

Ecotourism in West Bengal: Amkhoi Wood Fossil Park

Supatra Sen

Associate Professor (Botany) Asutosh College, Kolkata-700026.

Date of Submission: 15-07-2020

Date of Acceptance: 31-07-2020

ABSTRACT: A pioneering effort of West Bengal Forest Department in preserving the priceless fossils woods and to educate people about the natural heritage of West Bengal, Amkhoi Fossil Park (the youngest of its kind) is located near Ilambazar in Birbhum District of West Bengal, India. Such fossil parks have exceptional heritage and scientific values. The angiosperm wood fossils displayed here were collected during pond digging and are definite proof of the presence of a vast dry deciduous forest with a few evergreen elements, which prevailed 15 to 20 million years before. The Wood Fossil Park at Amkhoi attempts to integrate economic benefit for the community as well as propagate values of conservation, preservation and protection besides imparting education and awareness on the geo-site, and hence is a good stride for attaining sustainability perspectives.

Keywords: Amkhoi Wood Fossil Park, ecotourism, geo-tourism, sustainable tourism

Fossil Park

A fossil park is a significant destination to know Earth's geological and biological past. As a part of the once existing Gondwanaland India has a very rich deposit of fossil flora dating back to Early Permian. In the geological past large parts of India were covered with dense forests. The fossil parks of today are the remnants of those past forests (Ghosh, 2019). A fossil park is actually a treasure trove of fossils of both flora and fauna maintained by the Geological Survey of India and in some states the State Forest Departments. **Amkhoi wood fossil park**, close to Tagore's Shantiniketan is the youngest of its kind in India.

Wood Fossil Park, Amkhoi

A pioneering effort of West Bengal Forest Department in preserving the priceless fossils woods and to educate people about the natural heritage of West Bengal, Amkhoi Fossil Park is located near Ilambazar in Birbhum District of West Bengal, India. It is the only fossil park of West Bengal state with an area of 10 hectares.

The past forest thrived in the uplands of Rajmahal Hills and Chhotanagpur Plateau at the North West of Birbhum. It is presumed that the trees were carried by occasional floods of the river system flowing from North West towards South East in Birbhum, Bardhaman, Bankura and Medinipur Districts and deposited under fine sand and clay gradually to transform into wood fossils. The petrified woods are found in two different laterite beds. [http://www.birbhum.gov.in/tourism/Amkhoi EcoTourism.pdf](http://www.birbhum.gov.in/tourism/Amkhoi_EcoTourism.pdf)

The angiosperm wood fossils displayed here were collected during pond digging from Amkhoi village of Ilambazar Forest, Birbhum. These specimens are definite proof of the presence of a vast dry deciduous forest with a few evergreen elements in this area, which prevailed 15 to 20 million years before present (Late Miocene, 15-20 m.y.a.). Wood fossils can also be found in different places of Birbhum, Bardhaman, Bankura and Medinipur Districts of West Bengal as well as in Mayurbhanj District in Orissa. Few genera belonging to families Dipterocarpaceae, Anacardiaceae, Combretaceae and Leguminosae were found in the past forest of south West Bengal and interestingly, these families occur in this area even now.

It has been speculated that due to natural calamities, the trees were uprooted in the upper catchment and carried down to this area in the lower catchment of the drainage basin of present Ajay River perhaps by occasional floods before they became petrified. Petrification generates two major types of wood fossils depending on terrain characteristics - silicified and calcified. In case of Amkhoi village and adjoining areas, part of such trees extinct in this zone are found in other countries like Myanmar and Malaysia even today, transformed mostly into silicified wood fossils. Geologically these fossil woods lie in the Late Tertiary sedimentary sequence called Santiniketan Formation, found in the western part of Bengal which have been exposed in several discrete patches (Ganguli, 1995). From cobble and pebble

conglomerate strata in Bonerpukurdanga section of Santiniketan Formation, angiosperm wood fossils have been discovered during excavations.

Ecotourism in Fossil Parks

The fossil forest is considered to be non-renewable natural resource to be preserved not only for the future generation but also to impart knowledge on the past climate, depositional environment of sediments, geographical conditions, relative age determinations and past ecology (Dietz et al., 1987). Such fossil forests have exceptional heritage and scientific values as stated by UNESCO with its recognition under the Global Geo Park Network (Császár et al., 2009). However, fossils are fragile and very sensitive even to the processes of weathering for which special care is mandatory while promoting ecotourism in fossil parks.

Eco-tourism is a concept where the programmes of Nature Conservation and Tourism are made to match so as to have a synergistic effect (Sen, 2020). National Wildlife Action Plan, 1983 had focused attention on the importance of nature of human interactions with Protected Area resources as critical to long-term bio diversity conservation. The potential of ecotourism as a strategy to link economic development and conservation of environmental and cultural heritage is clear and direct and will have to be ecologically sustainable, educative, low cost and affordable. Ecotourism is now defined as “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education” (TIES, 2015).

This means that those who implement, participate in and market ecotourism activities should adopt the following ecotourism principles:

- Minimize physical, social, behavioral and psychological impacts
- Build environmental and cultural awareness and respect
- Provide positive experiences for both visitors and hosts
- Provide direct financial benefits for conservation
- Generate financial benefits for both local people and private industry
- Deliver memorable interpretative experiences to visitors that help raise sensitivity to host countries’ political, environmental and social climates

- Design, construct and operate low-impact facilities
- Recognize the rights and spiritual beliefs of the indigenous people in our community and work in partnership with them for empowerment

Views of the Amkhoi Wood Fossil Park





(All six photographs of Amkhoi Wood Fossil Park are taken by the author herself.)

Eco-Geo Tourism

The concept of ecotourism began in the late 1980s increased in popularity in 2002 during the United Nations ‘International Year of Ecotourism’ and further designating 2017 as the

International Year of Sustainable Tourism for Development, the United Nations General Assembly noted “the importance of international tourism in fostering better understanding among people everywhere, in leading to a greater awareness of the rich heritage of various civilizations, thereby contributing to the strengthening of peace in the world”.

Geo-conservation, on the other hand is a management strategy for the protection of various geo-heritage sites with high scientific and tourism values (Gray, 2005) along with dynamic preservation and maintenance of various geo-heritage sites (Hose, 2003). Geotourism puts emphasis on optimal utilization and diffusion of knowledge about earth heritage resources (Dowling and Newsome 2006).

Towards Sustainable Eco Tourism in Wood Fossil Park, Amkhoh

In view to promote tourism along with conservation of environment throughout the State of West Bengal, an Ecotourism Task Force was constituted with the mandate of clearly identifying the scope and objectives of ecotourism in West Bengal, mechanism for the systematic development of ecotourism in the State, setting out the nature and extent of interdepartmental synergy required for this purpose and preparing of an action plan/roadmap for the development of ecotourism in the State.

To design a fossil forest as a living geo museum is to ensure the best possible protection (Pagès, 2009). It is also essential to involve the local communities in geo-conservation because authorities are unable to protect the sites directly due to various constraints (Fedonkin et al., 2009). The Wood Fossil Park at Amkhoh attempts to integrate economic benefit for the community as well as impart education and awareness on the geo-site, and hence is a good stride for attaining sustainability perspectives.

REFERENCES

- [1]. Császár, G., Kázmér, M., Erdei, B., & Magyar, I. (2009). A possible Late Miocene fossil forest PaleoPark in Hungary. Notebooks on Geology – Book 2009/03 (CG2009_B03), Chapter 11, p. 130.
- [2]. Dietz, R., S., Pewl, T., L., & Woodhoush, M. (1987). Petrified Wood (Araucarioxylon Arizonicum): Proposed as Arizona's State Fossil. Journal of the Arizona-Nevada Academy of Science, vol. 22, issue 2, p. 110.
- [3]. Dowling, R., & Newsome, D. (2006). Geotourism. Oxford: Elsevier Ltd.
- [4]. Ganguli, U. (1995). A new lithostratigraphic unit at the Western fringe of West Bengal, India. India Journal of Geology, vol. 67, no. 4, p. 282-288.
- [5]. Fedonkin, M., A., Ivantsov, A., Y., Leonov, M., V., Lipps, J., H., Serezhnikova, E., A., Malyutin, E., I., & Khan, Y., V. (2009). Paleo-piracy endangers Vendian (Ediacaran) fossils in the White Sea - Arkhangelsk region of Russia. Notebooks on Geology – Book 2009/03 (CG2009_B03), Chapter 9, p. 108.
- [6]. Ghosh, D. (2019). Amkhoh – youngest wood fossil park of India. Science Reporter, NISCAIR-CSIR, India, vol. 56, no. 8, P. 45-48.
- [7]. Gray, M. (2005). Geodiversity and geoconservation: what, why, and how? In: Santucci, V.L. (Ed.), Papers Presented at the the George Wright Forum, p. 4-12.
- [8]. Hose, T., A. (2003). Geotourism in England: a Two-region Case Study Analysis. Ph. D. University of Birmingham, Birmingham.
- [9]. Pagès, J., S. (2009). The GeoPark of Haute-Provence, France - Geology and palaeontology protected for sustainable development. Notebooks on Geology – Book 2009/03 (CG2009_B03), Chapter 3, p. 29-34.
- [10]. Sen, Supatra (2020). "Sacred Groves Of West Bengal: An Overview", IJRAR - International Journal of Research and Analytical Reviews (IJRAR), E-ISSN 2348-1269, P- ISSN 2349-5138, 7(2) :438-442. Availableat: <http://www.ijrar.org/IJRAR19S1056.pdf>
<http://doi.org/10.1729/Journal.23532>
- [11]. http://www.birbhum.gov.in/tourism/Amkhoh_EcoTourism.pdf