স্বচক্ষে দেখতে চায়। ঠেলাঠেলিতে মাটির ঘর না ভেঙ্গে যায়।

গুলতির মত লম্বা লাঠি চুনার এক হাতে শক্ত করে ধরা। সুভাষের লম্বা লাঠি ধীরে—ধীরে সাপের পেছনে ঠেলা দিচ্ছে। সুরেশের আলো সাপের উপর। এতক্ষন ছুটোছুটিতে ও ক্লান্ত। নড়তে চাইছে না। জোরে পেছনে ঠেলা দিতেই অজগর তড়াৎ করে উঠল। মনের অজান্তে শব্দ করে দরজার বাইরে আসতেই জনতার এক অংশ ‘পালা, পালা চিৎকার করে দৌড়। যেন অজগর তাদের পেছনেই। সে এক দৃশ্য!

তৎপর চুনার ক্ষিপ্ৰ লাঠিতে বস মেনেছে অজগর। অজগর যেন বুঝতে পেরেছে তাঁকে বাঁচাতে এরা এসেছে। সুভাষের লাঠি নিয়ন্ত্রন করছে যাতে উল্টো দিকে অজগর গমন না করে।

মাত্র পাঁচ মিনিট। অজগর বাবাজী চুনারামদের দেখানো রাস্তায় ধীরে—ধীরে চটের বস্তায়। অজগর বস্তায় ঠুকতেই মহিষার ক্ষিপ্ৰ হস্তে সাপ বন্দী।

এতক্ষন যারা সাপ ধরা দেখার জন্য ঠেলাঠেলি, চিৎকার—চেচামেচি করছিল তারা কিছু বুঝে ওঠার আগে বস্তা বন্দী অজগর নিয়ে সুভাষ গাড়ী ছুটিয়ে দিল ঝাড়গ্রাম মিনি জু’র দিকে।

বিহঙ্গ

সুমনা ভট্টাচার্য্য *

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একতলার বারান্দা থেকে আলতো পায়ে, সামনের বাঁধানো চাতালে নামল অজন্তা। পরনে নীল রঙের কটস উলের সালোয়ার কামিজ, নীল সোয়েটার, নীল শালের ওড়না। গলায় ঝুলছে ক্যামেরা। সোয়েটারের এক পকেটে রুমাল আরেকটায় চাবি। মোবাইল আর মানিব্যাগ ঘরেই আছে। সারাক্ষণ মোবাইলে কথা বলা, তার দু চোখের বিষ। কেউ মাঝে ফোন করলে, ফিরে গিয়ে রিং ব্যাক করলেই হবে।

প্রথমেই বাঁদিকের আম গাছের ডালে চোখ পড়ল, যেখানে একটা কোটরে থাকে, পাঁচা পরিবার। পরিবারে আপাতত সদস্য তিনজন—জনক জননী ও সন্তান। আজ গোলগাল নরমতরম শাবক টি বসে আছে, বাবা মা হয়তো বাইরে, খাবারের খোঁজে। অনেক ছবি তুলেছে সে, এই পরিবারের, গত দু সপ্তাহে দেবাদুনে আসার পর থেকে। আজ শুধু মৃদু হেসে তাকালো সে শাবকটির দিকে। বাৎসল্যের প্রকাশ যেমন হয়, ঠিক তেমন। কেমন এক আত্মীয়তা হয়ে গেছে পাখিগুলোর সাথে অজন্তার। সামনেই একটা চাঁপা গাছ, যেখানে আসে মেরুন ওরিয়োল আর হাঁড়িচাঁচা, দুপুরে ফল খেতে। সামনের কেয়ারি করা মুরসুমি ফুলের বাগানে, ছোট টিয়া সবুজ রঙের, সাদা বড় চোখ, ‘ওরিয়েন্টাল হোয়াইট আই’, মধু খায় চন্দ্রমল্লিকায়, লাফিয়ে বেড়ায় ফুলে ফুল। লাল সবুজ ফুলের, বটল-ব্রাশ গাছে, বসে থাকে লাল-সবুজ ‘ক্রিমসন সানবার্ড’, যার শরীরের উর্ধ্বাঙ্গ লাল আর নিচের দিকটা সবুজ। প্রকৃতির কি অদ্ভুত সৃষ্টি, নিজের সন্তান-সন্ততিদের বাঁচানোর। দুদিন লাগাতার ঝড় বৃষ্টি আর বিদ্যুৎ বিভ্রাটের পর, গতকাল রোদ উঠেছে। উপত্যকায় বৃষ্টির ও আলাদা সৌন্দর্য্য।

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আজ ক্যাম্পাসের পেছনে মুসৌরি পাহাড়ের গায়ে বরফের মুকুট, প্রকৃত যেন সত্যি হাসছে। আকাশ পরিষ্কার নীল উজ্জ্বল, সাথে কনকনে ঠান্ডা আবহাওয়া। এখানকার জলবাতাস, সরল মানুষের কথা মনে পড়ায়, যারা মনের আকাশে মেঘ হলে, সব উগরে দিয়ে, নির্মেঘ গগন নিয়ে বাঁচে। ধূসরতা বা কালিমা স্পর্শ করতে পারে না তাঁদের। অজন্তা নিজে ও এমন প্রকৃতির, আর চায় এই স্বভাব যেন আজীবন সঙ্গী হয় তার।

কলকাতায় এমন নীল আকাশ দেখা যায় কদাচিৎ, বর্ষা কালে, মুষলধার বৃষ্টির পর, রোদ উঠলে। বসু বিজ্ঞান মন্দিরে সে বৈজ্ঞানিক। পরবর্তী পদনোতির আগে, বাধ্যতামূলক এই আট সপ্তাহের প্রশিক্ষণ। তাই সে এসেছে দেহরাদুনে। থাকা হোস্টেলে, খাওয়া মেসে। অজন্তার সাথে যারা ট্রেনিং করতে এসেছে, দেশের বিভিন্ন প্রান্ত থেকে, তবে তারা পক্ষিপ্রেমিক নয়, তাই সে একাকি বেরিয়ে পড়ে ছুটির দিনে। কলকাতায় এত রকমের পাখি বা প্রকৃতিকে এত নিবিড় করে পাওয়া যায় না। তবু ও মাঝে মাঝে সে বেড়িয়ে পড়ে সল্টলেকের বনবিতানে, সকালের দিকে, যখন ভিড় কম। তবে তার জন্য অনেক কাঠখড় পোড়াতে হয়, এখানে তো নাকের ডগায় সবকিছু। অতএব, কলকাতায় যা করা হয় না, তা মন দিয়ে করে নিচ্ছে এইখানে এসে। গতকাল সন্ধ্যায় রাজপুর রোডের নটরাজ পাবলিশার্স থেকে “দুন ভ্যালির” পাখির একটা বই কিনে এনেছে সে, এবার পাখিদের চেনা আরো সহজ হবে। সোম থেকে শুক্র, পাঁচ দিন লাগাতার ক্লাস, শনি রবি ছুটি। এ দুটো দিন, সে নিজের মতন করে কাটায়। গত শনিবার রবিবার ও পাখীর ছবি তুলে, পাখি চিনে কাটিয়েছে সে। গতকাল ও সেই ভাবেই কেটে গেল। আজ রবিবার, আজ ও ক্লাস নেই, তবে নিজের স্থির করা রুটিনে, সে সকাল সকাল স্নান করে, তৈরি হয়ে,

ব্রেকফাস্ট সেরে, বেরিয়ে পড়েছে।

মাঝে মাঝে মনে হয়, সে যদি পাখীর মতন উড়ে বেড়াতে পারত, তবে বেশ হত। নানান জায়গায় ঘুরতো, খেয়াল খুশি মত। টিয়াপাখির কর্কশ ডাকে, সম্বিৎ ফেরে তার। মাথা তুলে শব্দের উৎসস্থল খোঁজে সে। জাম গাছের দিকে তাকাতেই, নজর পরে দুটো লাল ঠোঁটের টিয়াপাখি খুনসুটি করছে। এখানে নানারকমের টিয়াপাখি, কোনোটার ঠোঁট হলুদ, কোনোটার মাথা লাল বা ধূসর। টিয়া দম্পতি কে ফ্রেমবন্দি করে এগোয় সে। হলদে বুক আর কালো মাথার বেনেবউ খুব চঞ্চল, এক বার গাছের এই ডালে আরেক বার সেই ডালে। একপলকে দেখে শুধু তাকে অজন্তা, সব পাখি কে ফ্রেমবন্দি করা যায় না, যেমন জীবনের সব ইচ্ছে পূরণ হয় না। তবে এই নিয়ে মনে কোনো দুঃখ নেই তার.....।

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আরেকটু এগিয়ে রাস্তার ডান মোড় ঘুরতেই দেখে, সারি সারি বাংলো বাড়ি, সবই বিরাট ক্যাম্পাসের মধ্যে, যেখানে আধিকারিকরা থাকেন। একটা বাড়ির গেট থেকে একটা বড় এলসেশিয়ান কুকুর কে নিয়ে বেরোলো একটি ছেলে, হাতে লাঠি। কুকুর টা কে ঠান্ডা থেকে বাঁচানোর জন্য পেটের উন্মুক্ত অংশ গরম কাপড় দিয়ে মোড়া। অনেকেই পৌষ্য কে, সন্তান স্নেহে লালন-পালন করেন, দেখে বেশ ভাল লাগে। নিজের ও কিছু পুষতে খুব ইচ্ছে করে অজন্তার, তবে সারাদিন বাড়ির বাইরে থাকে, ভাবে তাই যাকে আনবে, তার অযত্ন হবে, তাই পুষে উঠতে পারেনি আজ অন্দি কিছু।

সারমেয় চলে যাওয়ার পর, নজরে পড়ল বিরাট হিমালয়ান ধনেশ পাখি। শরীরে তার এখনো আলস্য, কিন্তু খিদের জন্য চলে আসতে হয়েছে এইখানে। রোদ পোয়াচ্ছে সে, আর এক-একটা ফল, বিরাট ঠোঁট দিয়ে ঠুকরে ঠুকরে খাচ্ছে। নির্দিধায় পোজ দিচ্ছে সে। সুযোগের সদব্যবহার করে অজন্তা। এবার চোখে পড়ল, ইলেকট্রিক তারের উপর বসা হিমালয়ান বুলবুল পাখিটায়, কি সন্দুর বাঁকানো কালো ঝুঁটি মাথায়। ক্যামেরা তাক করে, জুম করতে করতে, সেই পাখি লাফিয়ে চলে গেল, পাশের গাছের ডালে। সেই গাছে তাক করতেই, ফিরে এলো ইলেকট্রিক লাইনে, ক্লিক.....ঝট করে টিপে দিলো সে শাটার।

এরপর বাঁশবন, নানা রকমের বাঁশ-সোনালি, মুলি, চাইনিজ। সেখানে উড়ে বেড়াচ্ছে কালো ফিঙে, যার শরীর থেকে সূর্যের আলো যেন, চকচক করে পিছলে পিছলে যায়। ফিঙের দিকে ক্যামেরা তাক করে, শাটার টেপার আগেই, পাখি উড়তে শুরু করল। অভিমানী চোখে তাকালো সে ফিঙের দিকে, তার এতো ভালবাসা ওদের প্রতি, তাও যে কেন ভয় পেয়ে উড়ে যায়। সবাই তো ভালবাসার প্রতিদান পায়না, এই ভাবে সান্ত্বনা দেয় সে নিজে।

সামনের ঝোঁপে ছোট নীল ‘ভারডিস্ট্রিক্ট ফ্লাইক্যাচার’ পাখি টা কে দেখে সে এগিয়ে যায়। কালো ঠোঁট, কালো চোখ নিয়ে, সে লাফিয়ে লাফিয়ে বেড়ায় ঘাসের আর ঝোপঝাড়ের ফাঁকে। হঠাৎ পাখিটা লাফিয়ে এসে বসে তার কাঁধে। প্রথমে চমকে যায় অজন্তা, তারপর ভাললাগায় মন টা ভরে যায়, ওকে চিনেছে তবে এই পাখি। তারপর এক অদ্ভুত অনুভূতি, আস্তে আস্তে, তার শরীর ছোট হয়ে যাচ্ছে, গলার কালো ক্যামেরার স্ট্র্যাপটা, কালো রেখা হয়ে যায়, তার হাত দুটো ছড়িয়ে যায়, পা দুটো ছোট হয়ে যায়, নীল সালোয়ার কামিজ থেকে নীল ছোট ছোট পালক শরীর জুড়ে, ঠোঁট দুটো ছুঁচলো আর লম্বা হয়ে যায়, আচমকা দেখালো, উড়তে পারছে সে, নীল আকাশে.....।

উদ্যান আলো এবং গল্পগাথা

সুজাতা পাল (বসু) *

পার্কের আবছা অবয়বে রাত কুয়াশার ভেজা হাত। দুধারের উপচে পড়া ফুলের হাসি সামলে নিয়নের মায়াবী আলোয় ভিজে একশা পথ গিয়েছে বেঁকে, অনেক ঘুরে ঘুরে। প্রবেশ নিতেই টোপিয়ারী শিল্পের চমৎকৃতি! বন্য জীবনে অনভিপ্রেত প্রবেশকারীর পথ আগলে দাঁড়াবেই সবুজ শিকারী কুকুরটি। তল্লাশি শেষে তার ছাড়পত্র পেলে তবে না সমুখ পানে পা বাড়ানো! আলো আঁধারি পথের বাঁকে দেখা হয়ে যাবে স্থূলদেহী গজপতির সাথে। তার বাল্বের উজ্জ্বল চোখ আপ্যায়নের অভিব্যক্তিতে মৌ চক্‌চক্‌। জুরাসিক পর্বের ডাইনোসরও ইতি উতি দর্শকের নজর কাড়বে। তাদের বিশাল কলেবর দেখে ঘাবড়ানো নিরর্থক – যেন নির্বিরোধি নিরামিষাশী পরম বৈষ্ণব, বন্ধুর পথ চেয়ে অনন্তকালের প্রতিক্ষায়

কী নেই সেখানে! জীব ধাত্রী অরণ্য ও বন্য প্রাণ রক্ষার কর্তব্যনিষ্ঠ সদা সতর্ক প্রহরারত জিপগাড়ির পাশেই চলছে উড়ন্ত বাজের নজরদারি। গলা উঁচিয়ে আছেন নিরীহ জিরাফ – নিরাশঙ্ক উঁচু থেকে দেখে নিচ্ছেন মায়াবদ্ধ জীবনের সারাৎসার। আছে নৃত্যরত ময়ূর। উদাস মাঝি দাঁড় বেয়ে যায় আকাশ গাঙের পথে

আছেন মহা শিব লিঙ্গম – মায় তাঁকে আরতি জানাতে জাজ্বল্যমান প্রদীপ শিখাটিও। একলব্য কন্মীরা রয়ে যান সলতে পাকাতে তাঁদের জন্য দু’দন্ড সেলাম।

ইতিহাসের শ্যাওলা জামা গায়ে প্রাচীন গাছেদের ধ্রুপদী মজলিশ সবুজ ছাতার নিচে সূর্যের জাফরি জানালা – আঃ! শীতের আমেজে কী দারুন জীবনকে সেকঁকে নেওয়া! চলে এসো কচি কাঁচা, ডাঁসা পেয়ারা এবং সবুজ পাতারা। সত্যি বলছি, এক যাত্রায় সবাই পাবে বনের রাজার মুকুট।

পাখির গানে, কৃষ্ণচূড়া পলাশের আবির মেখে বসন্তের প্রেমিক পাগল হাওয়ার দাপাদাপি খুনসুটি আর বর্ষার ধারান্নানে দৈনন্দিনতার সব মালিন্য ধুয়ে মুছে উদ্যান যেন লতা-বেগী দুলিয়ে সবুজ স্কাট্‌ স্কুল বালিকাটি! এমনি ভাবেই রথের চাকায় রং বদলের খেলা।

সৌর রথ মধ্য গগন পেরিয়ে পশ্চিমে যাত্রা শুরু করলে কচিকাঁচাদের কল কাকলি মুখর টয়ট্রেনের চলার শুরু। জীবনের উষ্মতা বুক জড়িয়ে ফুল পাখি গাছ পাথর টিলা আর পুকুরের শান্ত শীতলতাকে পাশ কাটিয়ে বনজ গন্ধ বিভোর, কু-ঝিক্‌মিক্‌ সুর তালে ছন্দময় তার ঘুরে বেড়ানো – অবর্ণনীয় আকর্ষক আনন্দমুখর এক অনন্য অনুভূতি।

ক্লান্ত সূর্য পশ্চিম দিগন্তে গা এলিয়ে দিলে সূরের দোলায় সাত রং উজ্জ্বল বাহারি পোশাকে জল পরীদের বিভঙ্গ-চঞ্চল উচ্ছল নাচের রসায়ন – আমাদের গুমোট সাঁতসেঁতে ঘরে আলো হাওয়ার অবাধ চলাচল।

বিষন্ন সন্ধে মেয়ে পায়ে পয়ে এগিয়ে এলে জীবনের গান স্তব্ধ হয়ে আসে। আকাশের সুতো টেনে একে একে সে নিভিয়ে দেয় সব আলো। আর সেই পথ ধরেই তো আসে গা-ছম্‌ছম্‌ করা নিশিরাত। তখন দিনের আলোর চিহ্ন মাত্র থাকে না – তখন শুধু হাওয়ার ফিস্‌ ফিস্‌ – শিশিরের টুপটাপ – পাতার সরসর তুলে দীর্ঘশ্বাসে দীর্ঘশ্বাসে ইতিহাস কথা বলে ওঠে। তখনও বাতিস্তন্ত হাতে পাথর মানবীরা মায়াবী আলোয় পথকে করেছেন আলোকিত। যুগ যুগ ধরে সঞ্চিত ব্যথা অভিমান বারে পরছে তাদের স্তব্ধ বিষন্ন চোখ থেকে। রাত শেয়ালের বিলম্বিত লয়ের সমবেত সুর সাধনায় দিকে দিকে সেই বিষন্নতা ছড়িয়ে পড়ছে।

* বন বিভাগের একাধিক উদ্যান ও কানন ঘুরে এসে

যেখানে সময় দাঁড়িয়ে আছে

মণীন্দ্র বিশ্বাস *

গজল ডোবায়
এই নিরালায়
হাঁসেদের সাথে
প্রহর কেটে যায়

বেগুনি মাথার হাঁসটা
দেখিনা আর
কত কেউ যাবে চ'লে
পরিবর্তনের প্রহরে প্রহরে

পাহাড়ের নরম ছটায়
নেচে ওঠে মন,
মেঘেদের সাথে
লাগাই ডুব-সাঁতার
অরণ্য-ঘেরা এই
জল-প্রান্তরে

পরিযায়ী, আমি
তোমার সাথে যাব
কোনও এক গোপন রাতে
পৌঁছে যাব
তিব্বতের সেই অনামা-হ্রদে,
যেখানে সময় দাঁড়িয়ে আছে।।

* বনপাল, ভূমি সংরক্ষন (উত্তর)

বন্যপ্রাণ ভিত্তিক

নীলাঞ্জন কুমার *

খাই বন্যপ্রাণ, করি ফূর্তি
বলি বীরত্বের গল্পো
তারপর একদিন সেসব
লুপ্ত হলে
ভুলে যাওয়া।

শেষমেষ ডোডো পাখি হতে
যাদের লাইন
তাদের নিয়ে চিন্তা সার।

এই বেশ খাওয়া দাওয়া, হাই হ্যালো-
ছুঁয়ে থাকা উল্লাস দিন,
বাকি সব গোল্লায় গেলে কার কি?

লে লে ফাঁদ পাত
চুপি চুপি আসবে শিকার,
চল চল চুপ থাক-
সামলে সব, না হলে

ঠিক ঠাক রাখ টোপ
শক্তপোক্ত রয়েছে খাঁচা,
তারপর দেখ বাহাদুরি
শিকার এলে কিস্তিমাত।

পড় পড় লুকিয়ে পড়
ঝোপে ঝাড়ে পাতার আড়ালে-
যেন লক্ষ্য ঠিক থাকে
সামলে সব, না হলে

আয় আয় আয় আয়
টুকে পড় সাধের খাঁচায়
লোভ চোখ ঝিকিয়ে উঠবে
হাতে পেলে কুশলী শিকার।

খোকার জিজ্ঞাসা

শ্রী সঞ্জয় কর *

মেঠো পথ ধরে, হরি ধ্বনি করে
চলেছে শ্মশান যাত্রী,
খোকা ধায় পিছু, বোঝে না তো কিছু
বিদায় নিয়েছে তার ধাত্রী।

কাঠ সাজিয়ে, চিতা বানিয়ে
নিয়ম কানুন হল সারা
হরিধ্বনি করে, তার পরে তুলে
মুখাঙ্গি করার পালা।

সকলের সাথে হরিবোল বলে
ছড়ায় মুঠোর খই গুলি,
আঁকা বাঁকা পথ যায় ঘুরে ঘুরে
স্মৃতির চিহ্ন ফেলি।

সকলে শুধায়, দেরে খোকা আগুন
বলে সে, নাইকো আমি বোকা
একই কথা সে বার বার বলে
মার কি লাগবে না ছাঁকা?

খোকা তো জানেনা, আর ফিরবেনা
প্রিয় সাথী তার জননী
খেলার সাথী আর, পড়ার সাথী তার
তাকে যে এখনো ভোলেনি।

বোঝে না খোকা নিষ্প্রান দেহে
লাগে না তো কোন ছাঁকা
সে শুধুই এখন জড় বস্তু
তার যে লাগে না ব্যথা।

পথের শেষে মাঠের পাশে
শ্মশান ঘাটে এসে
কেন এমন হল? ভাবছে খোকা
নদীর ঘাটেতে বসে।

বহু কষ্টে সবে জোর করে তবে
দেওয়ায় আগুন মুখে
তারপর দেয় চিতার আগুন
জল ঝরে তার চোখে।

সকলে শুধায়, ওরে খোকা
লাগছে না তোর ব্যথা?
অবাক চোখে তাকায় খোকা
বলছে এরা কেমন কথা?

দেখতে দেখতে ছাই হয়ে যায়
খোকার মায়ের দেহ
কেঁদে খোকা বলে যে শুধু
মা ছাড়া নেই যে তার কেহ।

এসেছি সবাই ঘুরতে হেথায়
ফিরব একই সাথে
জানে না খোকা, ফিরবে একা
মা রইবেন ঘাটে।

সকলে বোঝায়, কাঁদিস না খোকা
চল ফিরে তোর ঘরে
শুধু বার বার, একি কথা তার
রইবে কাহার তরে?

বাঁচতে দাও!

পুতুল রায় *

সন্ধ্যাতারার দীপ জ্বলে
অরণ্যভূমি যখন আরতি করে প্রকৃতির
তখন কান পাতলে শোনা যায়
কারা যেন বলছে ‘বাঁচতে দাও! বাঁচতে দাও!’

শুকতারার টিপটি পরে আবার
অরণ্য যখন সেজে উঠে তখনও
শোনা যায় তারা বলছে :
‘আমাকে বাঁচতে দাও!’

* করণিক, অরণ্য ভবন

সবুজ

সুমনা ভট্টাচার্য *

জানতে চাইতে মাঝেমাঝে
আমার দুনিয়া শুধু কেন তুমিময়
এত ভালবাসা অবাক করতো তোমায় ...

বলতাম ভালো খুব তুমি, তাই
অবাক হতে- নিজেকে যে চিনতে তুমি
আমি বোকা, চিনতে পারিনি

সম্পর্ক নদীর মতন
অকস্মাৎ বলেছিলে থামো
না থেমে বদলেছি গতিপথ

সময়ের সাথে
বৃষ্টিবন কমণীয়তা হারায়
সবুজের চাদর সাহায্য

সেদিন ফিরিয়েছি হাসিমুখে
যেদিন ডাকলে আবার
কারণ আজ বুঝি
সবাই সবুজ সইতে পারেনা

* সহকারি মুখ্যবনপাল, পশ্চিমবঙ্গ



