

# THE IMPACT OF SMALL-SCALE DISTURBANCES ON COMPOSITION AND DISTRIBUTION PATTERN OF NON-NATIVE PLANT SPECIES AND THEIR RISK ASSESSMENT ALONG THE FOREST'S ROADSIDE AND INTERIOR

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The invasion and spread of non-native species pose significant threat to the ecological balance and structural stability of natural ecosystems, and this study aims to provide a comprehensive understanding of the spatial distribution and richness of both native and non-native plant species in a tropical forest of Nameri National Park, India. A vegetation assessment using quadrat sampling was conducted with a focus on forest roads and the adjacent forest of the park. Further, the study also identified potential non-native invasive plant species for the park using invasion indices and risk assessment parameters. Overall, a total of 135 plant species were recorded during the survey, comprising 103 native species (50% herb, 13% shrub and 37% tree) and 32 non-native species (75% herb, and 25% shrub). Of the total non-native species, 93% were recorded on human trails, and 43% in adjacent forests. Notably, a decrease in the number of non-native species was observed as one moved deeper into the forest. This fluctuation in the occurrence of non-native plant species suggests that the dispersion of non-native propagules along roads significantly influences the forest landscape. Additionally, the study identified seven non-native species (22%) posing a high invasion risk. These species, with high and medium-level risk classifications, should be the primary focus of invasion prevention and control efforts. Priority should be given to controlling the spread of non-native species within the protected area, ensuring the preservation of the ecological integrity of Nameri National Park.

**Key words:** forest road, invasion indices, invasion risk, Nameri National Park, native and non-native plant species, tropical forest.

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