

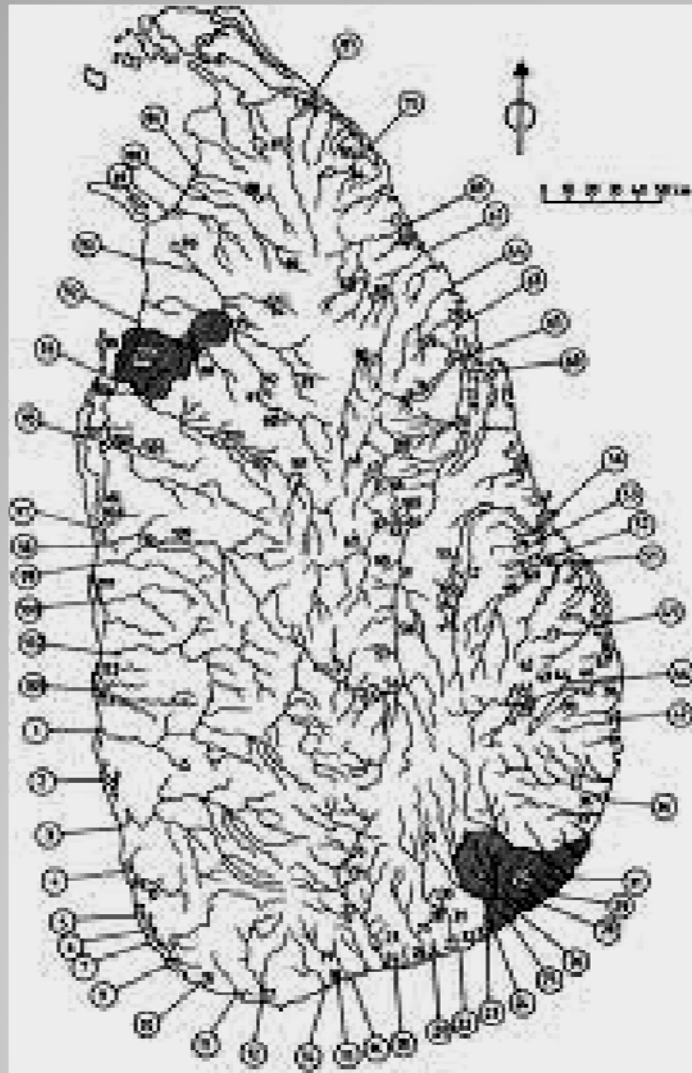


Success stories for conservation initiatives of water bodies of Sri Lanka

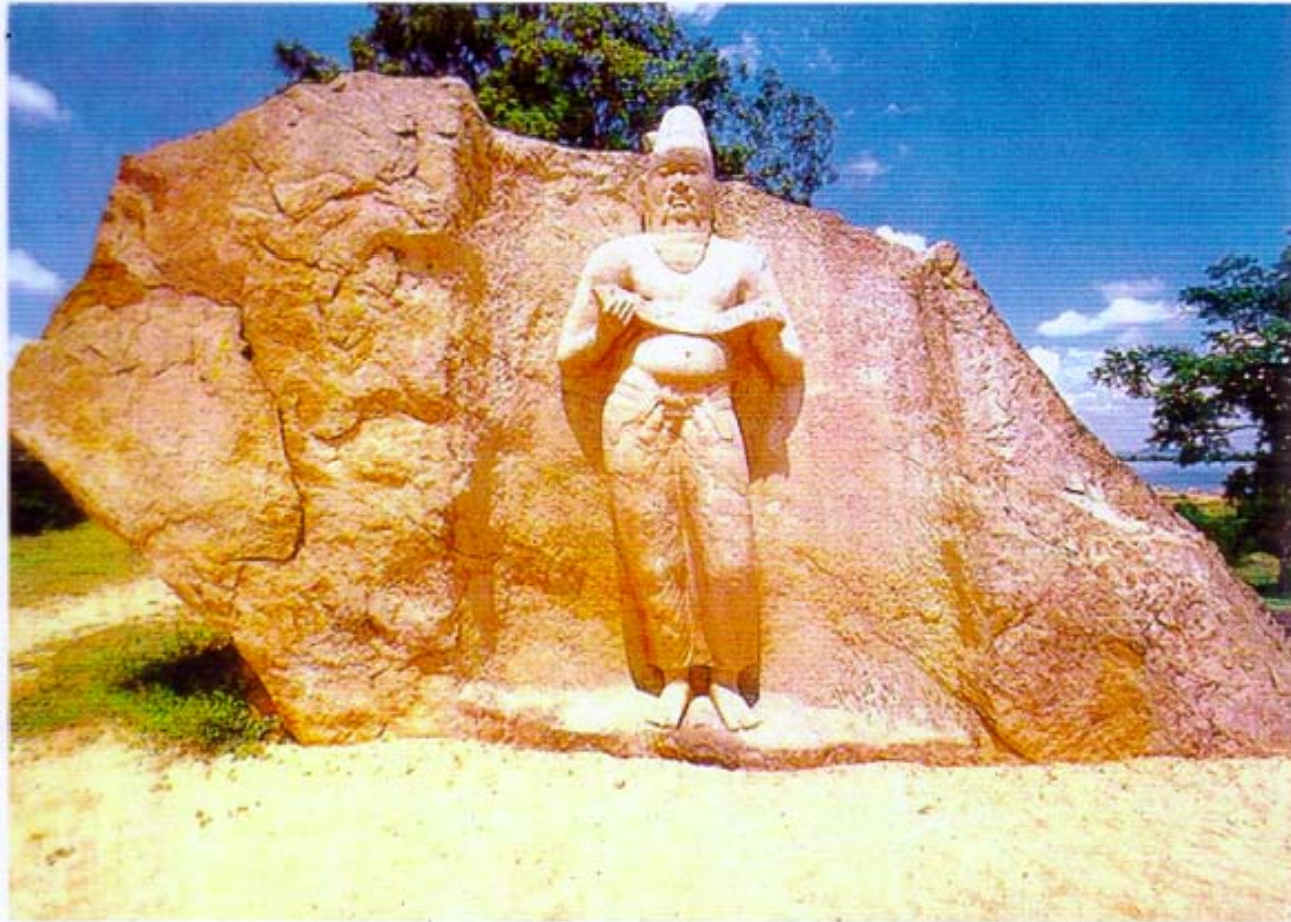


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Sri Lanka rich in water



‘Let not a single drop of water go waste into the sea without benefiting the world ’

– King Parakramabahu, 12th Century AD



- **Sri Lanka is covered with a network of thousands of manmade lakes and ponds, known locally as 'tanks'**
(after 'tanque', the Portuguese word for 'reservoir').
- **Some are truly massive; many are thousands of years old: and almost all show a high degree of sophistication in their construction and design**

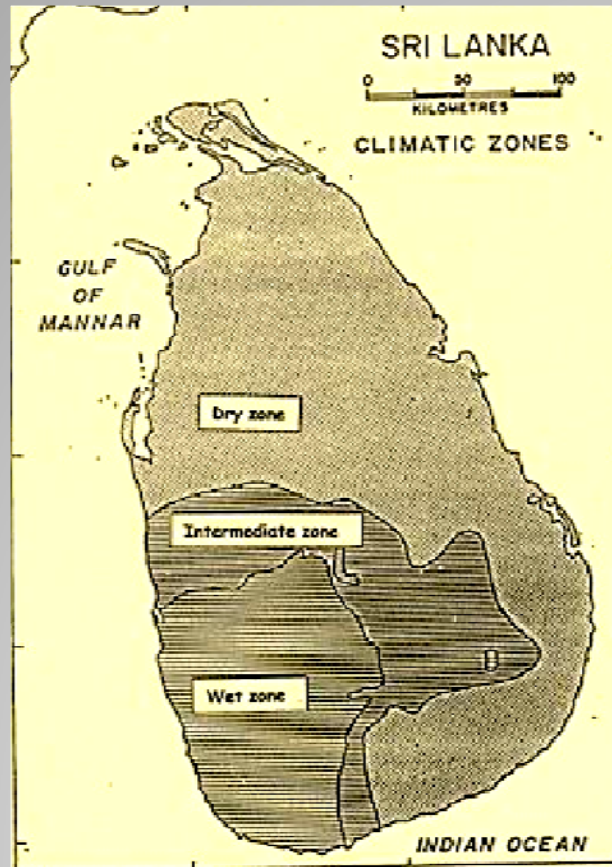
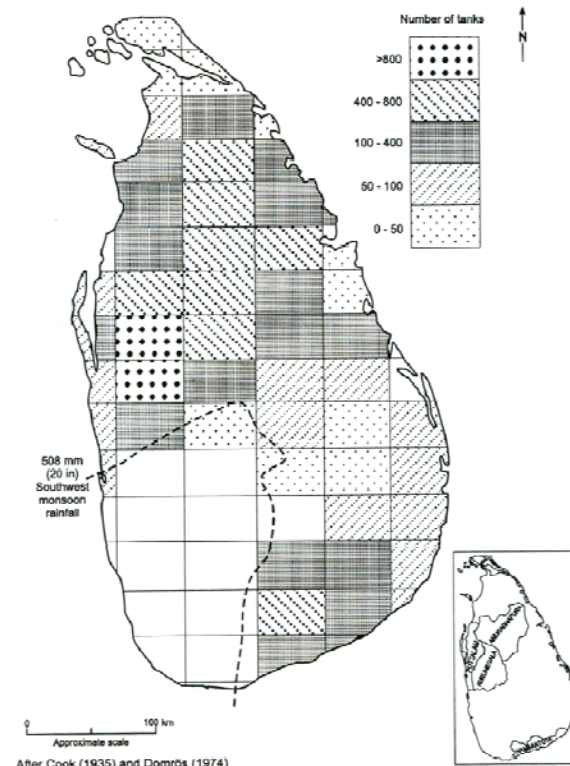


Figure 2. Islandwide distribution pattern of small tanks.



Tank distribution and rainfall

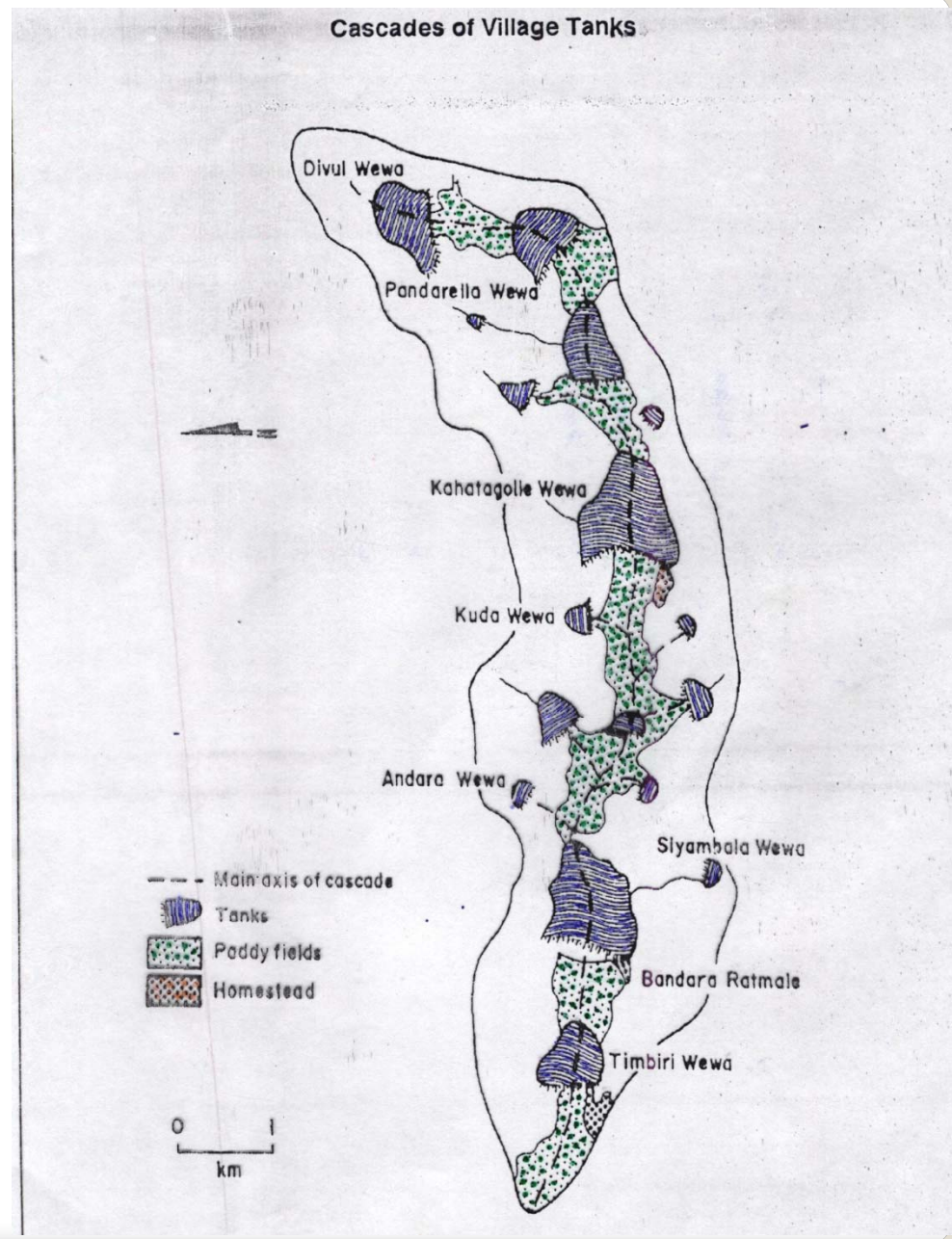


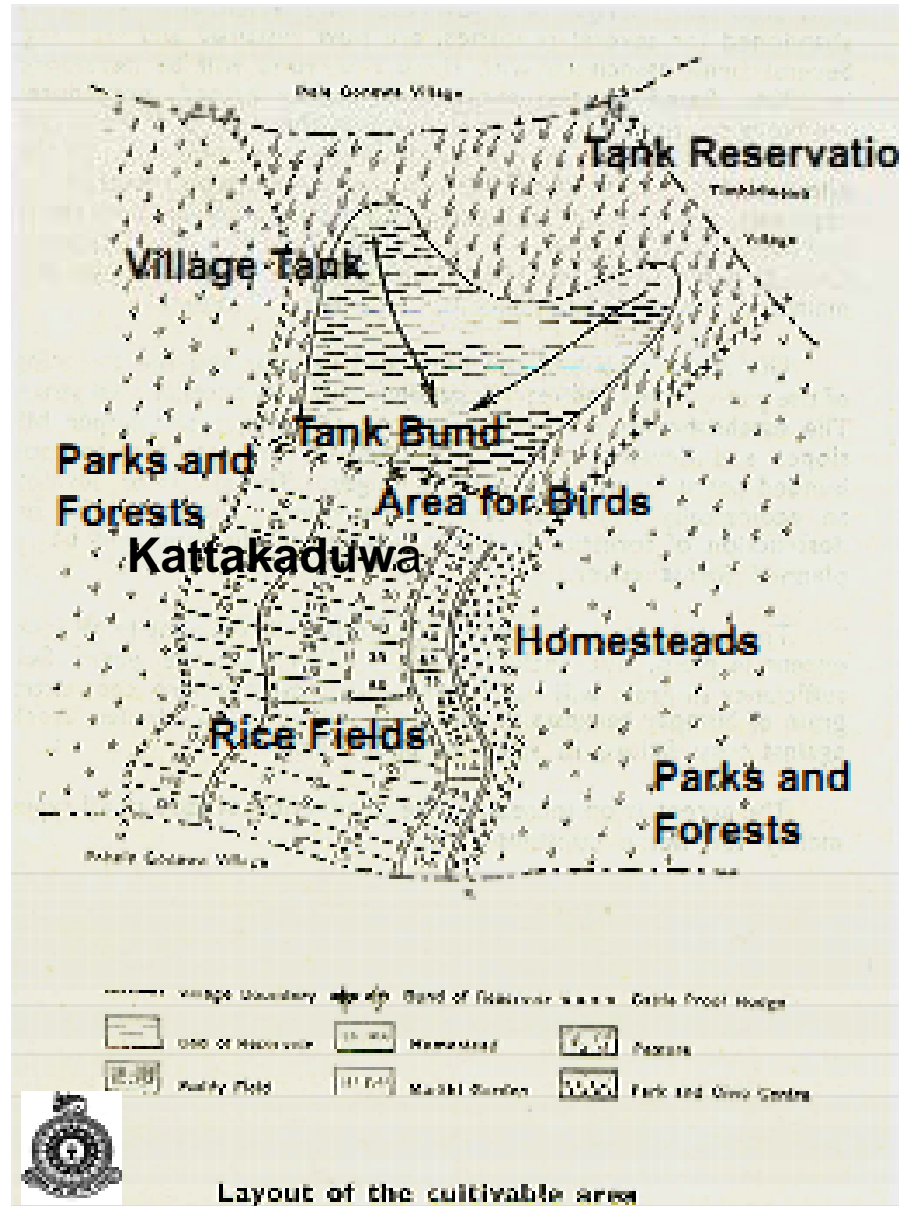
Landscape of the dry zone



“A ‘cascade’ is a connected series of tanks organized within a micro-(or meso-) catment of the dry zone landscape, storing, conveying and utilizing water”.

(Madduma Bandara 1985)





A closer view of a village tank in a cascade

bird damage area is another important component of man made agro-ecosystem types. This means a strip of cultivated rice land adjacent to a highland forest primarily dedicated to birds. This is a fine example that shows how the early people knew through experience the importance of biodiversity and how to harness it while conserving it



Different Types of Tanks

forest tank in the jungle above the village.

mountain tank, which was built to provide water for 'chena'

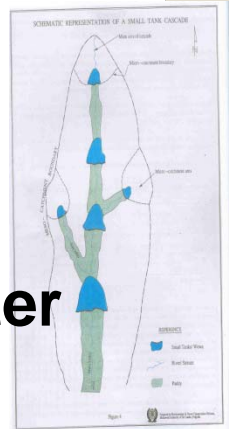
erosion control tank, which was so designed that any silt was deposited in it before entering the main water storage tanks.

storage tank, of which, traditionally, there were two - one being used whilst the other was being repaired.



The tank cascade systems connected within the variety of subsystems.

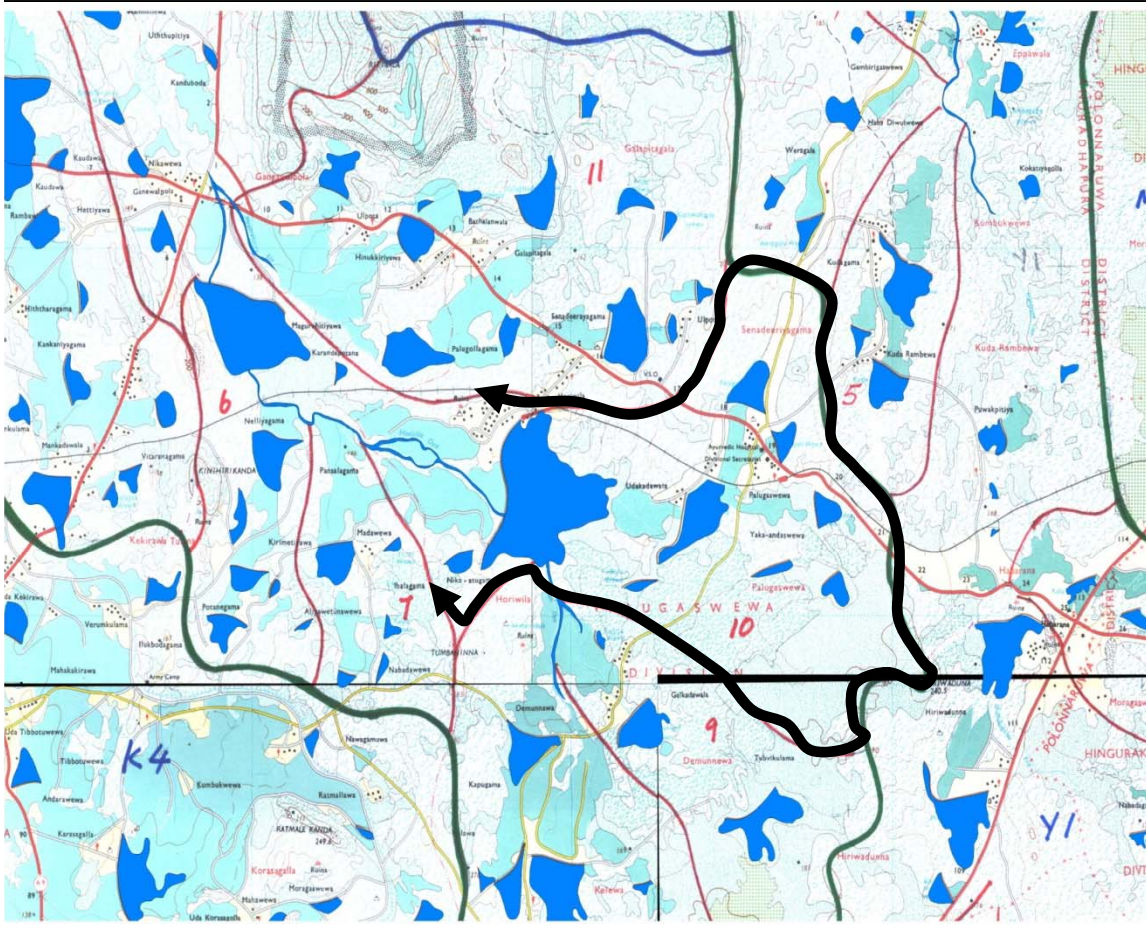
- 1. The ecological system with catchment forests, aquatic habitats, and parks/ gardens (commons)**
- 2. Elaborate water management systems including, sluices, spills, water control Wiers and rotational water distribution systems**
- 3. Agricultural systems combining, paddy lands, chena and home gardens and animal husbandry and governed by a traditional crop calendar and a fitting land use pattern**
- 4. Social systems with established institutions and leadership structures.**
- 5. Cultural and spiritual norms that respected life in its all forms that promoted simple living and avoidance of conflict**





Success story of water Management in SL

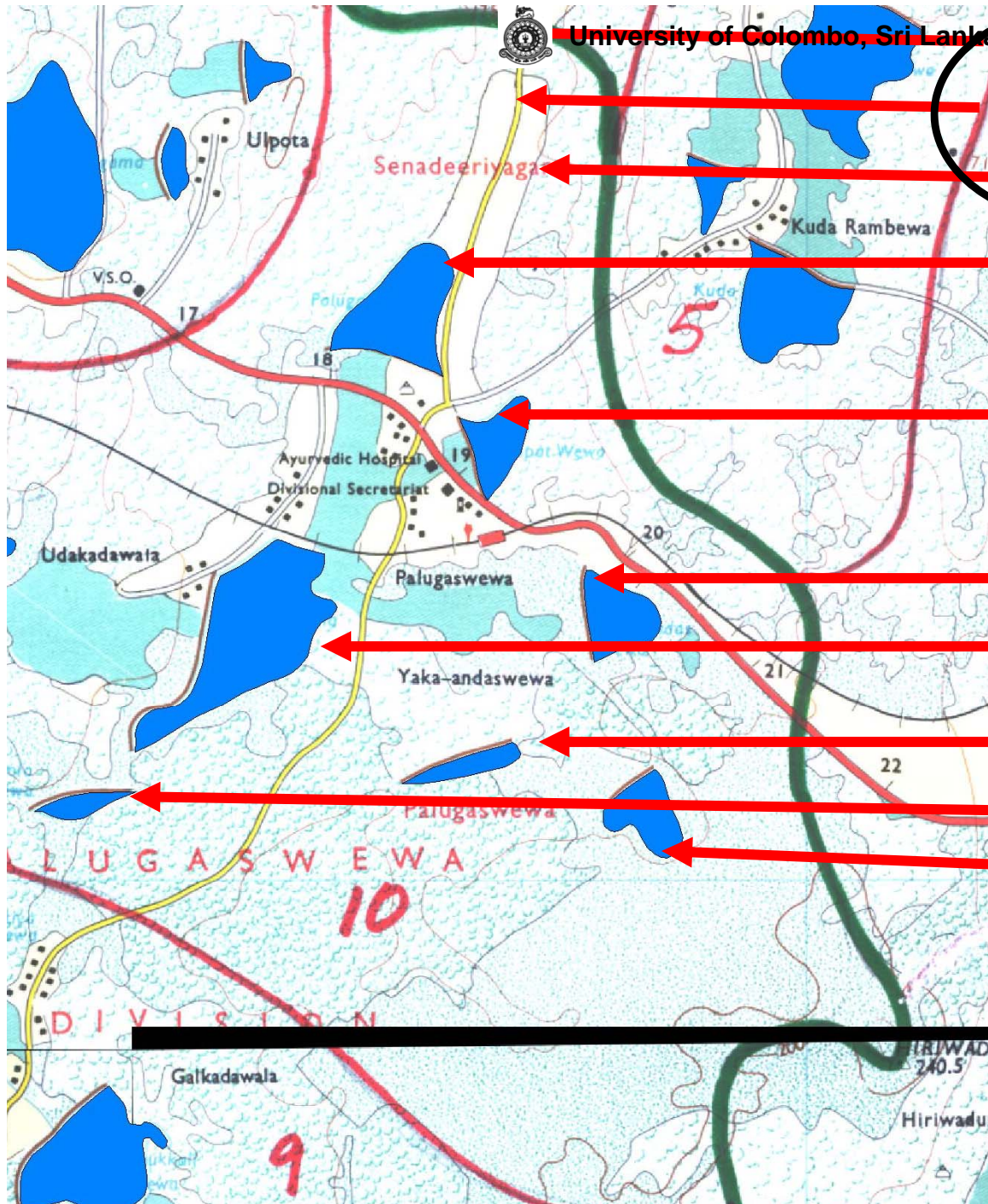
Horivila cascade and adjoining cascades



Cascade located in
Anuradhapura ,
Dry zone of SL



Its in upper catchment of the Malwathu oya (Ritigala and Habarana forest)



Tank ?

Tank ?

Tank ? ?

Palugas wewa

Talpat wewa

Yaka Andas wewa

Udakandarawala wewa

Ulpath wewa

Talkola wewa

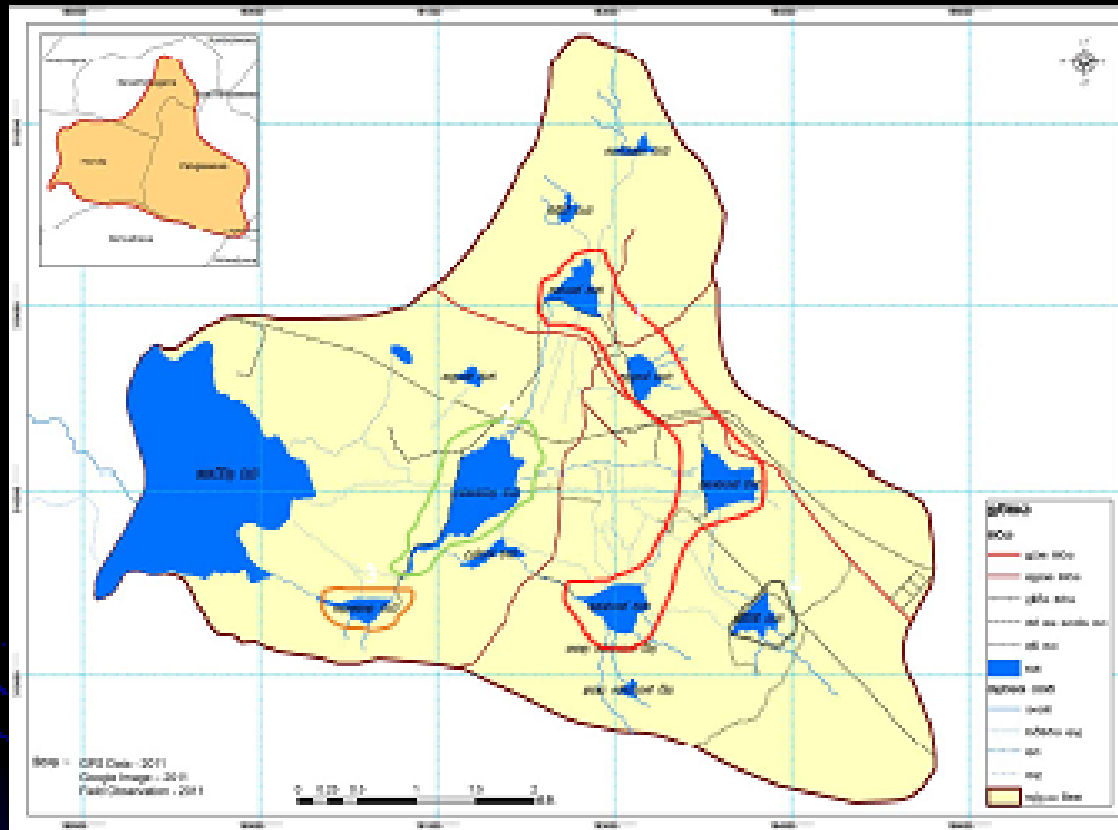
Kudalugas wewa

Pahala Borupanvila ?

Ihala Borupanvila ?

Devid wewa ?

Rain feed tank distribution and

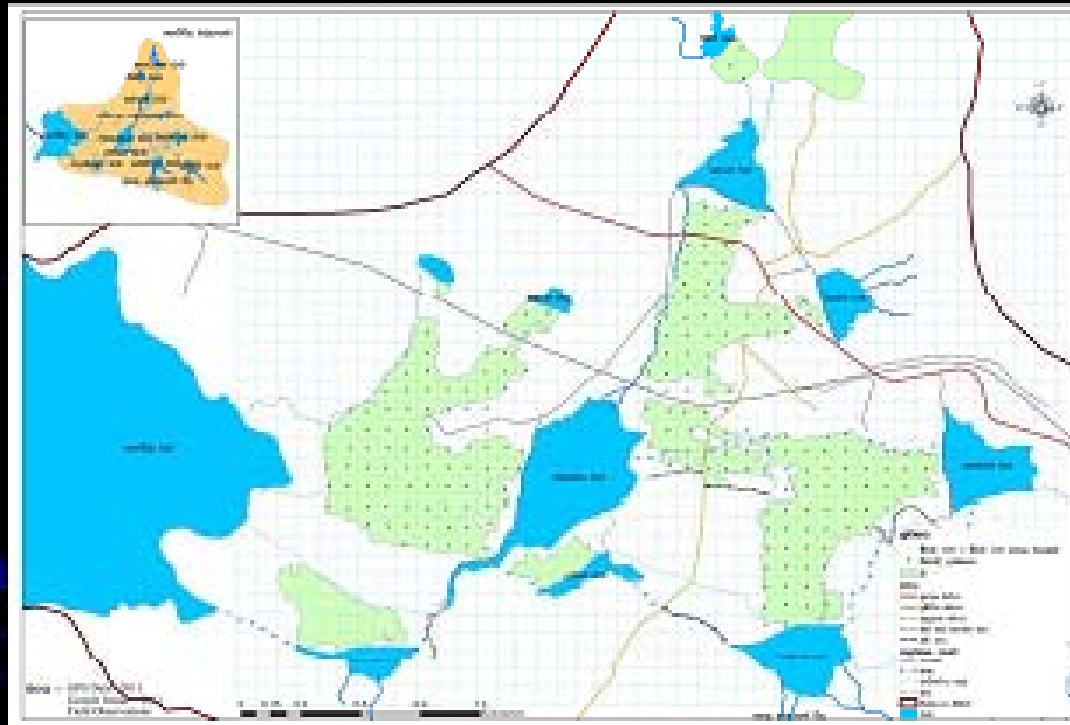


Field survey was conducted in Palugaswewa area in dry zone of Sri Lanka from June to December 2012 to study present water availability and agricultural practices with in the cascade system.





Distribution of the paddy lands of the area



The research study was revealed that farmers have started adopting some new farming strategies to cope with climate change scenarios



During the pre-colonial era, community owned minor irrigation systems were operated and managed by the community through the *Rajakariya System*. The responsibility rested with the chief of the village (*Gamarala*) and the *Gamsabhawa* – the Village Council.



An Answer to Drought Hazard?

On the basis of their form and appearance, the cascading systems would have operated as an ideal rainwater harvesting technology; a soil moisture and groundwater maintaining technology; a soil erosion and siltation control technology; a technology that ensured the maintenance of ecological balance; a technology that promoted social cohesion and need for community leadership; a system that accommodated spiritual development which promoted democratic attitudes

The Recycling Principle Behind the Tank Cascade Systems



Conclusion

Water, agricultural and ecological management practices within the tank cascade system have helped the rural communities to adapt with the impacts of climate change by transforming their life and farming patterns.

Current Relevance

- The health issues related to drinking water, eating tank-fish contaminated by agro-chemicals (e.g. Cadmium) received by tanks, including kidney failure and malaria would have to be monitored and remedied.



Special; Thanks to Agrarian Service Department- Sri Lanka



Thank you ?



Dr. Ranjana.U.K.Piyadasa

