ABSTRACT

Forests are the most diverse ecosystems of the world providing several important resources and functions. There is, however, a serious concern over human impact on forest health and the natural processes of forest growth and regeneration. According to an estimate, the world has lost about half of its forest cover and just one-fifth of the original forest remains unexploited. Studies in the past have tried to find out *inter alia* the determinants of forest cover change, focusing primarily on the cross-country or country-specific issues. There are spatial differences in quality and magnitude of forests. The determining factors also vary spatially and temporally. The present study, thus, analyses the dynamics of forest cover in a regional context taking the case of Orissa, a major forested state of the country. The broad objectives of the study are to determine the forest sustainability across the districts of Orissa and find out underlying factors responsible for the forest cover change. The study, by applying 'Driving force-State-Response' framework, develops a composite index of forest sustainability and identifies 13 districts of Orissa which are less sustainable. Following panel data model, it identifies GDP per capita, industrialization, population density, poverty, forest roads and cropping intensity as underlying factors causing forest cover change across total and open forests, and former three for dense forests. It proves the 'Environmental Kuznets Curve' relationship between GDP per capita and forest cover, indicating thereby that beyond a threshold level of income, rise in GDP per capita causes forest cover to grow. It proposes that the key to the improvement in forest cover lies in rising income per capita, forest-friendly industrialization, reduction in poverty, selective expansion of forest roads, arresting population growth, and proper regulatory, incentive and disincentive structures to arrest unabated expansion of agricultural land, logging, mining, industrialization etc.

Keywords: Dense forest, environmental Kuznets curve, forest sustainability index, forest cover change, open forest