



Potential Plant Wealth of Laokhowa Wildlife Sanctuary, Nagaon, Assam

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Key Words:

Laokhowa Sanctuary
Biosphere reserve
Forest species
Plant resources
Floristic work

ABSTRACT

The flora of Laokhowa Wildlife Sanctuary consists of many useful plants having great commercial as well as socio-economic importance. Some of these plants have already been utilized and a large number of species are consumed by the forest villagers and the villagers of surrounding areas. Promising plant resources of the sanctuary, categorized like timber plants, fibre-yielding plants, and oil yielding and other minor forest products yielding species, have been enumerated.

INTRODUCTION

Laokhowa Wildlife Sanctuary is situated in the Nagaon district of Assam, India between the latitudes 26°30' N to 26°32' N and longitude 92°40' E to 92°47' E, and is considered unique in terms of varied natural habitats for rich floral and faunal diversity. The sanctuary is about 25 km from Nagaon town, the district headquarters of the Nagaon district. The sanctuary is located just in the central part of the State of Assam. It is situated in the extreme northern boundary of Nagaon district and the southern boundary of Sonitpur district. It is contiguous to the recently declared Burachapori Wildlife Sanctuary. Laokhowa Wildlife Sanctuary is situated at more or less flat land with innumerable water bodies or beels with water remaining almost for the whole year. The land has gentle slope from south to north and from east to west. The elevation of the areas is from 60 to 75 metres above sea level. The area experiences a tropical monsoon type climate. The soil of the area is mostly alluvial deposits of the river Brahmaputra. The soil is mainly clayey loam mixed with silt. There are a number of villages that are in and around the geographical area of the Laokhowa Wildlife Sanctuary. The forest villages and Taungya villages inside the sanctuary are there since notification of the sanctuary. Moreover, the sanctuary is surrounded by a large number of revenue villages.

Like other parts of Assam, the climate of the sanctuary is characteristically monsoonal with rhythm of changing season. It changes with respect to the changing climatic elements, which effectively controls the biodiversity of the area. The climate of the sanctuary can be treated as sub-tropical monsoon type climate. Annual temperature of the sanctuary varies between 9.6°C and 33.8°C. Average annual rainfall remains around 2000 mm and about 70% rainfall occurs during June to September. The relative humidity varies from 65-95% and is lowest during the month of March.

Laokhowa Wildlife Sanctuary is placed under 9A North-East Brahmaputra valley biogeographic province of India (Myers et al. 2000) and as proposed by (Rodgers & Panwar 1992). Based on the present study, vegetation of Laokhowa Wildlife Sanctuary consists of (i) Low alluvial savannah woodland, (ii) Western wet alluvial grassland, (iii) Riparian fringing forest, (iv) Barringtonia swamp forest and (v) the aquatic ones. The whole area of the Sanctuary is covered with mixed forest,

grasslands, and swampy and water bodies. The forests are primarily tropical semievergreen to moist deciduous types and mostly located towards the northern part, while the grasslands are tropical savannah type and are mostly located towards the southern part of the sanctuary. The swampy and aquatic areas are located throughout the sanctuary.

The studies on flora and vegetation of Wildlife Sanctuaries and National Parks are useful to bring out economically important plant species besides the floristic details. Keeping this view, the Laokhowa Wildlife Sanctuary of Assam is selected to enumerate the useful plant resources excluding the common ones. The present contribution is the outcome of the extensive field study in the Wildlife sanctuary.

A number of floristic works have been carried out in the protected areas i.e., National Parks and Wildlife Sanctuaries of Assam in different periods. Hajra (1978) conducted floristic study on Kaziranga and Manas National Park. In the latter period, Nath & Choudhury (1994), Nath (1999) and Bora (1999) made some remarkable contribution on Orang Wildlife Sanctuary and Pabitora Wildlife Sanctuary of Assam respectively, which included primarily floristic works. Barua (1998), worked on the vegetation dynamics and periodic migration of animal population in relation to flood and fire in Kaziranga National Park. Bujarbarua (2002) worked on the ecological study of Gibbon Wildlife Sanctuary. Baishya & Bora (2002) worked on the flora of Dibru-Saikhowa Biosphere Reserve. In this context with vast and biodiversity rich areas, these works appeared to be significant. Keeping this view, the Laokhowa Wildlife Sanctuary of Assam was selected to enumerate the useful plant resources. The present contribution is the outcome of the extensive field study in the Wildlife sanctuary.

MATERIALS AND METHODS

Laokhowa Wildlife Sanctuary is one of the oldest protected areas in Assam. So for scientific and systematic work on vegetation has been carried out barring a preliminary work done by Choudhary (1997). The present study was conducted for collecting and recording the knowledge about economically important forest species of Laokhowa Wildlife Sanctuary that are utilized by forest villagers and the villagers of surrounding areas. The plant specimens were collected and processed following the recommended techniques (Jain & Rao 1977). These were identified with the floras and related literatures (Kanjilal et al. 1934-1940). Based on outcome of the field surveys and the ethnobotanical uses of the plant species, a precise account of various useful plant species, found in Laokhowa Wildlife Sanctuary, has been prepared.

Potential plant wealth of the Laokhowa Wildlife Sanctuary: The sanctuary harbours many plants species having the high potential economic value. The economically important plants are categorized according to their economic value and some of them are arranged in a tabular form (Table 1).

DISCUSSION

The present study explored the plant wealth of the sanctuary, which indicates its importance for biodiversity conservation. The frequent flood, biotic disturbances like logging, grazing, fishing, etc. are the major factors that influence the reduction of plant diversity in the sanctuary. In spite of immense biotic pressure, the vegetation of Laokhowa Wildlife Sanctuary has a wide range of floristic diversity and has considerable utilitarian value. A study of the vegetation revealed that due to lack of awareness and improper exploitation, much of the forest resources are destroyed every year. Besides providing shelter and food for wildlife, the vegetation also includes some economically important

Table 1: Potential plant wealth of the Laokhowa Wildlife Sanctuary, Nagaon, Assam.

Name of plants	1	2	3	4	5	6	7	8	9	10
<i>Abelmoschus moschatus</i>	-	-	+	-	-	-	-	-	-	-
<i>Albizia procera</i>	+	-	-	-	-	-	-	+	-	+
<i>Alstonia scholaris</i>	-	-	-	-	-	-	-	-	-	+
<i>Argemone mexicana</i>	-	-	-	-	+	-	-	-	-	-
<i>Boehmeria macrophylla</i>	-	-	+	-	-	-	-	-	-	-
<i>Bombax ceiba</i>	+	-	+	+	-	-	-	-	-	-
<i>Canna indica</i>	-	+	-	-	-	-	-	-	-	-
<i>Cassia fistula</i>	-	-	-	+	-	-	-	+	-	-
<i>Cordia dichotoma</i>	-	-	-	+	-	-	-	-	-	-
<i>Dalbergia sissoo</i>	+	-	-	-	-	-	-	-	-	+
<i>Ficus racemosa</i>	-	-	-	+	-	+	-	+	-	-
<i>Gmelina arboea</i>	+	-	-	-	-	-	-	+	-	+
<i>Gossypium arboreum</i>	-	-	+	-	+	-	-	-	-	-
<i>Jatropha curcas</i>	-	-	-	-	+	-	-	-	-	-
<i>Imperata cylindrica</i>	-	-	-	-	-	-	-	-	+	-
<i>Lagerstroemia parviflora</i>	+	-	-	-	-	-	-	+	-	+
<i>Lagerstroemia reginae</i>	+	-	-	-	-	-	-	-	-	+
<i>Liisea monopetala</i>	+	-	-	-	+	-	+	-	-	+
<i>Mallotus philippensis</i>	-	+	-	-	+	-	-	-	-	-
<i>Moringa oleifera</i>	-	-	-	-	+	-	-	-	-	-
<i>Phragmites karka</i>	-	-	-	-	-	+	-	-	-	-
<i>Phyllanthus emblica</i>	-	+	-	-	-	-	-	-	-	-
<i>Pongamia pinnata</i>	-	-	-	-	+	-	-	-	-	-
<i>Ricinus communis</i>	-	-	-	-	+	-	+	-	-	-
<i>Saccharum spontaneum</i>	-	-	-	-	-	-	-	-	+	-
<i>Sida rhombifolia</i>	-	-	+	-	-	-	-	-	-	-
<i>Spondias pinnata</i>	-	-	-	+	-	-	-	-	-	-
<i>Streblus asper</i>	+	-	-	-	-	+	-	-	-	+
<i>Tectona grandis</i>	+	-	-	-	-	-	-	-	-	+
<i>Terminalia arjuna</i>	+	-	-	+	-	-	-	+	-	+
<i>Terminalia chebula</i>	+	-	-	-	-	-	-	+	-	+
<i>Tetrameles nudiflora</i>	+	-	-	-	-	-	-	-	-	-
<i>Toona ciliata</i>	+	+	-	-	-	-	-	+	-	+
<i>Trema orientalis</i>	-	-	-	-	-	+	-	-	-	-
<i>Triumfeta rhomboidea</i>	-	-	+	-	-	-	-	-	-	-
<i>Vetiveria zizanioides</i>	-	-	-	-	+	-	-	-	+	-

'+' stands for present and '-' stands for absent. (1 = Agricultural implements/weaving implements, 2 = Dye yielding, 3 = Fiber yielding, 4 = Gum and resin yielding, 5 = Oil yielding, 6 = Paper & Pulp industry 7 = Silk industry 8 =Tannin, 9 = Thatching, 10 = Timber)

plant species. The management authorities of Laokhowa Wildlife Sanctuary should give attention for conservation of the plant resources in general and economically important plant species in particular. The present study is expected to provide useful information about the plant resources of the sanctuary.

ACKNOWLEDGEMENT

The authors are thankful to Chief Conservator of Forest, Assam and Ranger of Laokhowa Wildlife Sanctuary for their kind permission to undertake the present research work. Thanks are also due to authorities of B. S. I., Shillong for providing access to the herbarium facilities.

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