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CHANGING PATTERN OF ELEPHANT MIGRATION AND IMPACT ON RURAL ACTIVITY: A CASE STUDY IN JHARGRAM DISTRICT, WEST BENGAL

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ABSTRACT: Men-elephant arguments have been major problem in Jhargram district. The elephant migration routes have changed in recent day in jhargram district. As elephant herd, which migrated from Dalma hills of Jharkhand stay on for longer at Jungle mahal (Jhargram, Purulia & Bankura district). Jhargram district is one of elephant migration effected district of west Bengal. Major causes of elephant migration for such food and shelter of dense forest of jhargram district. Large number elephant migration assesses the effect of rural human life in jhargram district.

Keywords: Conflicts, Deforestation, Elephant Migration, Fringe Area, Habitats.

INTRODUCION: The main causes for forest elephant herd change their route of migration is hungry for food, safe shelter and reproduction. An adult elephant requires 300 to 350 pound vegetation per day. Jhargram district area, mainly Subarnarekha and Kansabati river basin is fertile for various type of vegetable like potatoes, cucumber, cauliflower, jackfruit, sugarcane and also rice fields. On the other hand, water availability and food sources are decries in dalma hills range due to mineral mining work and Deforestation.

STUDY AREA: Jhargram district is newly set up on 4th April 2017. The splitting of paschim medinipur district of West Bengal. This district situated in the lower part of eastern choto Nagpur plateau and western part of West Bengal. This district have shared their boundary with the Orissa to south part, where the west part touch with Jharkhand border and related with bankura, purulia and paschim medinipur district. Geographically located of jhargram at 22.45°N, 86.90°E. The mean height of Jhargram district is 265feet. The climatic situation is moist and type of tropical. Temperature have variable between 40° to 45°C. in summer season. The minimum temperature during winter is 10° to 15°C. The relief of jhargram district gradually slopes down towards east. Soil is red, sandy and lateritic type.

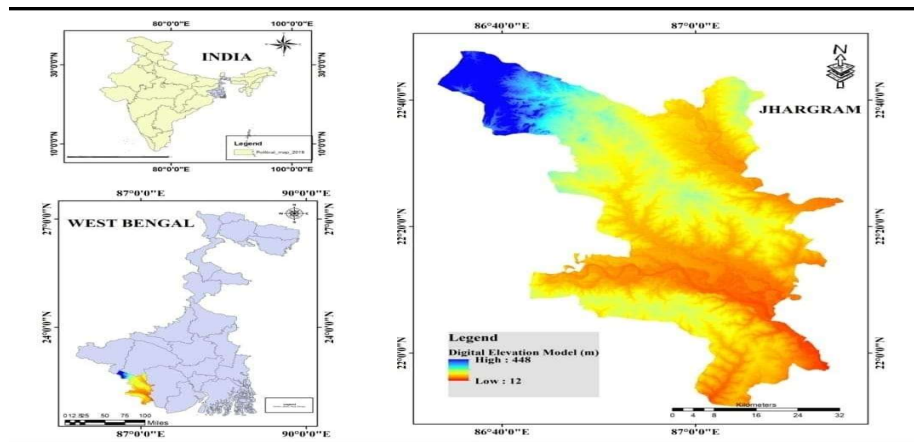


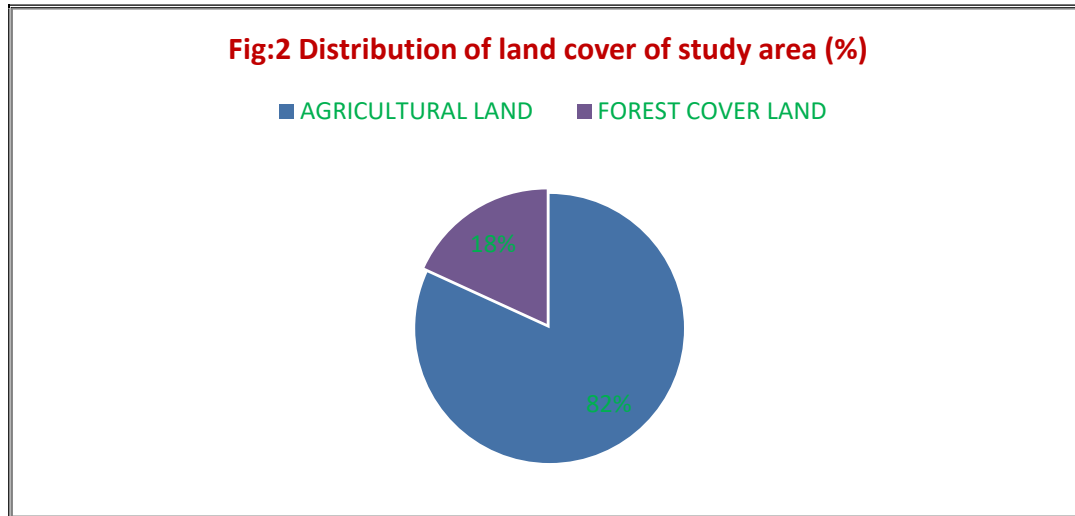
Fig: -1 Location map of Study Area

Table -1: Distribution of Agricultural and forest land in the Jhargram area.

Study area	Geographical area (sq.km)	Agricultural Land (Hectares)	Forest coverage (Hectares)
Jhargram District	3037.64	268249 (82%)	59497 (18%)



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MATERIALS AND METHODS

At first, the primary data have been collected from village survey with interview method. Base map of study area, information of human loss property, elephant migration route map etc are to be prepared. Changing pattern of elephant migration route and their impact on village life. Block development office of jhargram, forest range office, sub-divisional office of jhargram, District statistical handbook, collected from the data of elephant migration in jhargram district.

OBJECTIVES: The following objectives of the study are given below

- 1) To study the causes of changing pattern of elephant migration at jhargram district.
- 2) To study and explain the socio-economic impact of elephant migration on rural human life.
- 3) To study and analyze the suggest mitigation measures to minimize human-elephant conflict in a participatory manner.

RESULTS AND DISCUSSION

The elephants herd started coming to the Jhargram from early 1980s. But the changing pattern of migration route of elephants within a rural-urban fringe area is relatively new. Because a huge number of deforestation and specific mining activity in Dalma hill region. Specially Ghatshila, chakulia Adityapur region. The wild elephant appear repeatedly in rural side of jhargram area due to shortage of vegetation and water bodies in Dalma hill region. This problem is not just only jhargram villagers, but also other district in south Bengal.

Initially, elephant in south Bengal were visitors, however in recent time they have almost become residents, Therefore, understanding their movement patterns and habitat use is crucial to assist the conservation and management of elephant in the human-dominated landscape of south Bengal including Jhargram.

The main livelihood of the rural people of jhargram also forest dependent. Especially the tribal people (Like santal, monda, mahata, bhumij etc) collect wood, honey, and leaves from the forest. But they cannot go to the forest now. They are changing their livelihood activity by forced. They have been involved in the temporarily workers within the neighboring district. Their agricultural crops are being harmed by elephant herd.

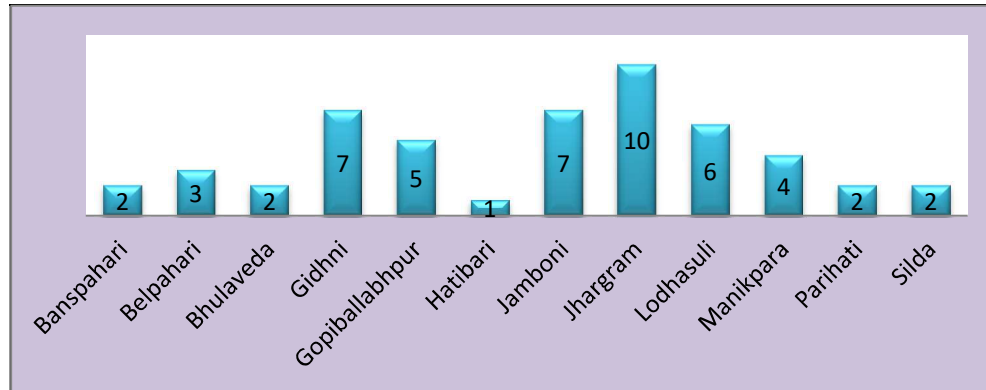


Fig: 3 Number of Casualties in the elephant attacked at different forest range (Jhargram) 2020-22

The old route of elephants herd migration is Malabati forest, Jamboni forest and lodhasuli to Nayagram forest. But recent day, changed their route, and come in to near Jhargram town, Manikpara, Silda, Binpur, Lalgargh populated area. The river basin of Subarnarekha and Kansabati is more fertile, so here they do not scarcity of food. Especially in villages along the river bank side like Gopiballabhpur, Lalgargh, Dherua, Khalseuli area. Elephant have been in this area for a long time.

Elephants are much more aggressive during breeding time. One small group has 30 to 50 elephants. However, the big team has about 85 to 120 number of elephants. Found that, most accidents occur in the evening or too early morning. Because most of people in the village still use the forest for fuel timber and toilet work. This is one of the main reasons for elephant and human conflicts.



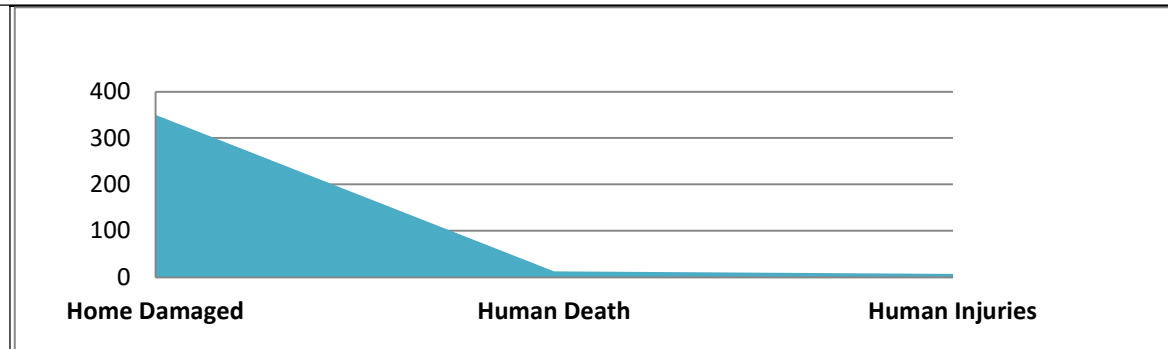
Fig: 4 Migratory Elephant Destroy the Human Property

Table 2: Effects of Human-Elephants Conflict in Jhargram District (2019-2020)

Crop Damaged	Home Damaged	Human Death	Human Injuries
310.20 Hectares	350 (No)	13(No)	07 (No)



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SPECIAL MITIGATION

Special measures have been taken to prevent this matter –

- West Bengal governments have taken few modern technologies to surveillance of elephant activity in jungle Mahal (Bankura, Purulia, and Jhargram) area.
- Government has been emphasized to increases the density of the forest, so that they do not come to the locality.
- Rising fodder and bamboo plantation on the route.
- Excavate many pond or dam in core area.
- Alternative practice of crop pattern.
- Training to forest staff to improve their skills.
- Electric fencing and Distribution of high power torches.
- Launching awareness campaigns in affected rural area to minimize the men-elephant conflict.
- The West Bengal government is taking legal action if the elephants are unjustly disturbance in forest area.

CONCLUSION

Elephant migration route is depending on seasonal and environmental conditions. Not long ago, the number of wild elephant is increased in South Bengal. Though people have lost their property, crop and also life, but they have important role to control Men-elephant conflict and conservation of biodiversity.

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