The Natural Wealth of Bargarh District

Mahesh Kumar Mishra .

Bargarh has an area of 5832 sq km, and a population of 1,345,601, with a population density of 231 persons per km. Out of 12 revenue block Attabira block is fully irrigated where Bargarh , Barpali and Bheden blocks are partly irrigated by Hirakud dam on the Mahanadi River makes the northern half of Bargarh district rich in agriculture, mostly rice so called as the rice bowl of Orissa. There are so many other crops are also cultivated such as groundnuts, sugarcane, maize, mustard etc. The district is almost self sufficient in production of vegetables and a greater part is exported to nearby districts. Bargarh is especially famous for bringels, cowly flower etc.

LOCATION

The Bargarh district lies between 20^0.43' to 21^0. 41' North latitude and 82^0 39' to 83^0 .58' East longitude. It is one of the western most districts of the State of Orissa and came in to existence as a district from 1st April 1993. It is bounded on the north by the State of Chhatisgarh and on the east by the district of Sambalpur, on the south lies the district of Balangir and Subarnapur and on the west the district of Nawapara. The district has an area of 5837 Sq.Kms. The population of the district as per 2001 census is 134.6 Millions out of which 68.1 millions are male and 66.5 millions .

NATURE -The Barapahar (literaly, 12 hills) are the main hill range in the Bargarh district covering an area over 777 Sq.Km. and attaining a height of 2,267 feet (691.1 m.) at the peak of Debrigarh. Debrigarh is one of the few hills of the range offering good ground flora and fauna. It is one of the best hill sites in the district suitable for health resort but it is yet to be developed. The river Mahanadi formed a lake in geological times but it was emptied in due course. The Hirakud Dam (in Sambalpur district) has reconstructed the barrier and repeated the ancient lake. The second group of hills is the Gandhamardhan range running along the southern boundary of the ex-Zamindari of Borasambar, separating it from Bolangir district. There is a 13th century temple at Nrusinghnath where, as the only instance of its kind in the world, Lord Vishnu is worshipped in a feline incarnation. It shows the origin of man and animal relationships. The hill range rises to 2,000-3,000 feet (629.60 m to 914.40m) in height and reaches its highest point (3,234 feet or 985.72m) in the peak of Nrushinghanath, one of the picturesque places in the district. The hilltop shows not only a unique assemblage of plants but there are several species of birds excluding Crow, and

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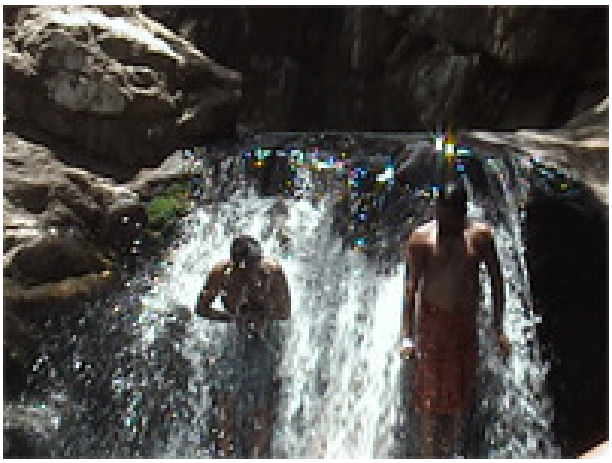
❖ *India is one of the world's richest countries in terms of its vast array of biological diversity. The Western Ghats and North East India is recognised as an international biodiversity hotspot. It has been estimated that over 81,000 species of fauna and 47,000 species of flora are found in this country so far. Of the estimated 47,000 plant species, about 15,000 flowering species are endemic to India. The relationship between local communities and the biological diversity in India is a very intricate one, whereby two-thirds of our population are heavily dependent upon the biodiversity for their survival. The destruction of biodiversity signifies the destruction of people's livelihoods and survival.*

especially insects are predominant. Here someone will see a vast majority of butterflies species found in the district. Another range branches off to the west of Nrushinghanath running first north-south and then north-east near Jagdalpur, where it is broken by the Ong (Ang) river. Another range runs eastward to Tal and then to the northeast forming the boundary between the district and Raipur of Chhatisgarh. A special type of forest is seen in these areas particularly in the riverbanks. They are a mixed type of old and secondary forest along with the exotic



species of plants and cultivated plants. So also the fauna has changed in due course of time.

Rivers of Bargarh-The major rivers in the district are tributaries of Mahanadi river. Jira and Jhaun rivers flow through the Bargarh district and join the river Mahanadi in the extreme south of the district. The Jira has main tributary, the Danta which joins it a few miles north of its confluence with the Mahanadi near the village Gandturum in Bheden. The other river that flows through the district is Ong (Ang) that rises in the Nawapara district and enters Borasambar (Padampur) at its extreme southwest corner. It flows through in a wide-semi-circle from west to east and leaves the district a few miles to the east of Gaisilat eventually joining There are natural springs at Nrushinghanath at the foot of Gandhamardhan hills of Padampur subdivision forming streams flowing in cascades down the steep hill side. The waterfalls are called Kapil dhar, Bhim dhar and Chal dhar, which are considered to be very sacred. In the Barapahar hills there are a few springs notable among them is the one near the village Ghens. There are many tanks in the district, some of which serve the purpose of irrigation. Notable among them are the Victoria Sagar near Ghens, Yogimunda in Barpali and Ranisagar in Bijepur.

Derivation of name- Even the derivation of name Bargarh is from an animal i.e. Baghar Kota or tigers residence, which indicates the presence of tigers (Royal Bengal tiger ***(Panthera tigris tigris***) in the past. As a biological treasure of nature Bargarh is well known to the world. But it has been neglected by the scientific mass due to lack of publicity, funding and effort. If someone will move through the forests of Bargarh district only it can be manifested that a lot still awaits the human knowledge to explore and know. Bargarh is a library of nature and lots of species are still to be known by man so it is time now to identify the books before they burn forever.

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❖ The **Eastern Ghat** located between 76.56'and86.30' East longitudes and 11-30' – 22degree North latitudes. They extend in North – East direction . South West strike in the Indian peninsula covering an area about 700.000 sq km with an average wide of 200Km in the North and 100 Km in the south . They extend over a length of 1750KM between river Mahanadi and Vaigai along the East cost . Eastern ghat reason mainly spread through the state of Orissa, Andhra Pradesh and Tamilnadu .

❖ Ministry of Economics co operation Govt of Germany indicates that around 17 millions hectors of tropical forest are being destroyed every year .In India the rate of deforestation is 13,000 Sq. .Km annually . If the current rate of deforestation continues scientist estimate that nearly 5 to 10% tropical forest species would face extinction with in coming 30 years . Similarly in a study conducted by FAO & WCS (World Conservation Society) found that Indian tropical forest which rich in biodiversity is shrinking at a rate of 0.8% each year ,

An ecological Armageddon – Being a latest district Bargarh is little too much backward in concern with its biological heritage. There has been almost no eye-catching work done yet by the scientific mass. Although its natural treasure is filled with lots of species of animals and plants almost it is insufficient as far as fieldwork is concerned at grass root level.

The major causes of decline in the Biota of Bargarh District :-

1. ***Political interference***
2. ***Corruption at every level even forest guards takes 10 rupees for each plant cut in the forest***
3. ***Poverty of the people***
4. ***Lack of proper knowledge about plants and animals and their ecological as well as economical values***
5. ***Unnecessary industrialization by the state government that is converting a green district into a barren district in which what we are getting is negligible to what we are and human society is loosing.***
6. ***Lack of proper investigation of flora and fauna by the government officials due to which plants, animals and other organism are getting extinct without the knowledge of mankind.***
7. ***Lack of publicity by media persons about importance of our ecological heritage.***
8. ***Inertness of security organizations to establish law and order in the area.***
9. ***Above all the people's interest is lacking to know and save our environment.***
10. ***The uncontrolled use of herbicides, germicides, insecticides etc is also a major threat to the natural ecosystem of the district.***
11. ***The uncontrolled growth of exotic species like Grass carp (Ctenopharyngodon idella) & a magur of thailand,***

Flora of Bargarh district –The district contains about 1076 species of plants out of which a lot are used in our traditional, tribal and ayurvedic medical systems. There is a wide range of flora here starting from trees to herbs.

Topography and soil- according to the report of Dillip Kumar Jha (steelworld) The landmass constituting the state of Orissa covers an area of 1,55,707 sq. kms. About 80% of the state's landmass is underlain by pre- cambrian rocks, the oldest rocks in the earth's crust. And it is same for Bargarh but it is also a point that metal kings are attracted to orissa only to use our natural resources. On the other side of the coin it is to be noted that that the pre-Cambrian rocks contains the oldest fossils ever known to the human. But no scope of fossil hunters are there at least at orissa level so the paleontologist should work here for the remote past animals.

Biota of Bargarh –The state of Orissa falls under 2 Biogeographic Zones—the Deccan Peninsula and the Coasts, and supports 18 Wildlife Sanctuaries and 2 National Parks.

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❖ **Flora of Bargarh** : Amba (Mangifera indica), Ainla (Emblica officinalis), Arjun (Terminalia arjuna),Ashoka (Sarca asoca), Bahada(Terminalia belerica), Bandhan (Ougenia oojeinensis), Bija (Pterocarpus marsupium), Bheru (Chloroxylon swietiana), Char (Buchanania lanzan),Dhaman (Grewia tiliofolia), Dhaura (Anogeissus latifolia), Dhoben (Dalbergia paniculata), Genduli (Sterculia urens), Harida (Terminalia chebula), Jamu (Syzygium cumini), Kanchan (Bauhinia spp.), Karanj(Pongamia glabra), Kendu (Diospyros melanoxylon), Khair (Acacia catechu), Kochila(Strychnos nuxvomica), Kongra (Xylia xylocarpa), Kurum (Adina cordifolia), Kusum (Schleichera olesa), Mahalimba(Ailanthus excelsa), Mahula (Madhuca indica),Tentra (Albizia procera), Mundi (mitragyna parvifolia), Phasi (Anogeissus acuminata), Pitamai (Garuga pinnata), Rai(Dillenia pentagyna), Rajmohi (Lannea coromandelica), Rimili (Bursera serrata), Saguan (Tectona grandis), Sal (Shorea robusta), Salai (Boswellia serrata), Semal(Bombax ceiba), Sidha(Lagerstromia parviflora), Silveroak (Grevillea robusta), Siris (Albizzia lebbeck), Sisso(Bali)(Dalbergia sissoo), Sissoo(Pahari)(Dalbergia latifolia), Sunari(Cassia fistula),Tentuli(Tamarindus indica) etc.

Eastern Ghats is "tors" of geological antiquity and older than Himalayas and Western Ghats. The number of flowering plant taxa occurring in the Eastern Ghats is about 3200 with 98 endemic species (Reddy et al. 2002). Most of the endemic plants in Eastern Ghats show narrow range of distribution. Of the 28 endemic medicinal plants, only 7 species were included under Red Data Book of Indian Plants (Nayar & Sastry 1987, 1988, 1990).The fauna of Gandhamardan is unique in its way due to large numbers of plants existing there. The following species and taxa of animals inhabit there.

Mammals – Cervids like spotted deer-*Axis axis axis*, a large numbers of rodents and one species of Flying squirrel from Sciuridae family, Black bear- Ursus Leopard –*Panthera pardus* Tiger-*pantera tigris tigris* are also reported from nearby villagers of Gandhamardan during the blasting of Balco,

Reptiles –The Gandhamardan is a heaven for reptiles even a snakeskin collection project was established here during British India. Several species of Gecko including *Eublepharis hardwickii* is reported from here along with several members from elapidae, boidae,viperidae etc are very common. Even the largest of python are reported from here.

Amphibians –out of 209 species of amphibians found in India around 28 are generally seen in orissa but the Bargarh alone contains +18 frogs and toads. Several species of ranidae, microhylidae etc are seen here.

Fishes- being a hilly area some of the rare and endemic species of hill stream fishes are generally seen here along with the common species of freshwater fishes. The Hirakud reservoir has a vast collection of freshwater fishes.

Insects- the insect fauna is awe inspiring in these hill ranges even several species of the butterflies only in a single twig. The honeybees are pretty large in numbers due to floristic richness and the ayurvedic college Nrusinghnath is self sufficient for honey. The beetles, water fleas, dung insects and so on along with the termites makes the soil fertile.Three species of non-human primates have been reported from the district the Rhesus and Bonnet macaques and the Common langur. While the status of Bonnets is unclear, the other 2 species are quite common and at times are pests for the people of the district. Although there has been no detailed study on primates in the district, habitat fragmentation is likely to be a major cause of concern for the long-term survival of these primate populations in the district.*Macaca mulatta*

Mahesh Mishra showing the speciman of *Eublepharis hardwickii collected from Gandhamardan Hill*

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❖ **Alien species** are non-native or exotic organisms that occur outside their natural adapted ranges and dispersal potential. Many alien species support our farming and forestry systems in a big way. However,some of the alien species become invasive when they are introduced deliberately or unintentionally outside their natural habitats into new areas where they express the capability to establish, invade and outcompete native species. International Union for Conservation of Nature and Natural Resources (IUCN) defines Alien Invasive Species as an alien species which becomes established in natural or seminatural ecosystems or habitat, an agent of change, and threatens native biological diversity. These invasives are widely distributed in all kinds of ecosystems throughout the world, and include all categories of living organisms. Nevertheless, plants, mammals and insects comprise the most common types of invasive alien species in terrestrial environments.

M.radiata

Semnopithecus entellus Common Langur

Before one or two decades the jungles of Bargarh was trembling with the roaring of tigers but it is now hardly seen. But four tigers have been reintroduced into the Debrigarh sanctuary and their population may increase in the future. Almost every common Indian species of Mammals are there in the forests of Bargarh. But their number and status is debated due to lack

of field study. The forest department although conduct survey but it is age old and is only paper work. Even the forest officials don't have any knowledge about the real number of flora and fauna occurring in the forest of Bargarh district, so there is no question of data of every taxa of plants and animals.

Reptiles-several subspecies (variety) of Naja naja including-the Tamba nag (cupper colored cobra)Dudhia nag (milky white cobra)Mal nag (found in croplands)Gokhara nag (Big yellowish cobra)

Avifauna of Bargarh -The rich plant diversity of Bargarh supports a wide and innumerable insect species so the avifauna of the Bargarh is awe inspiring when someone come across the total area of the district. It is also interesting to know that there are several migratory birds seen in the winter and summer particularly in the Debrigarh sanctuary region. The author himself has visited several time the Hirakud reservoir during summer and winter to find them. Even during hot summer the temperature exceeding 40s the great bird species diversity of the Debrigarh is amazing. While moving across the road towards Bhatli several species of passerine birds (sparrow type) can be seen. A good number of eagles can be

seen throughout the district starting from the Gandhamardan to the Lakhanpur. But most of the bird species are facing extreme rate of extinction due to habitat loss and poisoning due to use of insecticides in the rice fields. It is important to note here that birds are the animals on the spaceship earth facing highest rate of extinctions. Although these masters of air are

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❖ Fossils are the remains or traces of ancient life. Fossils can be mineralized bones, teeth, shells, wood, or actual unaltered material from an organism, like frozen mammoth flesh, bones and fur. Eggs, nests, footprints, leaf impressions, burrows, and feces are examples of trace fossils. One thing all fossils have in common, they are OLD, at least 10,000 years old.

❖ **Fauna of Bargarh** :Tiger (Panthera tigris), Leopard (Panthera pardus), Gaur (Bibos gaurus), Blackbuck (Antelope cervicapra), Sambar (Cervus unicolar),Chital (Axis axis),Barking Deer (Muntiacus muntjak),Indian Wild Boar (Sus scrofa), Rhesus Macaque (Macaca mulatta), Common Langur (Presbytis entellus), Sloth Bear (Melursus ursinus), Common Otter (Lutra lutra), Indian Porcupine (Hytrix indica), Indian Pangolin (Manis crassicaudata)

most athletics in their body construction but are highly sensitive to climatic changes. So the numbers of bird species represent the balance and richness of the ecosystem. Greater the diversity better the ecosystem.

In the morning at Debrigarh someone will get the chance to have a glimpse of the nature. The cuckoo cuckooing will awake you and the harse sounds of

peacock will make you feel that you are in the jungle. The hill crow follows the canines and felines to get the food from their hunts and thus alerts other animals about their approach.

The avifauna of Bargarh district (the biological names of given birds are only based on personal interaction oral collections and need to be analyzed before taking them for standard references and some of the local names of birds are also given)

1)The house crow ***Corvus splendens splendens*** .2)The jungle crow ***Corvus macrorynchos*** 3)Kathphoriya **Sitta castanea** 4)Red vented bulbul ***Pycnonotus cafe*****r** 5)The blackbird ***Turdus merula*** 6)The tailor bird ***Orthotomus sutorius***7)Fantailn warbler ***Cisticola juncidis*** 8) Hill myna ***Gracula religiosa*** 9) Common myna (desi myna) ***Acridotheres tristis*** 10) Weaver bird ***Ploceus philippinus*** 11)The common house sparrow ***Passer domesticus domesticus*** 12)

The yellow throated sparrow ***Patronia xanthollis*** 13)The purple sunbird ***Nectarinia asiatica*** 14) Flower pecker ***Dicaeum erythrorynchos***15) Woodpecker ***Dendrocopos mahrattensis*** 16) Nikant ***Megalaima asiatica*** 17)Large Indian parakeet ***Psittacula eupatria*** 18)Roseringed patakeet ***Psittacula krameri*** 19)Common kingfisher ***Alcedo atthis*** 20)Indian owl ***Bubo bubo*** 21)Ulloo **Bubo zeylonensis** 22)The dhob cheel ***Haliastur indus***23)The common kite (cheel) ***Milvus migrans*** 24)The short toed eagle ***Circaetus gallicus*** 25)Serpent eagle **Spilornis cheela**26)Hawk eagle ***Spizaetus cirrhatus*** 27) Blue rock pigeon **Columba livia** 28)Common sandgrouse ***pterocles exustus***29)Common peafowl **Pavo cristatus**, National bird of India and only found in Indian territory 30) Jungle

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❖ Biodiversity is an umbrella term and refers to the variety and variabilityof all life in the planet. In practice it refers to all species of plants,animals and micro-organisms, the ecosystems and ecological processes of which they are parts. Scientifically biodiversity is considered at threedifferent levels: Species diversity (this also includes the interactionsbetween individuals of a species and between different species), Genetic diversity (variations in the genetic constitution of individuals of a species and between different species), and Ecosystem diversity (grasslands, forests, aquatic bodies etc.). In effect these three levels cannot beseparated as a change at one level can bring changes at the other levels. The importance of biodiversity lies with the fact that it forms the resource base for agriculture, forestry, medicine and provides, food, fodder, wood and fiber, many other utility materials to mankind and provides ecosystem services like pollination, nutrient cycling, air and water purification, climate modification, drought and flood control etc.and has recreational, aesthetic and spiritual value for man. In view of this,

fowl ***Gallus gallu***s 31)The king vulture (raj gidh) **Torgus calvu**s 32)Dauk Amaurornis phoenicurus 33)Baja **Bubulcus ibis**34)The pond heron ***Ardeola grayii*** 35)The flemingo(Raj hans) ***Phoenicopterus roseus*** 36) The hornbill (?) ***Anthracoceros coronatus*** There are so many numbers of birds are there that it is not possible to enlist them here but I have tried my level best to give some of the commonest birds here.

Causes of birds diversity in Bargarh District-

a) Wide variety of plants to explore their feeding habit
b) Presence of wide range of insect fauna for insectivorous birds.
c) Hill areas providing varying range of altitudes to different birds.
d) Plenty of villages for domestic and semi domestic birds as well as birds preferring human colony.

e) Anthropogenic activities has although decreased the bird population but it appears that they have learnt to change themselves and are still existing a good number of birds

Bargarh the land of nature shoud be preserved for its ecological values and natural heritage. Even someone cannot think about the existance of local peoples without the nature because its paik sons know the nature ,Maa Samlai, purity of heart and mind.As a great landmass of orissa it should be utilised for nature friendly works,devloped as a tourist site and protected from the mining mafias of India and abroad.

ABOUT THE WRITER

Mahesh Kumar Mishra M.Sc., M.phil in Zoology Address –at-Rohinia Po/Dist-Bargarh 768028 Cell-94372-09317 Working as a Lab assistant at Trust Fund Degree College Bargarh ,A sincere teacher and guest faculty of following institutions of western Orissa ,Panchayat College Bargarh Vikash junior college BarahgudaDadhibaman College Bhatli,Rotary public school Bargarh Publication details- i) A field reports on fat-tailed Gecko (*Eublepharis hardwickii* Gray, 1827) from the Gandhamardan hill ranges of western Orissa (India) Project / Research Works undertaken-Involved in a Project on Plant Diversity Assessment in Preservation Plot in Debrigarh Sanctuary Orissa Sponsored by-Silviculture Division Bhubneswar, Orissa 2004-2005Member of the Biodiversity research group of Panchayat College studying on the medicinal plants for the Nrusinghnath Ayurvedic College since 2002 Collaborations if any- a)Jointly working on the Indian animals with Prof. Victor Fet Department of Biological science Marshall University USA) In contact with Prof.Benda Dally Endangered Wildlife Trust Private Bag XIIPark view 2122South Africa c) Mail member of the IUCN International Union for Conservation of Nature and natural resources

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❖ Orissa ranks fourth amongst State/ Union Territories of the country interms of area under forest cover. The total forest area of the State is58,135 sq.km. which is 37.34% of the State's geographical area and about 7.66% of country's forests. The recorded forest area under variouscategories is as under;Reserved Forest 26,329 sq.km. 45.3%
Protected Forest … 15,524 sq.km. … 26.7%
Unclassed Forest …. 16,282 sq.km. … 28.0%
Total …. …. 58,135 sq.km.

❖ Declining forest cover in the State has been a matter of seriousconcern. Conservation of forest, rehabilitation of degraded forestsand protection of wildlife and other fragile ecosystem need immediate attention. Unless the existing forest cover is maintained and the status-quo is restored to keep pace with the guidelines issued in National Forests Policy i.e. to retain 66% of forest in hilly area and 33% in plains, the situation may warrant an adverse condition in which wherever we see only find bald hills.