



Geo-Statistical Analysis to Understand Nature of Forest Patch Shape Complexity in Panchet Forest Division under Bankura District, West Bengal

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Abstract: Habitat quality depends on both functional and structural pattern of landscape. Structural pattern of the habitat address fragmentation, complexity, configuration etc. Therefore, nature of forest habitat shape complexity becomes a new subject matter in biodiversity management. The present study also addresses this issue considered 36 forest patches in Panchet Forest Division under Bankura district for shape quality assessment. Landscape ecological indices like Shape Index, Fractal Dimension, and Perimeter Area Ratio are calculated using ArcGIS 10.1 and FragState 4.2 version software. From these indices, it is found that the larger forest patches are more structurally fragmented and also more complex than small patches. Not only that study also compared these indices values with a standard shape i.e. circle by regression method. The comparative results present that the larger forest patches are significantly more complex from standard shape than small patches in Panchet Forest Division.

Keywords: Biodiversity, Corridor, Fragmentation, Habitat, Landscape ecology, Species migration
