



## Forest and wildlife Ecosystem and Human Society: A Geographical study of Purulia District

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### Abstract:

The District of Purulia was carved out of the former Manbhum District of Bihar and merged with the State of West Bengal in November- 1956, The district occupies 5<sup>th</sup> position in the State in respect of size with an area of 6259sq km. Purulia District is surrounded by Bankura and Midnapur in the East, Ranchi and Hazaribag in the West, Dhanbad Bokaro and Hazaribag in the North and West Singhbhum in the West. The total area of Purulia District is 6259 sq km. Purulia lies between 22°43'N and 23°42'N latitudes and 85°49'E and 86°54' E longitudes. This district of West Bengal is invaded by forest and bio-diversity. There is a close relation between man and environment. Forest is the most important part of environment. This has direct and indirect impact on human life. With deforestation the environment degraded and the climate defers which damages bio-diversity and natural resources and it affects human life. A key note has been discussed about the impact of environment and eco system of Purulia District due to eradication of forest and extinct of wild life animal as has been studied by this author through field investigation at different times.

**Key words:** Forest, Wild life, Environment, Impact of human Life.

### 1. Introduction:

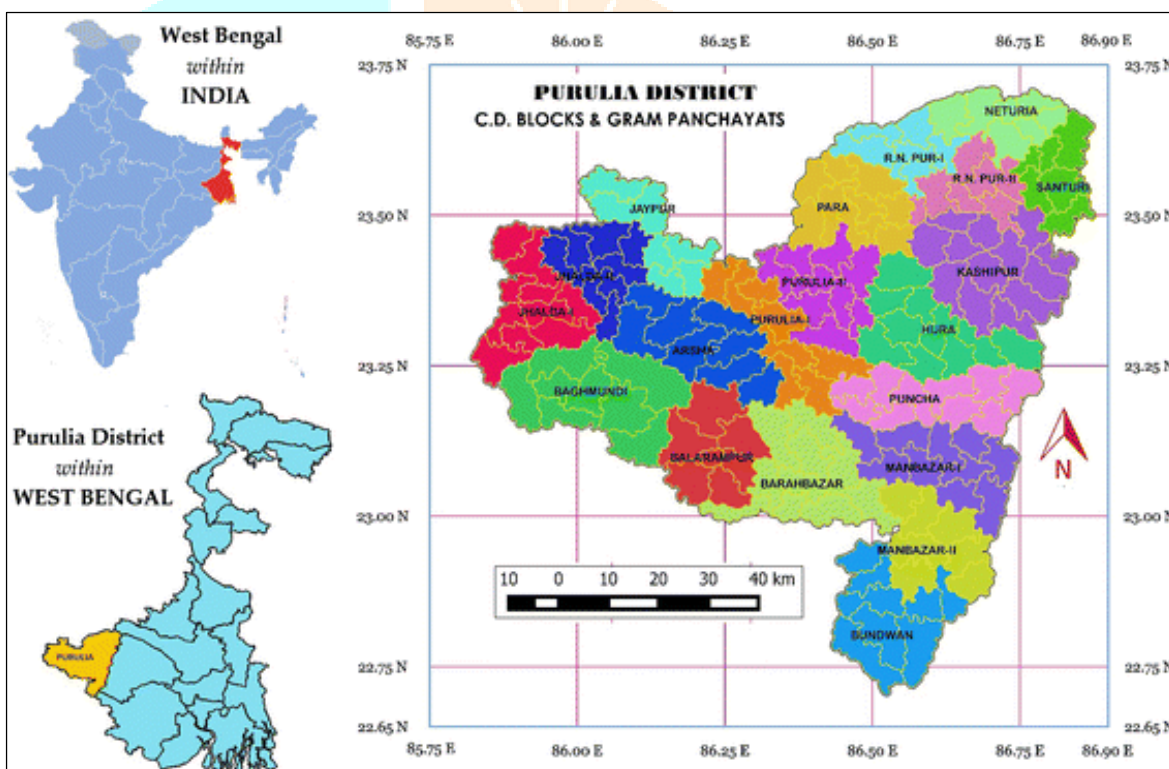
**“Animals are such agreeable friends, they ask no question, they pass no criticism”**  
(George Elid)

**“The Greatness of the nation can be judged by the way the animals are treated”**  
(Mahatma Gandhi)

**“The clearest way into the Universe is through a forest wilderness”**  
(Jhon Muir)

Forest are an important part of our survival on earth .Besides providing habitats for animals, the importance of forest can't be emphasized any further it gives us the clean air we breathe, the forest products (food, fuel, timber and paper) that we use in our daily lives. Forest comprises of 30% of the world's land surface and provides a bunch of ecosystem services, it protects watersheds provides clean water, prevents soil erosion,

absorbs greenhouse gases and is crucial for mitigating climate change. The natural forest of Purulia district are mostly of mixed nature and restricted to North West part of District covering Ajodhya Hills and Panchet hills of the North East. Forest occupies 18.56% of the total Geographical area of the district. The important trees which are available in the district are like Sal, Asan, kusum, Serish, Simul, Mahua etc. Geographically the forest areas under this division is line between 22° 43' to 23° 42' North Latitude and 85° 49' to 86° 54' East longitude and covers an area of Forest land in an about 62000 hectares. The district situated in the south is East Singhbhum, North is Bokaro and Hazaribag the West is Ranchi respectively of the State of Jharkhand. Jurisdiction spreads over 6 administrative blocks of Purulia District namely Balarampur, Bugmudi, Jhalda- I , Jhalda – ii , Arsha and Joypur. Physiographically the forest areas under this division falls under a sub region of North Eastern part of Chhotonagpur plateau with undulating and rolling topography. The degradation process are active in this area as the presents of isolated hills and dissected plateau. Intercepted by broad and narrow valley indicates the extent of degradation status. The highest peaks in the hills areas attain an altitude of 677 meters above M.S.L and covers Ajodhya, Bagmudi Ranges of hilly terrain with an altitude of 300 meters in an average and is dissected by Kangsabati and Suberrekha Rivers and their tributaries. Besides several isolated hills/hillocks are scattered all over this Division.



## 2. Objectives of the study:

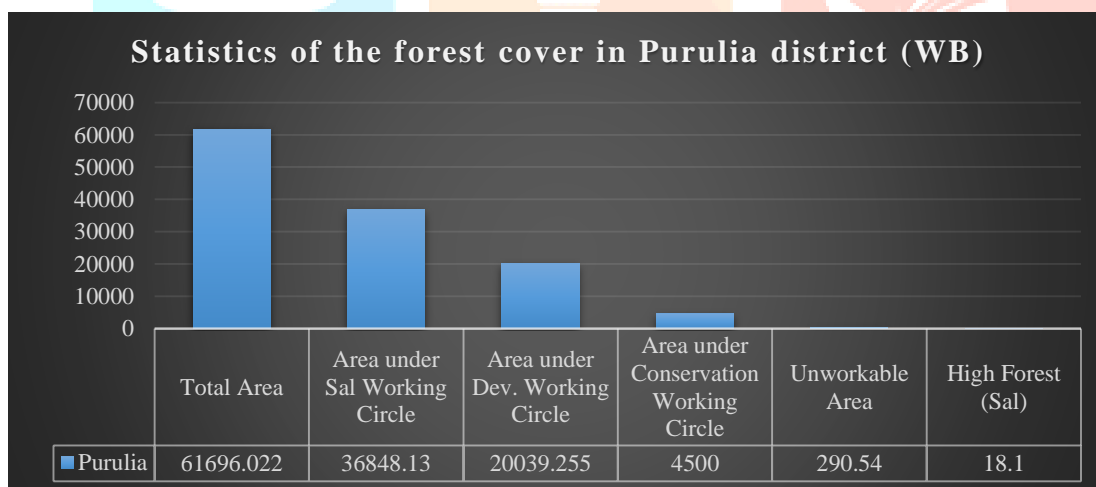
- 1) To get a clear picture of forest, wild life and human life.
- 2) To get a clear picture of forest degradation.
- 3) To know the impact on human life and Bio-Diversity for forest degradation.
- 4) To know Socio-economic problems from deforestation / forest degradation.
- 5) To suggest suitable remedial measures.

### 3. Methodology:

The preliminary knowledge about the study area has been collected from the Purulia district gazetteer and Census Handbook of Purulia. A map of the study area has been collected from the engineering dept. of the Purulia Municipality. For theoretical perception of the study a number of relevant books, articles and journals have been consulted which have been mentioned in the References. Websites have also been simultaneously accessed. The total work is based on field work. Interviewing local people and the scavengers have formed the basic of investigation. Snaps have been taken two portray the true picture of the study area.

### 4. Discussion

**4.1 Forest cover:** As per classification, the forest under Purulia forest division falls under Northern tropical Dry Deciduous Forest. Mostly copricesal forest mixed with mixed species like palash, kushum, mahua, neem, etc. There are 74 species of trees, 59 species of shrubs, 23 species of climbers, 27 species of bamboo available in Purulia forest division. There are more than 100 different species of Medicinal plants occur in that ecosystem. Medicinal plants like aswagandha, satmuli and vrigoraj etc. are widely used in national and international level. Hartaki, amla, bahara, karanja, neem, salseeds bamboo, kendu leaves are major non timber forest productions which are found in this division.



At present the total density of forest in Purulia District has been reduced as it was earlier. Forest resources are also destroyed at the time of its reduction. A large number of trees like Sal, Segun, Shetsar Mahua, Kusum, Asan Kend, Pial, Amloki, Bahara etc. are decreased. In lieu of these aforesaid trees, the tree likes Akashmani, Radhacura, Ukliptus etc. are increasing day by day.

In past days the forest provided the food, shelter as well as occupation to the forest dwellers. The large number of villagers are engaged in agriculture, but they are forced to remain unemployed for a few months. Forest also providing other raw materials for livelihood to the villager on that time. More than 2 lakhs people were engaged in this type of occupation. But now a day's huge number of people have been unemployed due to eradication of forest land. The total economic condition of this district has been ruined. About 50 thousand people are

engaged in the forest related occupations like gathering wood and kendu leaves, food for animals, collecting for fruits, flower seeds and other activities. The male workers are not only engaged in this type of occupation but also female as well as the child from the poor families are engaged.

The total area drains into two major river systems, namely Subarnarekha and Kangsabati. Ajodhya hill plays an important role in harvesting of monsoon rain. Moreover few lakhs of people residing in and around forest directly or indirectly depends on this forest for fodder, fuel wood, small timber and other tangible or intangible benefits. Small dams like Murguma, Pardi, Burda, Gopalpur, Tilaitar etc. help in irrigation of agricultural field.

#### 4.1.1 Activity taken by Purulia Forest Division to Protect Forest and Wild Life:

Sl/No.	Name of the class	Area (Sq. km.)	Area of the district (%)
1	Dense Sal Forest	37.98	0.61
2	Mixed Dense Forest	141.97	2.27
3	Open Sal Forest	112.27	1.80
4	Mixed Open Forest	762.83	12.20
5	Plantation	124.45	1.98
6	Degraded Forest	677.76	10.83
TOTAL		1857.26	29.69

✦ **Forest Protection:** Actively done by Beat and Range level staff and officers located at different areas by means of patrolling in the forest, collecting information from local Forest Protection Committees. Member of Forest Protection Committee take part in patrolling as well.

✦ **Plantation:** Carried out in degraded forest land and in areas which are systematically felled to harvest forest produce from previous plantations.

✦ **Silvicultural Operation:** To rejuvenate Sal forest different silvicultural operation is being carried out like multiple shoot cutting, coppicing in degraded areas.

✦ **Soil Moisture Conservation Work:** Major objectives are;

# to harvest run off water.

# to increase moisture resume in forest area.

# to facilitate ground water recharge.

# to help local population to utilize ground water for different activities like agriculture, pisciculture etc.

# to prevent soil erosion.

All these activities are done by means of different construction activities, those are mentioned below;

# Contour trench

# Boundary trench





- # Earthen Dam
- # Rock Check Dam
- # Vegetative Check Dam
- # Re-digging of old Earthen Dam
- # Gully plugging
- # Water harvesting structures



Rock Check Dam at Khatanga Mouza (NREGA) Kotshila Block.

Earthen Dam at Pogro Mouza (RKVY) Kotshila Block.

◆ **Joint Forest Management:** To ensure people's participation in Forest Management, this Division actively tries to involve local people in every steps of forestry activities from Plan preparation to execute the work resulting to Formation of 212 Forest Protection Committees.

◆ **Entry Point Activities:** To facilitate and encourage villagers participation in forest conservation and protection, this Division takes different entry point activities in FPC villages, namely;

Construction of village road, Improvement of village road, Construction of community latrine, Construction of latrine in village school, Dug well for irrigation, Ring well for drinking water, Construction of Earthen Dam for pisciculture, Supply of agricultural machineries like sprayer, paddy thrasher, agricultural implements, Construction of community hall, Rural libraries for students, Supply of material to minimize wild animal damage; like dragon light, search-light, hula, Kerosene oil, burnt mobile, crackers etc., Arranging friendly football matches and cultural programme, Construction of causeway and culverts, Construction of irrigation channel.

### ✦ **Alternate employment generation for Forest Protection Committees through training and impute:**

Vocational trainings are arranged every year to provide self-employment to FPC members. Following are the important trainings;

- # Lac cultivation training with impute.
- # Tassar cultivation training with impute.
- # Sal leaf plate making training with machine.
- # Agar Bati making training.
- # Sewing training.
- # Training for piggery.
- # Pisciculture training.
- # Driving training.
- # Pump set repairing training.
- # Medicinal plant cultivation and preservation training.
- # Horticultural training.

✦ **Production and distribution of seedling:** This Division also undertakes the activity of raising quality planting material for distribution to general public and institution in order to encourage people for plantation in their own land with a overall target increase greenery in the area. For this purpose, following nurseries are functioning round the year.

Location	Type of nursery	Capacity
Balarampur	Central Nursery	25,000/year
Kotshila	Central Nursery	20,000/year
Jhalda	Central Nursery	10,000/year
Arsha	Modern Nursery	25,000/year
Matha	Bamboo Central Nursery	20,000/year

Sources: Divisional Forest officer Purulia Division, Purulia



Bamboo nursery at Matha range



Balarampur Central Nurser

**4.2 Wildlife:** Biogeographically it represent zone 06B (Deccan, peninsula chotonagpur), there are 39 species of mammals (5 in schedule -1) (pangolin, wolf, leopard, cub, leopard, Elephants). 9 species of amphibians, 27 species of fish, 9 species of mollusk available in Purulia district (WB). Ajodhya hill ecosystem hosts few number mega mammals like elephant. Through major elephant habitat is engulfed by PPSP. At present number of such resident elephant is considered to be 8 to 10. A part from that the seasonally migrated herds of elephant from nearby Jharkhand forest take shelter in this area for a days together in different seasons of the year.

A large number of birds, animals are were found in this area in the previous time. But now a days they are decreased in number day by day. Suddenly elephants came out from Dalma range. A few number of bears are living in forest of Ajodhya, Matha, Kuilapal and Rakab. An animal named Brajrahit was seen in the forest of Ranchi and Manbhum District. But now a days this animals are going to be extinct.

At present more importance is given in the field of social forestry and conservation of forest. Forest protection committee is formed by local tribal people of this area.

A few example of social forestry maybe mentioned like – Talidih, Akarbaid of Barabazar. Rakab forest may be mentioned as an example of Social Forestry. This program has been developed in the areas like Santuri, Nituria, Raghunathpur, Kashipur, Jhalda, Bagmundi, Arsha, Balarampur, Bandwan.

### ◆ Mitigation of Man-Animal Conflict:

This division is facing problem with Elephant depredation every year. The worst affected areas are;

Jhalda-I Block (Jhalda Range): Ghosra, Kalmadi, Hesla, Kanakpur, Garakushi, Pusti, Kushi,

Vashudi, Chhotobakad (mostly Southern part of Jhalda-I Block).

Bagmundi Block (Bagmundi Range): Peretorang, Pirorgoria, Rangamati, Kalimati, Suisa, Gagi.

Jhalda-II Block (Kotshila Range): Simni, Jhabar, Haratan, Tahadri, Taherbera, Jarahatu.

# Human death since April 2008 = 11

(Joypur Range: 7 + Jhalda Range: 3 + Bagmundi\_Range: 1)

# Compensation Paid

Range	No. of cases	Amount in lakh
Jhalda	877	11.88
Bagmundi	1154	7.74
Kotshila	184	1.96

# Steps taken:

§ Massive Awareness campaign in the affected villages.

§ Supply of material to the villagers to drive away wild animals, especially elephant.

§ Patrolling by staff and officers in the affected area.

§ Construction of temporary and permanent watch tower.

§ Construction of water harvesting structure and re-digging of existing structure along with enrichment of near-by forest area.

§ Timely and speedy disposal of compensation claims.



❖ **Wild Life Rescue Operation:** In recent past wild life rescue operation has also become a regular activity of this Division. Following lists shows such activities during last year.

Date	Animal rescued	Place of rescue	Post rescue action
27.06.2008	Adult spotted deer	Mohanpur of Kotshila Range	Released back to Haratan forest of Kotshila
20.11.2008	Elephant calf	Peretorang of Bagmundi Range	Sent back to mother elephant herd
12.01.2009	Small Indian Civet	Hussaindih of Jhalda Range	Released back to Mahadevpur forest of Jhalda Range
28.01.2009	Jungle Cat	Darda of Jhalda Range	Released back to Mahadevpur forest of Jhalda Range
04.03.2009	Spotted deer fawn	Kantadih of Arsha Range	Released back to Lahadungri forest area of Ajodhya Range.
08.03.2009	Adult barking deer	Saldih of Balarampur Range	Handed over to Surulia Rescue Centre of Kangsabati (North) Division.

Sources: Divisional Forest officer Purulia Division, Purulia

❖ **Government Revenue Generation:** This Division holds regular auction of forest produce obtained from seizure, departmental felling of plantation and Sal coppice areas. During 2008-09 auction resulted into generation of Government revenue at the tune of Rs. 3879273/-.

**5. Conclusion:** The soil and topography of western part of West Bengal is very much different from plain region. Afforestation is the only one way for the protection of soil erosion, livelihood of the people and maintain of Ecological Imbalance. If this type of social activity increases very rapidly, it will be more beneficiary and valuable to the people of Purulia District.

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