

## Floral Diversity in “Wew Thavulla” of Ancient Tanks of Intermediate Zone in Panduwasnuwara

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### Abstract

An ancient reservoir known as ‘Vapi’ or a lake or a tank is a magnificent piece of technology in the ancient hydraulic system of Sri Lanka. As mentioned in the literature, except the agriculture and the drinking water purpose, the ecosystem services, such as micro climates of thermal resisting and natural habitats, supplied by the tank is priceless. “Wew Thavulla” referring to the territory of the tank plays a major role in defining the ecosystem there. The objective of the study is to investigate the recent floral diversity with the invasive plant species at “Wew Thavulla” in ancient tanks at Panduwasnuwara Divisional Secretariat Division. The quadrilateral sampling method was used to count the plant species in a 10 m x 10 m area of randomly selected 30 ancient tanks out of 152 in the study area. All the identifiable plants in the quadrant were counted and later categorized as woody plants, shrubs, vines, invasive plants and floor layer plants. As per the results, all the plants species recorded was 38 with a count of 6 of invasive species. The percentage calculations of the species diversity at “Wew Thavulla” shows that the ecosystem is composed of 39% of woody plant species, 24% of shrub species, 13% of vine species, 13% of invasive plant species and 11% of floor layer plants species. The Shannon diversity index and Simpson’s index show the values of 3.2 and 0.9 respectively indicating high plant diversity. As per the calculation of species distribution nearly a quarter (26%) of plant community consist of invasive species such as Creeping Ox-Eye (*Sphagneticola trilobata*), Diya para (*Dillenia triquetra*), Gandapana (*Lantana camara*), Guinea grass (*Megathyrsus maximum*), Hambu Pan (*Typha angustifolia*) and Ipil (*Leucaena leucocephala*). This indicates a potential degradation of “Wew Thawulla” ecosystem resulted from environmental degradation possibly caused by human activities.

**Keywords:** Panduwasnuwara, Floral diversity, Wew Thawulla, Ecosystem, Invasive species

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