

The TCS has several components and each of them provides a specific function to ensure a supply of good quality water throughout the year. Several components can be identified in a cascade system. Those are, tank bund and tank bed, connected irrigation channels and paddy fields, protected forest in the catchment and rainfed uplands, and high elevation household area.

Several components of the tank bund and tank bed support the sustainability of the tank cascade system. These components include sorowwa or bisokotuwa (sluice gate), which is used to release and regulate water supply to paddy fields, Ralapanawa is stone liners on the embankments which help to reduce erosion caused by water waves and Pita wana (spills), which is used to avoid any damages to the tank bund during heavy rains. Some tanks of the tank cascade system serve other purposes than the storage of water. Two small tanks namely, the kulu wewa (sieve or filter) and Godawala, are small silt trapping tanks located inside the catchment forest. Further, Kulu wewa supply water for forest vegetation and wildlife.

A grass cover, known as Perahana is located along the upper flooding line of a tank

when it is full. Perahana serves as a barrier purifying runoff water flowing into the tank. Water in the tank is protected from evaporation by a tree belt called Gasgommana and it which acts as a wind barrier and minimizes the dry wind contact with the water surface. In addition, during high flood conditions, Gasgommana provides a habitat for diverse aquatic species. Iswetiya or potawetiya are earth bunds (ridges) constructed side slopes of the tank. It is known to serve as a barrier for entering eroded soil into the tank.

The Kattakaduwa or interceptor is the thick strip of vegetation located between the tank bund and the paddy fields. It is assumed that the interceptor could absorb salts and heavy metals entering along with the seepage water across the embankment. As a result, this area of the TCS is expected to be enriched with salts so that various salt tolerant plants are found in the Kattakaduwa. Also, the Yathuruwala minimizes the seepage losses from the tank by raising the downstream water table.

Kiul ela is a natural valley area and it is used to dispose of irrigation water drained out from the field and prevent salt accumulation in paddy fields. This avoids the development of salinity in paddy growing soils. Catchment



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