

VILLU IN MAHAWELI FLOODPLAINS- OASIS OF DRY ZONE FORESTS

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Sri Lanka is an island which is endowed with numerous ecosystems from montane forests in mountains to large dry zone forests in the lowlands, and beyond. The island is nourished with 103 rivers running across the country from the central hills to the ocean. Out of these, the river 'Mahaweli' which rises at mount 'Samanala' and reaches the Bay of Bengal, forms the largest river basin in Sri Lanka, covering almost one fifth of the island. When the northeast monsoon brings rain to northern and eastern slopes of the hill country, the River Mahaweli reaches its maximum water levels and floods over to cover the dry zone forests in downstream of the north central province, creating the most beautiful wetland ecosystems of the island- 'Villus' in the Mahaweli flood plains. Besides the man-made tanks in the dry zone, 'villus' are the only natural inland water bodies found in Sri Lanka that provide food, water, fiber, medicine, in addition to aesthetic, spiritual and recreational values, that support livelihoods of locals. Villus are marshy areas which occur in association with the riverine floodplain, occupying the natural river levees. Each villu consists of a pool which is more or less filled with water throughout the year and marginal floodplain which is inundated only during the floods. These pools are saucer shaped depressions and in other parts of the world, they are called "ox-bow lakes". Most of the villus directly connects with Mahaweli or its tributaries via small channels. When the water levels of the river increase, the villus are fed with water and during periods of low river flow, water drains back to the river through these channels. There are more than 38 villus identified downstream of Mahaweli River and they occupy a total area of 12,800 hectares. Some of the smaller villus become dry periodically while larger ones retain water throughout the year. The dynamic nature of the villus causes them to be unique wetland ecosystems which add glamour to the scenic beauty of the dry zone of Sri Lanka, while providing favorable feeding and breeding grounds for many wild life species.

The distribution of vegetation in villus shows an exclusive characteristic pattern whereby plants grow in three distinct zones. At the outer margin, essential terrestrial grasses, herbs and shrubs like *Sida sp.*, *Urena sinuata*, *Abutilon pannosum*, *Cymbopogon nardus* and *Ziziphus oenoplia* can be found. Gradually they are replaced by water loving grass and herb species like *Cynodon dactylon*, *Ludwigia sp.* *Schoenoplectus grossus* and *Ipomoea aquatica*. At the innermost zone true aquatic plants like *Eichhornia crassipes*, *Hydrilla sp.*, *Nymphoides hydrophylla* are found. In the mid zone large trees of *Terminalia arjuna* and *Barringtonia acutangila* stand in the moisture rich ground, giving



A beautiful morning view of Handapan villu



A villager extracting cane from a shrub of *Calamus sp.*

shade to the saplings and herbs and also facilitating the raptors to perch and hunt. The grasses in villus are important as food for the cattle, water buffalos and other wild herbivores. However in some of the villus that are impacted by the damming of river Mahaweli, the grasses are replaced by a weed species, *Xanthium strumarium*, because of the absence of prolonged flooding. This weed is not suitable for grazing for wild herbivores because of the many-hooked seed clusters. The local communities living in the bordering villages are immensely benefited by the vegetation growing in villus. Herbs like *Ipomoea aquatica*, *Alternanthera sessilis* and *Cardiospermum halicacabum* add minerals and vitamins to the diet of the locals while medicinal herbs like *Aerva lanata*, *Rhinacanthus nasutus*, *Hemidesmus indicus* cure their illnesses. Extracting cane from *Calamus sp.* which is abundant in marginal vegetation of villus, is a common profession among the villages in Pollonnaruwa district. Village women

make baskets, mats etc. using the leaves of *Schoenoplectus grossus* (Thunhiriya) which is another common plant species in villus.

Birds are the voice of silent villus that gives life to the quiet waters. The calls of cranes, stalks and water hens gathered in the pools of villus indicate the availability of food for the water birds as well as for the birds of prey. The migratory season is a festive time in villus where a large number of migrant birds stop by to feed, breed and to rest. Large flocks of painted stalks that assemble in villus create a spectacular view and the colourful purple swamp hens and pheasant-tailed jacanas that walk on floating plants searching for food, make the picture lavish. The common migrants recorded in villus include *Anas querquedula*, *Pluvialis dominica fulva*, *Charadrius dubuis*, *Limosa limosa*. Birds of prey often sighted in villus are *Pandion haliaetus*, *Haliastur Indus*, *Spilornis cheela* and *Ichthyophaga ichthyaetus*. Not only for birds but also for many freshwater fishes of the Mahaweli river basin, villus are ideal habitats rich with food and breeding grounds. The fishes in mahaweli villus include the endemics such as *Channa orientalis*, *Pethia cumingii* and *Belontia signata*. Number of villus support full time fishing activities of the locals who totally depend on inland fisheries.

At present, as any other ecosystem in the world, villus are also at threat due to the anthropogenic activities. As a result of damming of the river Mahaweli, there has been no prolonged flooding in recent years. This has caused a serious impact on some of the villus, as the prolonged floods are the main source of water for the villus. Replacement of water loving vegetation with terrestrial species like *Bauhinia racemosa* can be observed in villus, indicating the lower ground water availability in the floodplains. The continuous dry conditions in villus may change the unique characteristics of the ecosystem and that may even lead to extinction of some villu associated flora and fauna in future. Therefore the right time has come to draw our attention to protect and conserve this unique ecosystem which serves both human and wildlife equally.

Note: This article was written based on my personal observations during my field visits to Villus in Floodplains National Park.

References:

Wetland conservation project, Central Environmental Authority of Sri Lanka (1995). *Wetland site report*. Handapan and Bendiya villus, Ministry of transport, environment and women's affairs.