

PREFACE

The entire Terai – Duars belt is a part of the *Eastern Himalaya* which is renowned for its diverse and rich biological resources. This zone is regarded as one of the most resource rich centres of Bengal and its diverse habitats are ideal home for a large number of flora, fauna and microbes. Before the establishment of human settlement almost the entire tract was wrapped with dense forests. But rapid development of hilly Darjeeling town after the historical visit of Capt. Lloyd and Mr. Grant in 1827, introduction of Tea cultivation in Terai and Duars region and its rapid expansion started eliminating the dense vegetation. Not only that the Dhupi [*Cryptomeria japonica* (Thunb. ex L.f.) D. Don] plantation in Darjeeling for supplying wood for tea packing boxes, indirectly affected the vegetation of Terai.

A large number of tribal people from different region were brought to the Terai – Duars region to supply with the Tea worker and labours in other developmental activities. Population of this region started increasing in a very high rate, dense and virgin forests were cleared for housing and farming land, building materials and fuel woods. In one side pressure from rapidly growing population and their needs and on the other hand construction of roads, rails and expansion of tea gardens began to fragment the vegetation and posed threats to the phytodiversity of the area.

With the rapid decline of forest cover in Terai and Duars region, mainly with Governmental initiatives, plantations of some selected species have been raised over wide areas in different times. Majority of these plantations were monocultural or with few species only. Most of the species used for plantation are commercially viable, tree in habit, many exotics, and form dense and continuous canopy within three to five years. None of these features, in fact, is in favour of the reclamation of natural vegetation and thereby do not support the conservation activities.

Thus along with the multiple factors posing threats simultaneously to this unique vegetation and forests of this area, different types of plantations of both native and non-native species, and mono-cultural or mixed, supposed to have some effects on phyto-diversity and environments of Terai-Duars region. One the other hand in question of influence of plantation in biodiversity, the whole universe is segregated into two groups – one in favour of plantation and the other against it. Plantations are being addressed as “Biological Dessert” and some large environmental organizations are running an anti-plantation campaign, like the Rainforest Action Network and Greenpeace.

At the same times there is no any of the systematic study to understand the effects and/or performances of such artificial vegetation, apart from the economic gains and floristic aspects. So the present study provided considerable bulk of data on plantations and natural vegetations of Terai-Duars belt, their comparative accounts and the actual impacts of plantation forests on the natural vegetation and the phyto-diversity as well as its role in conservation of biodiversity of the study area.