



ARUNACHAL ENVIS

NEWSLETTER

Status of environment & its Issues



INAUGURAL EDITION

Vol.1(1), Jul.-Dec. 2016

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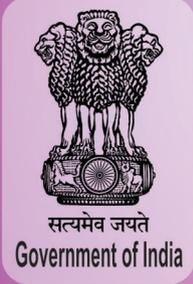
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PREFACE

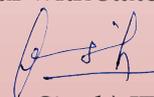
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FORWARD

It gives me great pleasure to introduce 1st Edition / Inaugural Edition of Envis Newsletter for the state of Arunachal Pradesh. This year has been significant due to official inauguration of Arunachal Envis Centre Website by the Chief Minister of Arunachal Pradesh Shri Pema Khandu on 1st Oct. 2016.

The Envis Newsletter shall be providing data on state's environmental status of this state for use by Scientist & Scholars. I congratulate D. Dohu Robin, Envis Coordinator and his team who were involved in this assignment.

I am confident that this newsletter shall serve as useful and will find favour as being informative and even friendly by planners, policy makers, NGOs, Civil Society all those interested in becoming familiar with states environment.



(Omkar Singh) IFS
PCCF & Prnl. Secy (E & F)
Govt. of Arunachal Pradesh

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ARUNACHAL ENVIS NEWSLETTER

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1. What is ENVIS?

Realizing the importance of environmental information, Government of India, during December, 1982 established an **ENVIRONMENTAL INFORMATION SYSTEM (ENVIS)** as a planned programme. ENVIS is a decentralized system with a network of distribution oriented centers ensuring integration of national efforts in environmental information collection, collation, storage, retrieval and dissemination to all concerned stakeholders. Presently the ENVIS network consist of focal point at the Ministry of Environment Forest & Climate Change, GoI, New Delhi. ENVIS network includes 69 centres operated by state governments, research institute and NGOs.

ABOUT ENVIS CENTER, ARUNACHAL PRADESH

ENVIS Center has been established in Arunachal Pradesh under Deptt of Environment & Forests, Govt of Arunachal Pradesh on 2nd December 2015 with financial support from MoEF & CC, GoI with the mandate to perform the following functions:

- To collect, compile and disseminate environmental related issues & information.
- Develop environmental related database on Indian State Level Basic Environmental Information Data-

base (ISBEID) Website.

- Development of a user friendly dynamic website including homepage to make it a web enabled system for online exchange of information
- To support and promote research, development and innovation in environmental information technology.
- To bring awareness among students and public about importance of environment.

LONG-TERM OBJECTIVES:

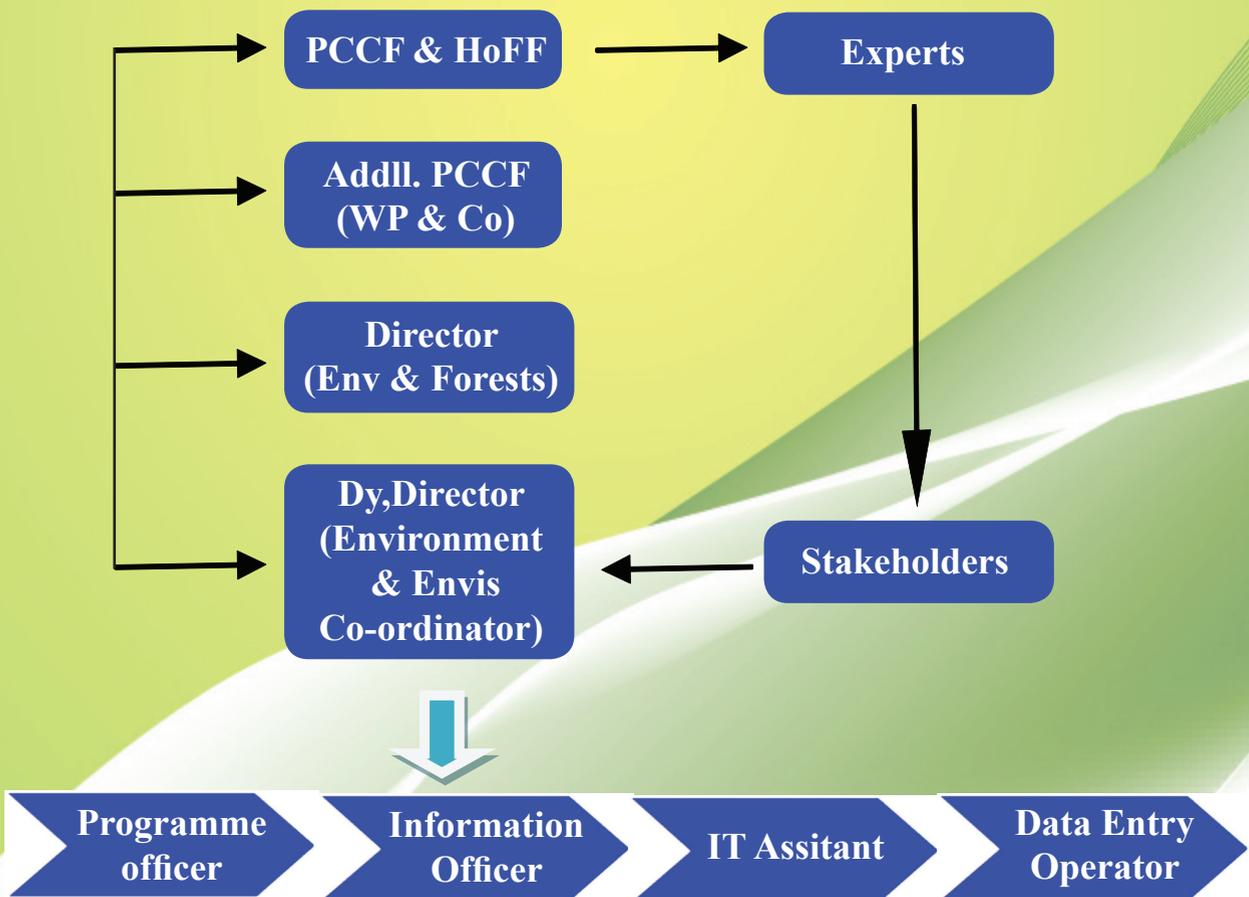
- To gear up the modern technologies of acquisition, processing, storage, retrieval and dissemination information of environmental nature.
- To support and promote research, development and innovation of environmental information technology



SHORT-TERM OBJECTIVES:

- To provide national environmental information service relevant to present needs and capable of development to meet the future needs of the users, originators, processors and disseminators of information.
- To build-up storage, retrieval and dissemination capabilities with the ultimate objectives of disseminating information speedily to the users.
- To promote, national and international cooperation and liaison for exchange of environment related information.
- To promote, support and assist education and personnel training programs designed to enhance environmental information processing and utilization capabilities.
- To promote exchange of information amongst developing countries.

2. ENVIS Organization structure





3. ABOUT ARUNACHAL PRADESH

3. (a) Geography

Arunachal Pradesh is situated in the north eastern part of India has an area of 83,743 sq km and has long international border with Bhutan to the west (160 km), China to the North and North East (1,080 km) and Myanmar to the East (440 km). Arunachal is the largest state area in the NE region and situated between latitude 26'30' N and 29' 30' and longitude 91' 30' E and 97' 30' E.

3. (b) State Animal, Bird, Flower & Tree.



| | State Animal | State Bird | State Flower | State Tree |
|-----------------|----------------------|------------------|----------------------|----------------------|
| Common name | Hoolock Gibbon | Great Hornbill | Foxtail orchid | Banyan tree |
| Scientific name | Hoolock leuconedys | Buceros Bicornis | Rhynchostylis retusa | Ficus Benghalensis |
| Local name | Siibeng, Subu, Sebe, | Puyu Pega, Pehik | - | Hiirot, Sangrik Sine |

3. (c) Climate: Arunachal Pradesh receives heavy rainfall of 2,000 to 4,100 millimeters annually, most of it between May and September. The climate of Arunachal Pradesh varies with topography and elevation. The foothill zone is subtropical and has a hot and humid climate; in the lower valleys, summer temperatures in June, July, and August typically rise into the mid-90s F (mid-30s C), while winter high temperatures in December, January, and February usually reach the mid-50s F (about 13°C). Average temperatures decrease as elevations increase in the mountains. Precipitation in the state generally follows the wet-dry monsoon pattern. Annual totals average about 130 inches (3,300 mm), falling mostly between April and September during the wet southwest monsoon. In the centre of the state, however, the precipitation figure approaches 160 inches (4,100 mm) or higher per year.

3. (d) Temp, Rainfall, Altitudinal variation:-

Arunachal Pradesh has maximum Temperature of appreciably higher (0.35°C) as compared to minimum temp (0.25°C) and show variability in rainfall trend (increasing as well as decreasing trend).

The average monsoon (June, July, August & September) rainfall (1815 mm) contributes 64.4% of annual rainfall (2818 mm). Mean monthly rainfall during July (581 mm) is highest and contributes about 20.6% of annual rainfall. The mean rainfall during June is slightly lower and contributes about 18.0% of annual rainfall. August and September rainfall contribute 14.8% and 13.2% of annual rainfall, respectively. Contribution of pre-monsoon



(March, April & May) rainfall and post-monsoon (October, November & December) rainfall in annual rainfall is 23.4% and 7.9% respectively. Coefficient of variation is higher during the months of November, December, January and February.

3. (e) People: Tribes, population: Arunachal has got 26 major tribes and hundred sub-dialect with rich cultural heritage. It includes like Adis, Apatanis, Buguns, Hrusso, Singphos, Mishmis, Monpas, Nyishi, Sherdukpens, Tagins, Khamtis, Wanchos, Noctes, Yobin and Khambas and Membas. Tribes of Arunachal Pradesh form the major part of demography of Arunachal Pradesh. The people Arunachal Pradesh are adept in making baskets, smithy work, weaving, pottery, wood carving and painting, the shifting cultivation is being widely practiced the tribal groups, among the crops grown are rice, maize, millet, wheat, pulse, sugarcane, ginger oilseeds etc.

3. (f) Natural resources: The entire Arunachal Pradesh being a tribal area has the potential to its rich natural resources, the following potential sites were identified for pilot studies/activities: Ziro Valley for Fish-cum-paddy culture, commercial plantation, and land utilization; Lathaw/Chaukham area for documenting medicinal practices; West Kameng for integrated wasteland utilization; Tawang for agriculture; Tirap for Horticulture and handloom & handicraft; and West Siang for earthquake resistance housing. Major resource is the river of Arunachal Pradesh where it's got 5 major river have a total HEP of nearly 60,000 mws.

3. (g) Hydro Power: Arunachal Pradesh Hydro-electric potential of nearly 60,000 MWs, which amounts to 2.5% of India and 11.3% of NE total HEP. In 2008, Government of Arunachal Pradesh signed MoUs with 42 companies to produce 27,000 MW of HEP.

3. (h) Roads &Highways: Roads are the only means of transporation in Arunachal Pradesh. It has three National Highways. They are:

NH-52: from Assam border-Pasighat-Dambuk-Roing-Paya-Tezu-Wakro-Namsai-Upto Assam border of 310 km.

NH-52B: Namchik, changlang, Khonsa & Kanubari in the state of Arunachal Pradesh and termating near Dibrugarh in the state of Assam, joining with appoches to Bogibil Bridge.

NH-52A (415): From Assam border- Itanagar- upto Assam border. (42km)

The Tran's Arunachal highway (NH229) covering distance of 2,407 km is proposing to connect all the districts viz Tawang, Bomdila, Seppa, Ziro, Sagalee, Pasighat, Aalong, Tuting, Anini, Daporijo, Changlang, vijayanagar.

3. (i) Airport and ALGs : Practically there is no bigger Air connectivity in the state, However Helicopter services operate as regular service between Guwahati & Naharlagun. Helicopter services have also been introduced now connecting many other centres within Arunachal Pradesh. Currently there are 7 Advance landing ground (ALG) in Arunachal Pradesh. The current locations are at Pasighat, Tawang, Mechuka, Along, Ziro, Walong & Tuting.



3. (j) Railways: Arunachal Pradesh has got its first railways line in late 2013 with the opening of its first railway station at Naharlagun. There is direct train service to Guwahati and New Delhi. Arunachal Pradesh got its first railways line in late 2013 with the opening of its first railway station at Naharlagun. There is direct train service to Guwahati and New Delhi. The state capital Itanagar was added to the Indian Railway map on 12 April 2014 via the newly built 20 kilometre Harmuti – Naharlagun railway line. On 20 February 2015, the first through train was run from New Delhi to Naharlagun, flagged off from the capital and India eventually extend the railway to Tawang near the border with China.

3. (k) Industrial development: Arunachal Pradesh, the largest in area amongst the North Eastern states of India is endowed with plenty of natural resources, which need to be converted into goods and services for the development of the state and its people. At present, the industrial growth in the state is dismal and at a nascent stage despite enormous potential for industrial growth. The major factors that have impeded the industrial development in the state are :

- Remoteness of the region.
- Late start of industrialisation
- Transportation of machinery at higher costs.
- Lower productivity of labour and higher wage rate.
- Absence of technical and business information.
- Limited market for goods within the region.
- Lack of inflow of investible funds from outside the state.

A study of the resource availability scenario, climatic conditions and environmental opportunities indicates the following thrust area for industrial development:

- Agro and horticulture-based units.
- Mining and mineral-based units.
- Plantation Crop based units.
- Cottage industry product unit.
- Adventure tourism.

3. (l) Biodiversity: The state is very well known for natural, unique and socio – economically important biodiversity. The richness of life form i.e. the state has 20% species of country's fauna, 4500 species of flowering plants, 400 species of pteridophytes, 23 species of conifers, 35 species of bamboos, 20 species of canes, 12 mega diversity, flora & fauna that occur in these forests presents a panorama of biological diversity with over 5000 plants, about 85 terrestrial mammals, over 500 birds and large number of butterflies, insects and reptiles. There are 1 Biosphere Reserve, 2 National Parks and 8 Wildlife Sanctuaries in the state. There are 26 major tribes and more than 100 sub tribes in the state.

4. Issues concerning environment:

The Major issues concerning Arunachal Pradesh on present day is from :-

- (a) Pollutions generated from dust and fugitive emissions from Earthmoving Operations and Roadways Project, Hydropower Projects Construction works.



- (b) Air Pollution from Stone Crusher Plants & increasing Vehicular Movements.
- (c) Landslide & floods caused due to monsoon rains in mountains & construction site.
- (d) Hunting of wild animals by locals for religious rituals and sporting.
- (e) Encroachment of reserved forests & notified sanctuary areas by public
- (f) Unabated jhum cultivation by tribals and burning of forest for in community land for various other cash crop plantations.

5. Activities - ENVIS Centre:-

5 (a). Inauguration of Envis website:- The Envis website www.arpenvis.org.in was officially inaugurated by Shri Pema Khandu, Hon'ble Chief Minister Arunachal Pradesh in presence of Shri C. T. Mein Hon'ble Parliamentary Secretary (Env, Forests & Climate Change), Shri Omkar Singh (PCCF & HoFF) and Others Senior Officers from Planning, Forest & Environment among others in the Conference Hall of PCCF office on 1st Oct 2016.

The day was marked by planting a trees by Shri Pema Khandu, Hon'ble Chief Minister and Shri C. T. Mein Hon'ble Parliamentary Secretary (Env, Forests & Climate Change) in the office premises of PCCF office, Itanagar.



**Inauguration of ENVIS Centre's
Website 1st Oct. 2016
By
Hon'ble Chief Minister of
Arunachal Pradesh**

*ENVIS Centre Arunachal Pradesh Official Website launched by the Hon'ble CM
Shri Pema Khandu*

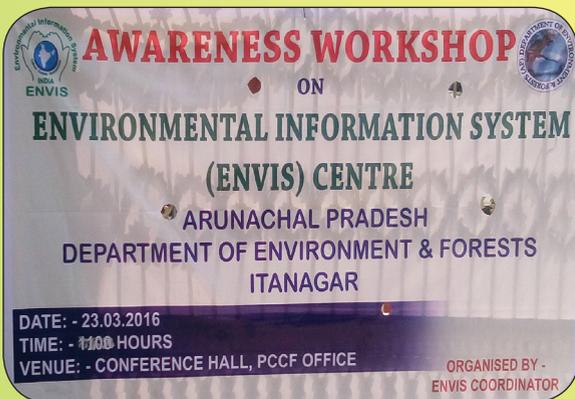
5.(b). Launching of e-green watch:

The CM inaugurated launching of 'e-Green Watch' in presence of Parliamentary Secretary (E & F) is aimed to facilitate the automation of the various processes involved in monitoring & evaluation of various projects being undertaken by the state CAMPA. It shall empower all administrators to monitor the progress made under various projects that are being carried out using the CAMPA funds.



5.(c):- Awareness workshop on Envis Centre:-

An awareness workshop was made with participation from all the stakeholders department like Geology & Mines, Fisheries, Industry, Boiler, Forests & Wildlife on 23rd March'2016.



ENVIS Awareness Workshop on 23.03.2016



ENVIS Workshop with stake Holders on 23.03.2016

5.(d) World Environment Day on 05.06.2016

A brainstorming session was kept with participations from senior officers of department and media cell in the conference hall of PCCF office on 5th June 2016 to mark this year theme –Go wild for life, Fight against illegal trade on wildlife in observing World Environment Day.



World Environment Day Theme



Plantation by PCCF assisted by ENVIS co-ordinator

5.(e). Oath Taking on Swachh Bharat Abhiyan :-

Shri G.N Sinha PCCF & Principal Secretary (E &F) on 01.06.2016 had administered on Swachh Bharat Mission pledge in PCCF office premises, Itanagar, PCCF (P&B). Dr. Rabindra Kumar, Addl. PCCF (A&V) Dr. Ch. Prakash, CCF (Cons), CCF (FDA &IT), CF (S & P), CF (HQ) all DCFs and Envis Staff. D Dohu Robin ENVIS Coordinator ENVIS Centre, Arunachal Pradesh coordinated for the oath taking for Swachh Bharat Mission.



Oath Taking on Swachh Bharat Abhiyan on 01.06.2016



| CLASSIFICATION GYMNOCLADUS ASSAMICUS (Minangma Seh) | |
|--|-----------------------|
| Common Name | Great hornbill |
| Local Name | (Minangma Seh) |
| Zoological Name | Buceros bicornis |
| Kingdom | Plantae |
| Phylum | Tracheophyta |
| Class | Magnoliopsida |
| Order | Fabales |
| Family | Leguminosae |
| Taxonomy name | Gymnocladus Assamicus |
| Red List Category | Critically Endangered |

1. GYMNOCLADUS ASSAMICUS (Minangma Seh)

This species is endemic to Northeast India, where it occurs in Arunachal Pradesh, Meghalaya and Nagaland. In Arunachal Pradesh, fragmented subpopulations have been located in West Kameng District. Mature trees are found along hill slopes and along the banks of streams, rich in moisture and organic materials.

The genus gymnocladus has been described as dioecious or polygamous or as having unisexual flowers. However, the species *G. Assamicus* bears male and hermaphroditic flowers on separate trees. Leaf-flushing is observed during early March to May. Seed setting is during April to June and seed dispersal is during February to April. The generation length is 28 years.

The people of West Kameng district in Arunachal Pradesh are highly dependent on various natural resources for their daily needs. The pods of the species are largely collected by the local villagers and stored for future use. The mesocarp of the pods of is highly saponaceous and is used as an alternative for soap by the local tribes in western Arunachal Pradesh. The people of Monpa community use it in making Torma/Torgen and also for curing dermatological disorders, to get rid of leaches, and especially to cure cattle and yak.

Classification:

The pods are harvested by the local villagers in unsustainable manner. Though the fruit set seems to be sufficient, other extrinsic and intrinsic factors/constraints to natural regeneration were identified in *G. assamicus*. Major threats to natural habitats are expansion of agricultural activities in the forest land and construction of roads and houses in and around forest areas. Such activities may be adversely affecting the seedlings and saplings. A few specific threats to *G. assamicus* are overharvesting of mature pods for domestic use, grazing, predation of seeds by scatter-hoarding animals, and fungal damage to seeds. Other intrinsic constrains are lack of dispersal and a hard-waxy seed coat. Wild pigs, deer and cattle were found to eat the mature fallen pods. Arboreal animals like squirrels and field mice also contribute to the damage of the seeds. Pods absorb substantial amounts of moisture that favours heavy fungal attacks leading to complete damage of seeds in the soil.



Photo taken from west Kameng district.



Photo taken from west Kameng district.

This species is under threat due to the aforementioned causes. Observations revealed that the percentage of mature trees in the subpopulations was higher than that of saplings and seedlings in all the sites. A few specific threats to *G. Assamicus* are overharvesting of mature pods for domestic use, grazing, predation of seeds by scatter-hoarding animals, and fungal damage to seeds. Other intrinsic constraints are lack of dispersal and a hard-waxy seed coat. It has been observed as well as inferred that unregulated collection practices are continuing in population is declining continuously due to habitat loss and no significant conservation efforts have been under taken so far. Based on the above, the species is assessed as critically endangered by the IUCN (International Union for Conservation of Nature), as per the assessment report made by Saha, D. Ved, D. Ravikumar, & K. Haridasan. Some studies have been conducted as a part of species recovery research and a plant propagation technique has been developed. Ex situ conservation efforts has been taken by NERIST, Arunachal Pradesh, India. The species have been propagated in Bomdila silviculture nursery and distributed among the local people.

2. The Mithun (*Bos Frontalis*)

Origin and Distribution:

Mithun is a massive semi-domesticated rare ruminant species mainly reared for meat. It is believed to have originated more than 8000 years ago and considered to be descendent from wild Indian gaur. Mithuns are found over a large area of Southeast Asia. Their natural habitat is the forests of highlands. In some folklore, Mithun has been said to be the descendent of the Sun. Different interesting and divergent legends are available on the origin of Mithun among different tribes of Arunachal Pradesh. Beside meat, Mithuns are reared for sacrificial purposes and/or for barter trade, and even today, they are used as a holy sacrificial animal to appease the Gods by the tribesman.

Characteristics:

It is somewhat smaller, with shorter limbs. The ridge on the back is less developed and bulls have a larger dewlap on the throat. The head is shorter and broader, with a perfectly flat forehead and a straight line between the bases of the horns. The thick and massive horns are less flattened and much less curved than in the gaur, extending almost directly outwards from the sides of the head, and curving somewhat upwards at the tips, but without



any inward inclination. The female Mithun is much smaller than the bull, and has scarcely any dewlap on the throat. The skin colour of the head and body is blackish-brown in both sexes, and the lower portion of the limbs are white or yellowish. The horns are of uniform blackish tint from base to tip. Some domesticated Mithuns are parti-coloured, while others are completely white.

This animal prefers cold and mild climate and Mithun farmers rear this animal at an altitude of 1000 to 3000 meters above mean sea level under free grazing condition in its natural habitat. They are browsers like goats and can utilize coarse fodders, which are generally not consumed by other livestock. This is a very fertile animal, which can produce one calf in a year with age at puberty varying from 22 to 30 months. Their productive life ranges from 16 to 18 years.

Distinct Identification:

Mithun has been classified as vulnerable by the IUCN. The weight of adult is between 600 kg to 1000 kg. Size between 240 cm to 330 cm and the length of tail is between 70 cm to 105 cm. They are about 165 cm to 225 cm high at the shoulder.

The skin color of the head and body is blackish-brown in both sexes, and the lower portion of the limbs are white or yellowish, the shank and forehead are creamy white or yellowish in color.

Mithun has no hump above the dorsal ridge but the ball has an exuberance of flesh immediately over the shoulder.

The animal has a huge head, deep massive body and sturdy limbs. The neck is short. The forehead is broad and concave. It has broad ears and small dewlap.

Horns are 1.5 to 4.0 feet long and grow from the sides of the head, curving upwards. Yellow at the base, they gradually darken along their length until turning black at the tips. The horns of young ones are smooth and polished but in adults, the horns are rugged and indented at the base.

The short hair is dark reddish brown to blackish brown in colour, while the lower legs are white. Males are larger than females.

Socio-economic Importance of Mithun:

| CLASSIFICATION of MITHUN (<i>Bos Frontalis</i>) | |
|--|----------------------|
| Common Name | GAYAL |
| Local Name | Mithun |
| Zoological Name | Bos Frontalis |
| Kingdom | Animilia |
| Phylum | Chordata |
| Class | Mammalia |
| Order | Artiodactyla |
| Family | Bovidae |
| Sub Family | Bovinae |
| Genus | Bos |
| Conservational Status | Vulnerable (by IUCN) |



Mithun is considered as the pride of North Eastern hilly region of India. This animal plays an important role in the social, cultural and economic life of the local tribal population. The ownership of mithun is considered to be the sign of prosperity and superiority of an individual in the society. Farmers mainly rear Mithun for meat purpose. Besides, Mithun is also given as bride price and compensation according to verdict sentenced, and also the meat is popular in marriage functions, community feast and other important gatherings. Mithun is also sacrificed to appease The Gods to stay and bless the house. It is also a popular belief to sacrifice a mithun at the time of death of a person in order to appease the soul of the dead and keep the soul away from hovering around restlessly. Though at present farmers do not consume its milk, this animal produces highly nutritious milk.

Research Communication:



In order to encourage and suggest suitable measures for the conservation of mithun in its natural habitat, data are collected from both primary and secondary sources. Primary data relating to the importance of Mithun in the social and economic life of the people is collected through questionnaires, personal interview and notes during the field work. The topographical maps with 1: 50, 000 scale, published by Survey of India, Dehradun in 1971 available in the Department of Geography, Rajiv Gandhi University is being used to derive the necessary thematic maps. Audio visual tools are also used for clear identification of the mithun species. Geographical Information System (GIS) are also used for generating important thematic layers and maps. The information and data collected are analyzed and interpreted by using various statistical techniques and diagrams.

The relevant secondary information is collected from both published and unpublished materials available in various governmental agencies, newspapers, libraries, books, journals and magazines. The relevant information on the mithun is collected from Directorate of Research, Government of Arunachal Pradesh, Animal Husbandry and Veterinary Department, Krishi Vigyan Kendra, etc.



Conclusions: Mithun husbandry in North Eastern hill region of India is an important component of the livestock production system. Scientific rearing of this species will not only support the need of protein but also help to generate extra income to the poor mithun rearers for their livelihood. Mithun is believed to be domesticated since 8000 years ago and reported as a rare livestock that is facing threat of extinction, the need of the hour is, therefore, to popularize scientific farming in the states where mithun rearing is an age-old practice. The recent success in the field of artificial insemination, estrus synchronization and embryo transfer technology will definitely help to go a long way to achieve the target of propagating quality germplasm in the farmers' field.

3. BEES IN ARUNACHAL PRADESH

“If the bee disappeared off the surface of the globe then man would only have four years of life left. No more bees, no more pollination, no more plants, no more animals, no more man”- Albert Einstein

Honey bee is the only insect – created food with Therapeutic medical, nutrition and cosmetic value and unique among all god's creatures, honey bee improves the environment and preys not on any other species.

There are about 25,000 species and 20,000 varieties of bees which existing throughout the world. Scientifically honey bees are also called as **Apis mellifera**, which means “honey-carrying bee”. Bees are environmentally friendly and are vital as pollinators. It has often been said that bees are responsible for one out of every three bites of food we eat. Most food items and fruits such as Avocados, Apple, cherries, Kiwis etc., would disappear if the bees no longer exist, and at least one hundred thousand plants would go extinct without the Bees.



*Honey and Bee Hives harvested by traditional methods and sold on the road in Itanagar, A.P
(Photo collected by ENVIS Team, dated-02/04/16)*



Bees population in Northeast region is declining rapidly every year because of the traditional way of Bee harvesting, in which the bee hives are smoked and set on fire in order to make the bees fly off the hive. The trees are often cut down and the honey comb is removed from the hollow trees and branches etc. This type of harvesting is very common in different parts of Arunachal Pradesh. “We put fire around hives in order to chase them away, many bees are killed on the spot and after a long battle with the bees, we eventually win the game”, says a local honey seller. Most of the neighboring states have banned extraction and trading of honey by traditional methods, but these measures are yet to be notified in Arunachal Pradesh.

Honey is on high demand due to its high nutritional, commercial and medicinal properties like preventing GERD (gastro esophageal reflux disease), healing wounds and burns, treating allergies, fight infection, cough etc. It also acts as an energy booster and it contains antioxidant associated with improvement of brain functioning. Bee wax is a valuable product derived from the honey comb and has many uses in cosmetics, pharmaceuticals and varnishes etc. The honey bee produces honey, enhances crop production and sustains plant biodiversity through their pollinating services.

Four natural species of honey bees are found in Arunachal Pradesh, namely Asian Bee (*Apis cerana*), Giant bees (*Apis dorsata/ laboriosa*), Stingless bees (*Trigona/ Melipona*) and Little Bee (*Apis florea*), out of which only Asian Bees and Stingless bees can be domesticated.



Asian Bee (Apis Cerana)

Giant Bees (Apis Dorsata/ Laboriosa)



| SCIENTIFIC CLASSIFICATION: | | | | |
|-----------------------------------|-------------|----------------------------|-------------------|-------------|
| BINOMIAL NAME | Apis cerana | Apis dorsata/ laboriosa | Trigona/ Melipona | Apis florea |
| KINGDOM: | Animalia | Animalia | Animalia | Animalia |
| PHYLUM: | Arthropoda | Arthropoda | Arthropoda | Arthropoda |
| CLASS: | Insecta | Insecta | Insecta | Insecta |
| ORDER: | Hymenoptera | Hymenoptera | Hymenoptera | Hymenoptera |
| SUBORDER: | Apocrita | | Apocrita | |
| FAMILY: | Apidae | Apidae | Apidae | Apidae |
| SUPERFAMILY: | | | Apoidea | |
| SUBFAMILY: | Apinae | Apinae | Apinae | |
| GENUS: | Apis | Apis | | Apis |
| SUBGENUS: | (Apis) | (Megapis) | | (Micrapis) |
| SPECIES: | A. cerana | A. dorsata | Meliponini | A. florea |

Honey Mission Launched At Miao

Arunachal Pradesh Bee and Honey Mission (APBHM), was launched by The Arunachal Pradesh Apiculture Development Society under The Department of Agriculture at Miao on 29 July 2014. In the first phase, Papum Pare, East Siang and Changlang districts have been selected. The mission aims at developing and rearing of bees in Arunachal through scientifically designed hives with scientific management practices as a commercial venture. The APBHM will also ensure that beneficiaries and field functionaries are given the required training to ensure success of the mission.

Arunachal is ideal for beekeeping due to favorable climatic conditions and vast foraging area. Beekeeping does not require extra space and can be reared alongside field crops, plantations, orchards and any vegetation. Beekeeping improves the quality of fruit, vegetable, seeds and increases the yield manifold

ensuring food security and enhancement of farm income. Honey bee produces honey, enhances crop production and sustains plant biodiversity through their pollinating services.

The mission will encourage beneficiaries to nurture their interest to become a professional beekeeper to enjoy the manifold benefits by taking up beekeeping as a hobby by rearing them in their backyard. Beekeeping generates employment and bring additional income to family and can create employment opportunity as a full time beekeeper, middlemen/ broker; honey processor including bottling and packaging, wholesaler/ retailer, exporter etc.

“I am convinced that Miao will not only emerge as hub of bee keeping but will also bring Arunachal Pradesh in the world map as honey producing and exporting state”, T. D. Neckhom quoted in the conference.



Amazing Honey Bee facts!

1. The honey bee has been around for millions of years and the only insect that produces food eaten by men.
2. A honey bee can fly for up to six miles as fast as 15 miles per hour and bee flies to thousands of flowers only to make a spoon of honey.
3. A hive of bees will fly 90,000 miles, the equivalent of three orbits around the earth to collect 1 kg of honey, the average worker bee produces about 1/12th teaspoon of honey in their lifetime.
4. A colony of bees consists of 20,000-60,000 honeybees and one queen. Worker honey bees are female, live for about 6 weeks and do all the work, the queen bee can live up to 5 years and its role is to fill the hive with eggs, she is the busiest in summer months and lays up to 2500 eggs per day.
5. The male honey bees also called drones have no stinger and do not work at all, they do is mating. Only worker bees sting if they feel threatened and they die once they sting.

4. ENVIRONMENTAL ISSUES IN ARUNACHAL PRADESH : CAUSES AND IMPACTS (BY ENVIS TEAM)





5. ENVIRONMENTAL NEWS AND EVENTS

State News

- (1) **Village council bans bird hunting & hazardous fishing:** The local village council of Poma village and Local youths, near Itanagar district Papumpare (A.P) in its endeavour to save nature. The bird hunting as well as all kinds of traditional instruments and traps used to snare birds in the village and its peripheries with are being banned with immediate effect. It also prohibited fishing by blasting, electric shock & poisoning.
- (2) **Arunachal Hydropower project halted to save black – necked cranes:** The National Green Tribunal in April 2016 suspended the environment clearance given to the proposed Nyamjangchu 780 MW hydropower project in

Tawang district to protect the habitat & nesting grounds of endangered black – necked cranes.

- (3) **Itanagar Urban body goes digital:** Chief Minister Pema Khandu launched the “Go Live e governance project of Itanagar Municipal Council (IMC) making the urban local digitalized in a function at Itanagar.
- (4) S. Swaroop, District Magistrate cum Deputy Commissioner of West Kameng District in Arunachal Pradesh stopped all kinds of mining activities by an order prohibiting within the jurisdiction of Bhalukpong subject to Proper Environment Management Plan(EMP) approved from the Forest & Environment Department setting a precedence for others to follow Dated 16th Feb, 2016.

National News

- 1) **Forests laws will be strengthened, says union minister Shri. Anil Dave:** The current forest laws need to be strengthened with concurrent techniques of Information Technology (IT)

and remote sensing to improve enforcement, as there is a paradigm shift in the new technology and old technique will bring failure, said Anil Madhav Dave, Minister of State (independent charge) for Environment, Forests and Climate Change,

International

- 1) **Many big animal may be extinct by 2100:** Many of the world’s biggest and iconic animals such as the Bengal Tiger could be extinct by the end of the century if drastic conservation measures are not taken, said Peter Lindsey, coordinator at Lion

programme Policy Initiative.

- 2) **Over 90% of world breathing bad air:** Nine out of 10 people globally are breathing poor quality air, the world Health Organization said, calling for dramatic action against pollution that is blamed for more than six million deaths a year.

References:-

1. Source: <http://www.iucnredlist.org/details/50126611/0>
2. <http://www.iucnredlist.org/details/50126611>
3. <http://arunachalpradesh.gov.in>



Above Pix. Mechuka Valley in Arunachal Pradesh

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