

# **Ecosystem Services of Mangrove Forests**

A photograph of a mangrove forest. The trees are lush green and have complex, exposed root systems (prop roots) that extend into a body of water. The water is a dark, greenish-brown color. The sky is a clear, pale blue.

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# What are Mangroves?

- A plant community that has adapted to live in the inter tidal zone in the coastal zone.
- Mangroves have special adaptations against the hard environmental conditions.
- One of the most highly productive ecosystem



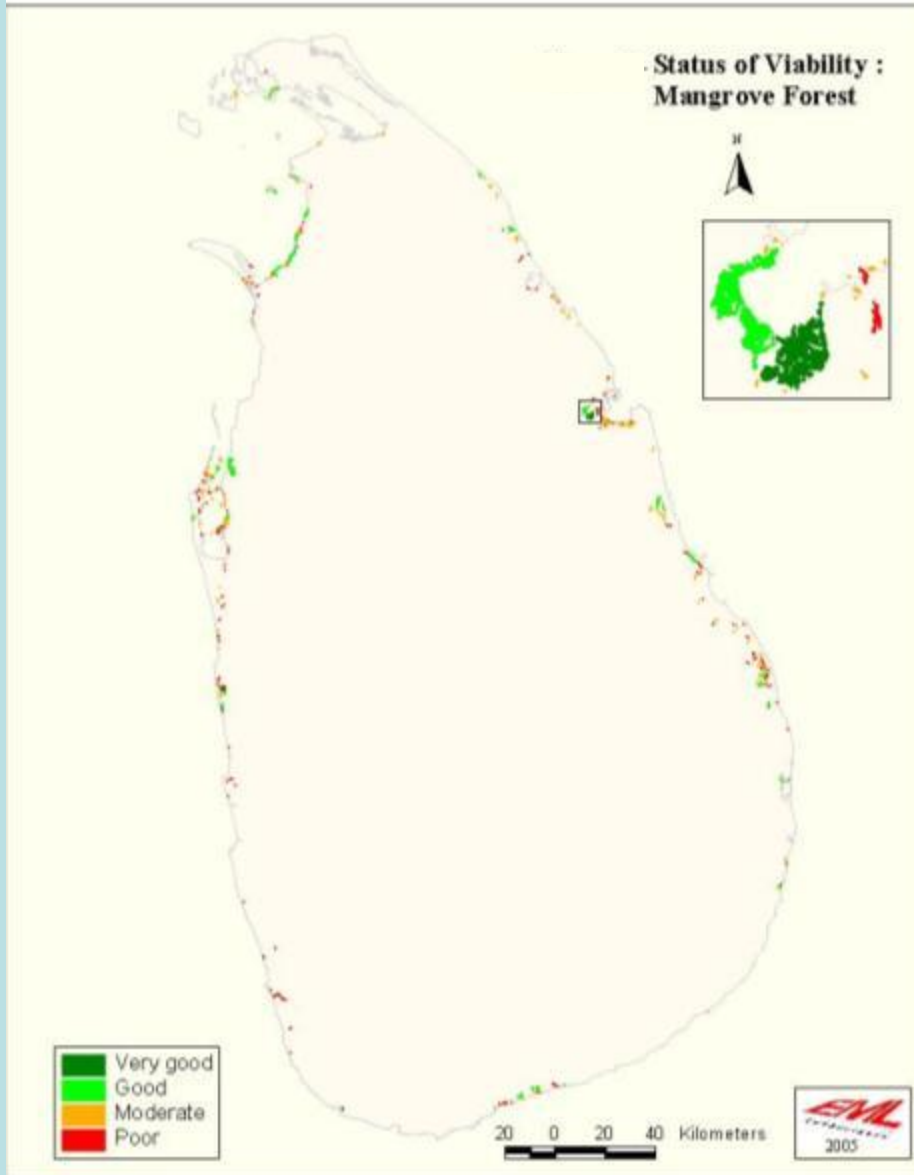
# Where can they be found ?

- Along the shoreline of river estuaries and lagoons.
- Kala Oya estuary, Batticaloa lagoon, Puttalam lagoon harbors rich mangrove community.





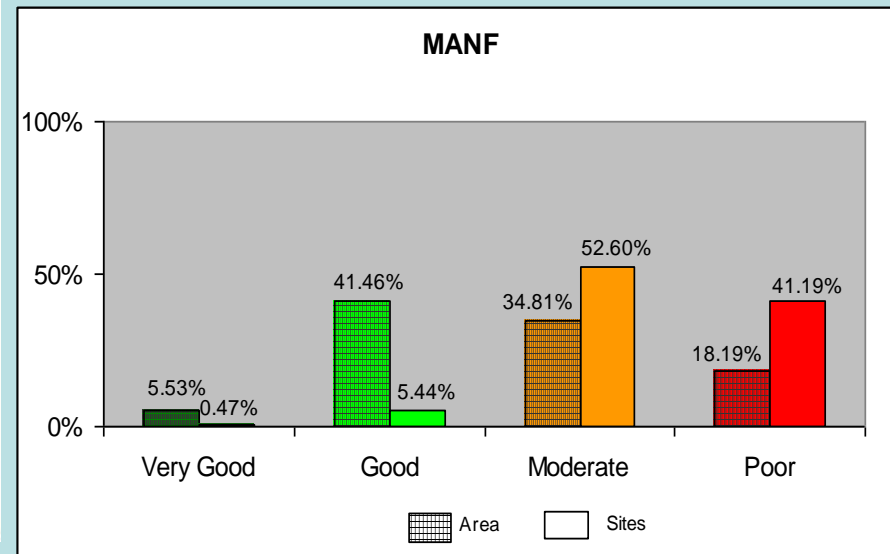
# Mangrove Forests of Sri Lanka



Gap analysis of Sri Lanka Jayasuriya et al. 2006

Total mangrove cover  
12,000 ha – CCD 1985  
8,687 ha -Legg and Jewell, 1995

About 0.1- 0.2 % of the total land area



# Ecological Services of Mangroves

- Flood control
- Groundwater refill
- Shoreline stabilization & storm protection
- Sediment & nutrient retention and export
- Water purification
- Reservoirs of biodiversity
- Cultural values
- Recreation & tourism
- Climate change mitigation and adaptation



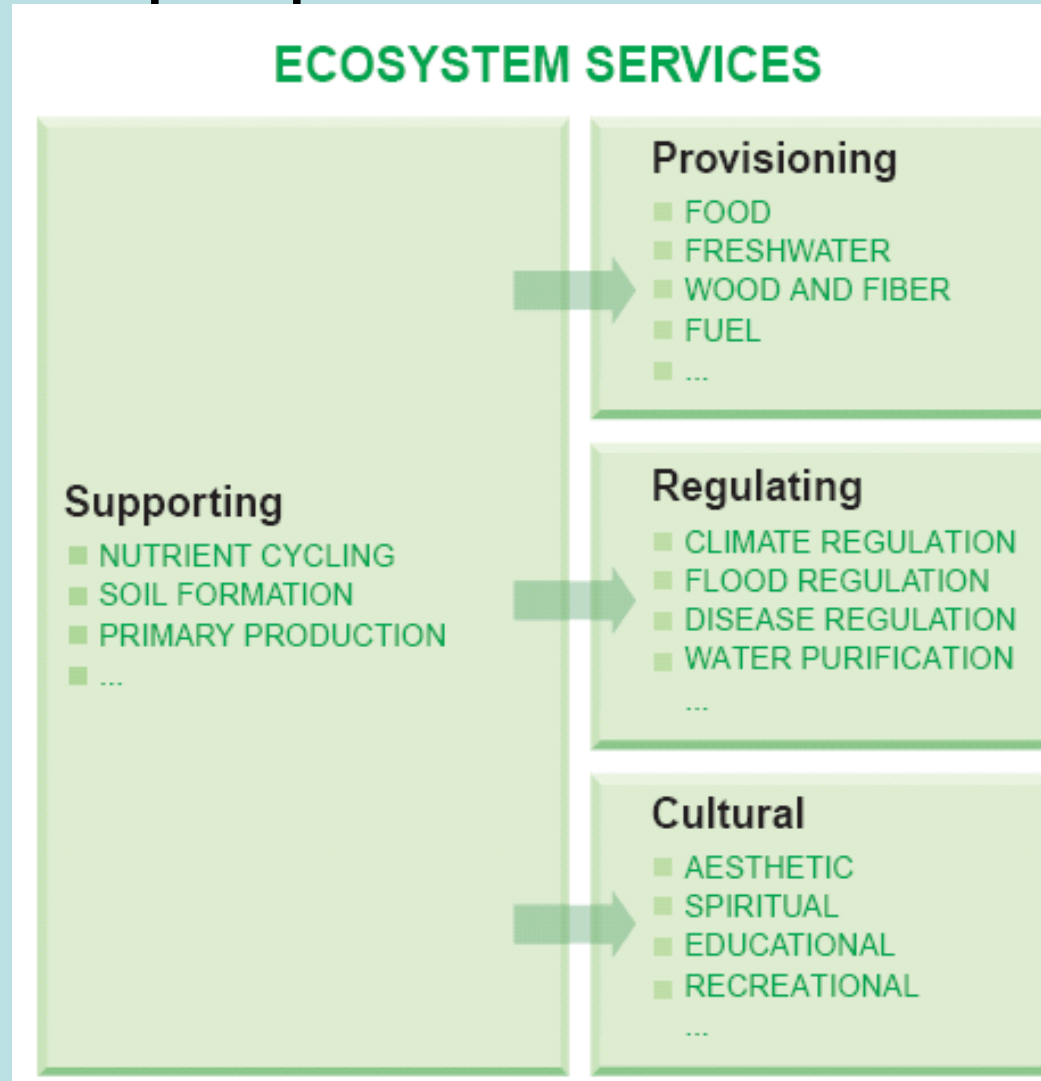
# Ecological Services of Mangroves

- Wetland products
- Fish and other fishery
- Provide fuel wood and building material
- Coloration of fishing nets

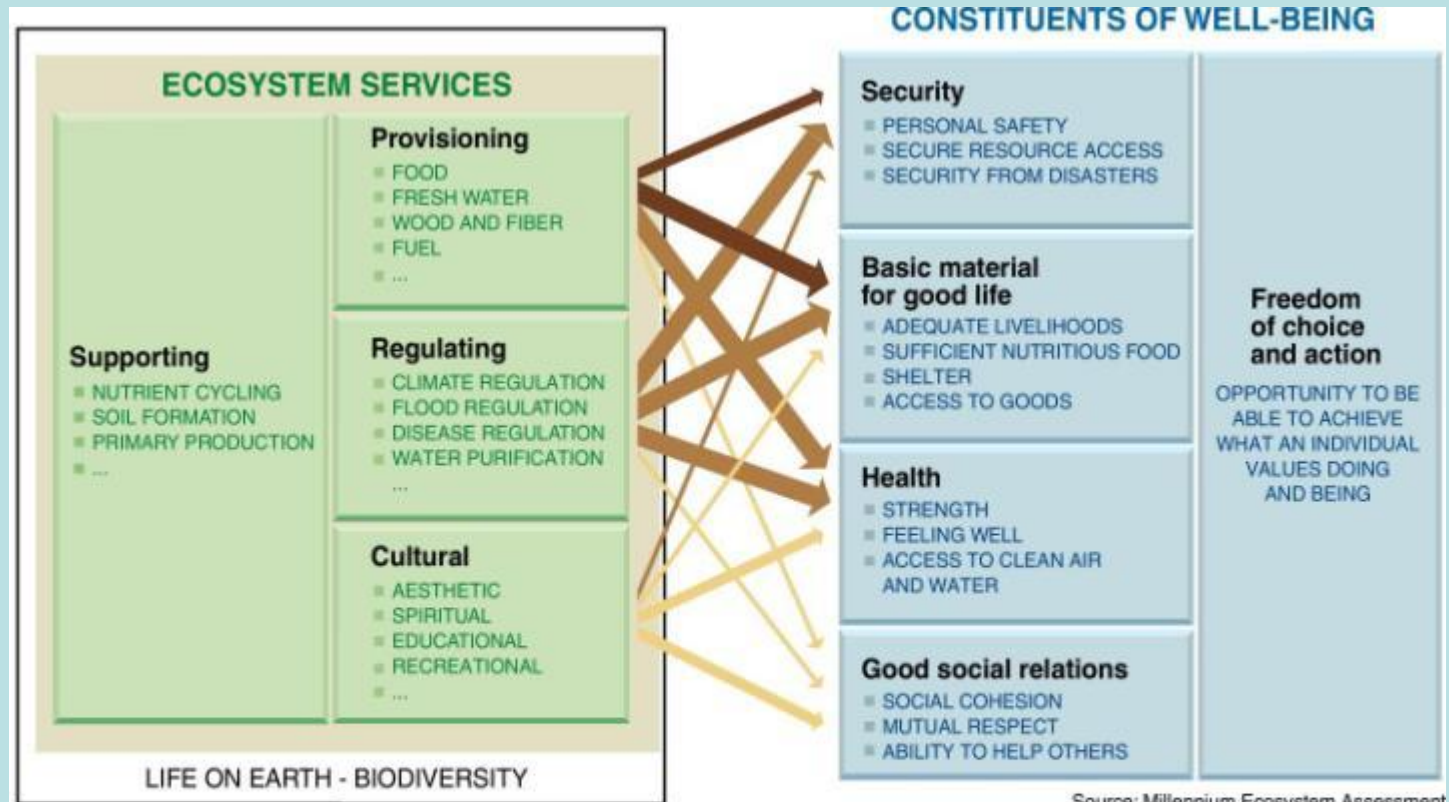


# Focus: Ecosystem Services

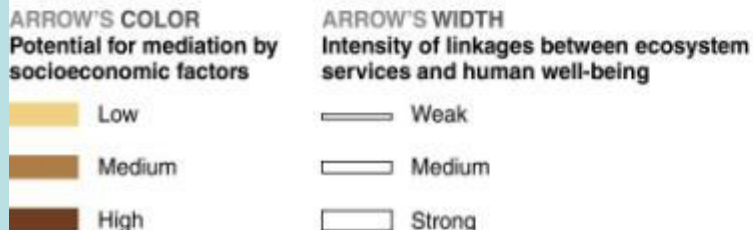
The benefits people obtain from ecosystems



# Focus: Consequences of Ecosystem Change for Human Well-being

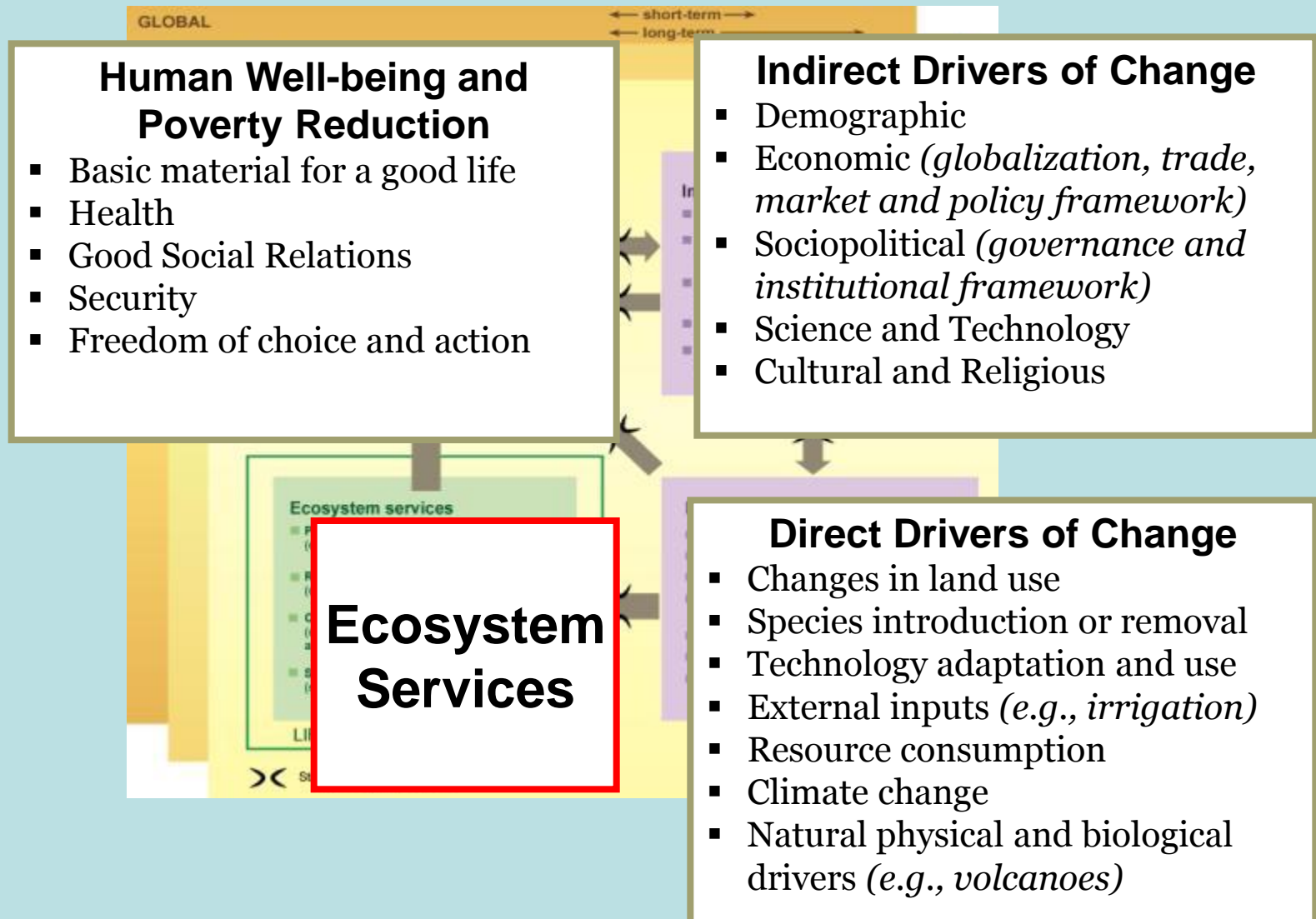


Source: Millennium Ecosystem Assessment





# MA Framework



# Economic values an ecosystem service

Economic Benefit	Value (Rs million/Yr)
Flood control	485.51
Industrial wastewater treatment	162.31
Agricultural production	30.29
Support for downstream fisheries	20.00
Firewood	7.96
Fishing	6.26
Recreation	5.28
Domestic sewage treatment	4.32
Freshwater supply for local people	3.78
Carbon sequestration	0.78
<b>Total</b>	<b>726.49</b>

Emerton &  
Kekulandala, 2003

Google

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# Threats to Mangroves

- Prawn Farming
- Reclamation
- Burning & Cutting
- Garbage dumping
- Shore line erosion

