

## **Impact of Landslide and Flood on Riparian Forests In The Vazhachal Forest Division, Western Ghats**

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Forests are considered as the highest productive ecosystem in which Riparian forests with unique vegetation types have special role in the maintenance of biodiversity. Seasonal flooding is normal in Riparian ecosystems which helps to improve productivity and heterogeneity of riparian flora. The abnormal rainfall and subsequent flood happened in Kerala had a severe impact on Riparian forests as well as other forest ecosystems with landslide and severe erosion. Area of the study is Vazhachal Forest Division within the Anamalai Landscape unit of Kerala part of Southern Western Ghats. Unique forest types such as riparian forests, vayals, high elevation grasslands are also seen in Vazhachal division adding its conservation value. Hence analyzing the impact of Flood and Landslide on Riparian forests and other Ecosystems of Vazhachal division is more important to measure the loss of vegetation and application of Eco-restoration plans in a proper manner.

Forest land area were gridded into 35 grids for systematic sampling and long term monitoring. These heterogenic units were sampled for trees, saplings and seedling density. By using Map info and QGIS Software, the GPS locations of the landslide were marked. Based on the dimension, each landslide categorized into different types. Measured the area of landslide and deducted from existing vegetation types of Vazhachal division. The results indicated that after flood 70 % of islands of Chalakudy river lose its vegetation, Out of 43 sites, 24 locations of the left and right banks of river eroded. 270.6821 Ha Existing vegetation lose.

The study has led to conclusion that Flood 2018 of Kerala has a severe effect on vegetation of Riparian forests of Chalakudy.

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