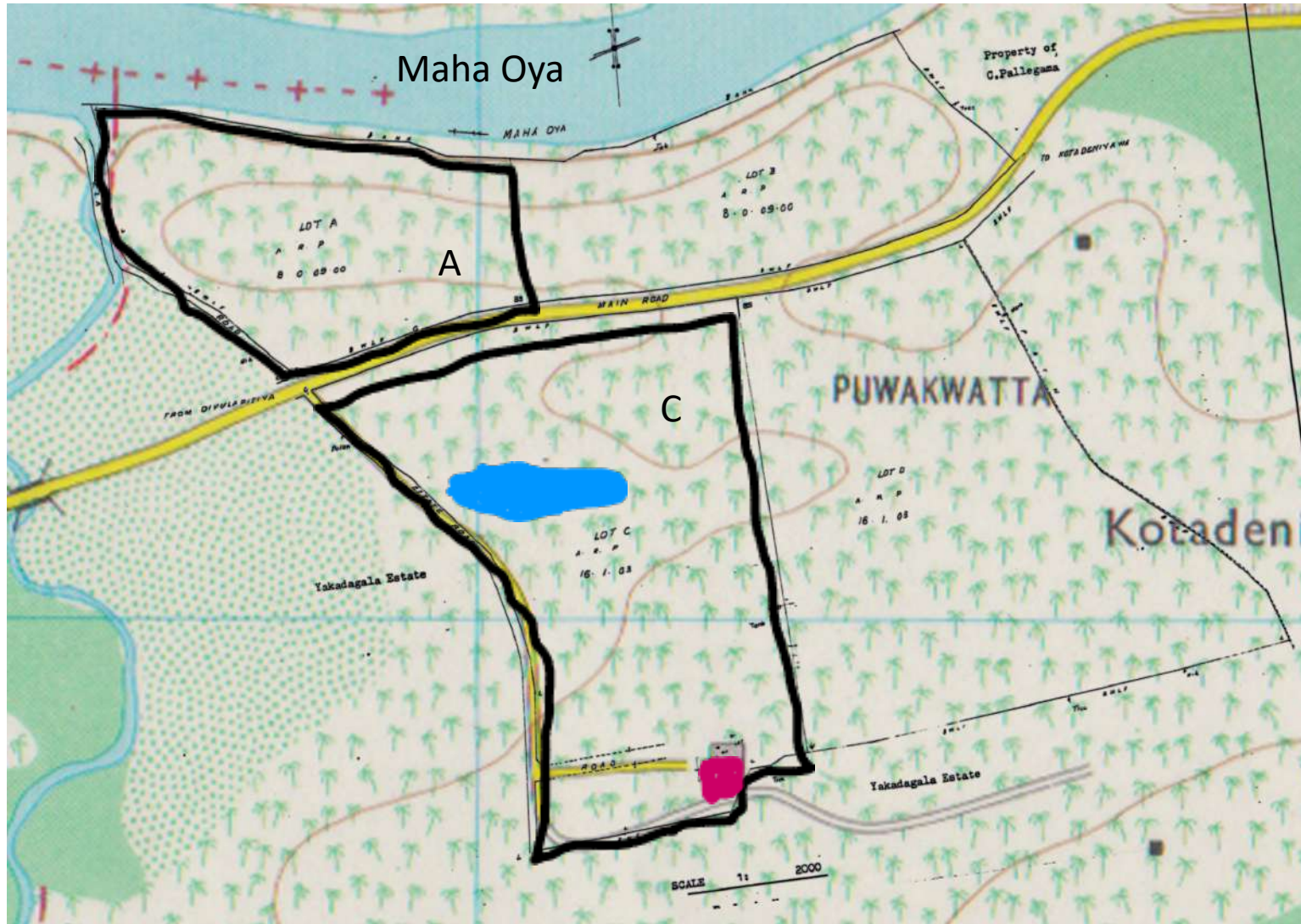


A dense, lush green forest with sunlight filtering through the canopy. The text is overlaid on the image.


Land rehabilitation for climate adaptation using  
the principles of *Mahasammāta*:  
All life is sacred and sacrosanct

The case of the Puwakwatte Coconut Estate, Kotadeniyawa, Sri Lanka

# Puwakwatte Coconut Estate, Kotadeniyawa

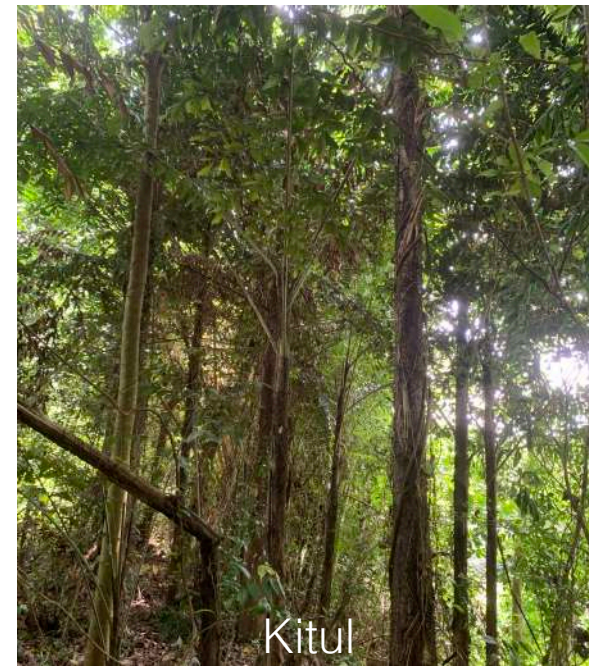


- In the family since 1832
- Wet agroecological zone (>2000m).
- Comprised of two land lots, A and C.
- Impacted by extreme climatic events.

Key	Lot boundary	Road	Buffalo wallow	House
				

# LOT A

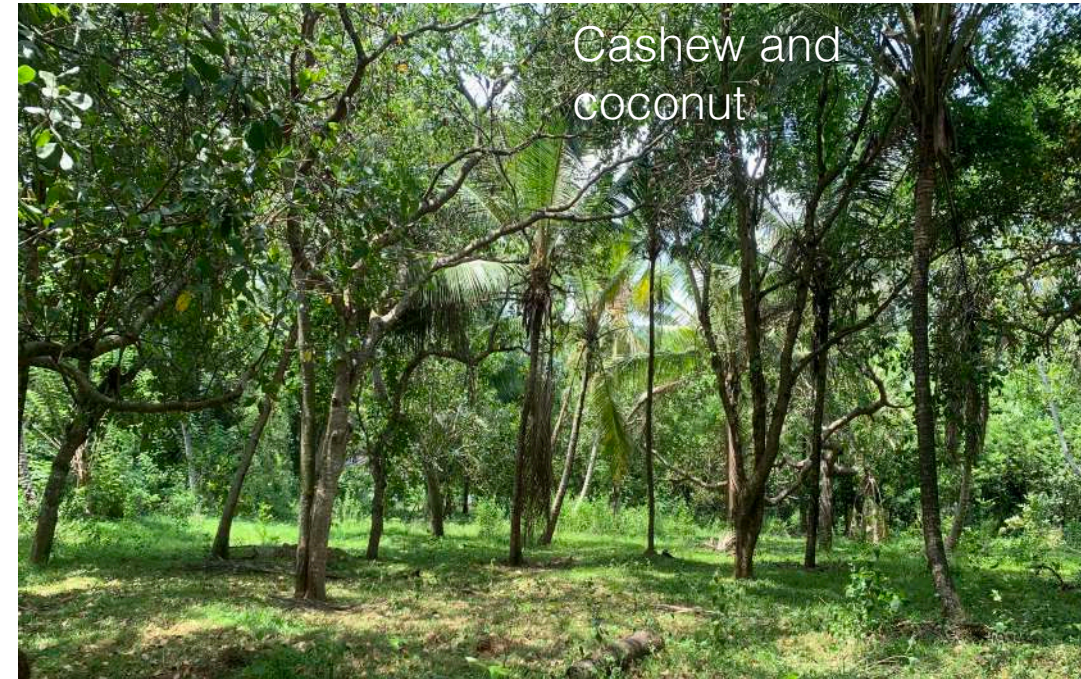
- Adjacent to *Maha Oya* (river).
- Previously under teak felled 10 years ago.
- Rehabilitation enriches plot with tree dominant vegetation.
- Analog forestry,\* principal tool.
- Kumbuk (*Terminalia arjuna*), kitul (*Caryota urens*), mee (*Madhuca longifolia*), and yellow bamboo (*Bambusa vulgaris*) planted in riparian zone.
- Many trees destroyed by floods.
- Natural regeneration increases ecological maturity and biodiversity gains.



\*<https://www.analogforestry.org/>

## LOT C

- Dominated by coconut.
- Low productivity with old trees and poor soil.
- Regenerative agriculture\* practiced: natural minerals enhance soil fertility, coconut mulch conserves soil moisture and soil biodiversity.
- Planted coconut, cashew, coffee, and mango.
- Pond stores water and is a wallow for buffaloes. Their dung fires a bio-digester. Wallow is also habitat for crocodiles!



\*[https://www.researchgate.net/publication/303541188\\_Handbook\\_of\\_Regenerative\\_Agriculture](https://www.researchgate.net/publication/303541188_Handbook_of_Regenerative_Agriculture)

# Outcomes over time



- Dense canopy in Lot A dominated by teak trees. Riparian zone intact, and *Maha Oya* water fairly turbid.
- Lot C patchy with large gaps in the canopy.
- Surrounding areas less disturbed.



- Reduced canopy closure in Lot A after teak trees were felled. Riparian zone less intact, with high turbidity of *Maha Oya* water.
- Canopy closure increased in Lot C with new plantings.

# Values, hopes and challenges

- Although multiple extreme flood events destroyed trees in Lot A, natural forest regeneration produces substantial photosynthetic biomass and sequesters above-ground carbon.
- Riparian restoration is, however, critical given ongoing massive soil erosion.
- Greater organic inputs in Lot C and consequent increases in soil carbon will enhance the productivity of newly planted marketable crops.
- Value addition to occur onsite since methane from bio digestion will be used to extract extra-virgin, organic coconut oil.
- Labour is a major issue, as government focus is on a services–based, globalized economy that undermines agriculture.
- Imperative to implement measures to mitigate impacts of Dabur’s groundwater extraction since water security is a serious concern.
- All these measures will make it easier to adapt to extreme climatic events.