

Water Security Progress and Success Stories

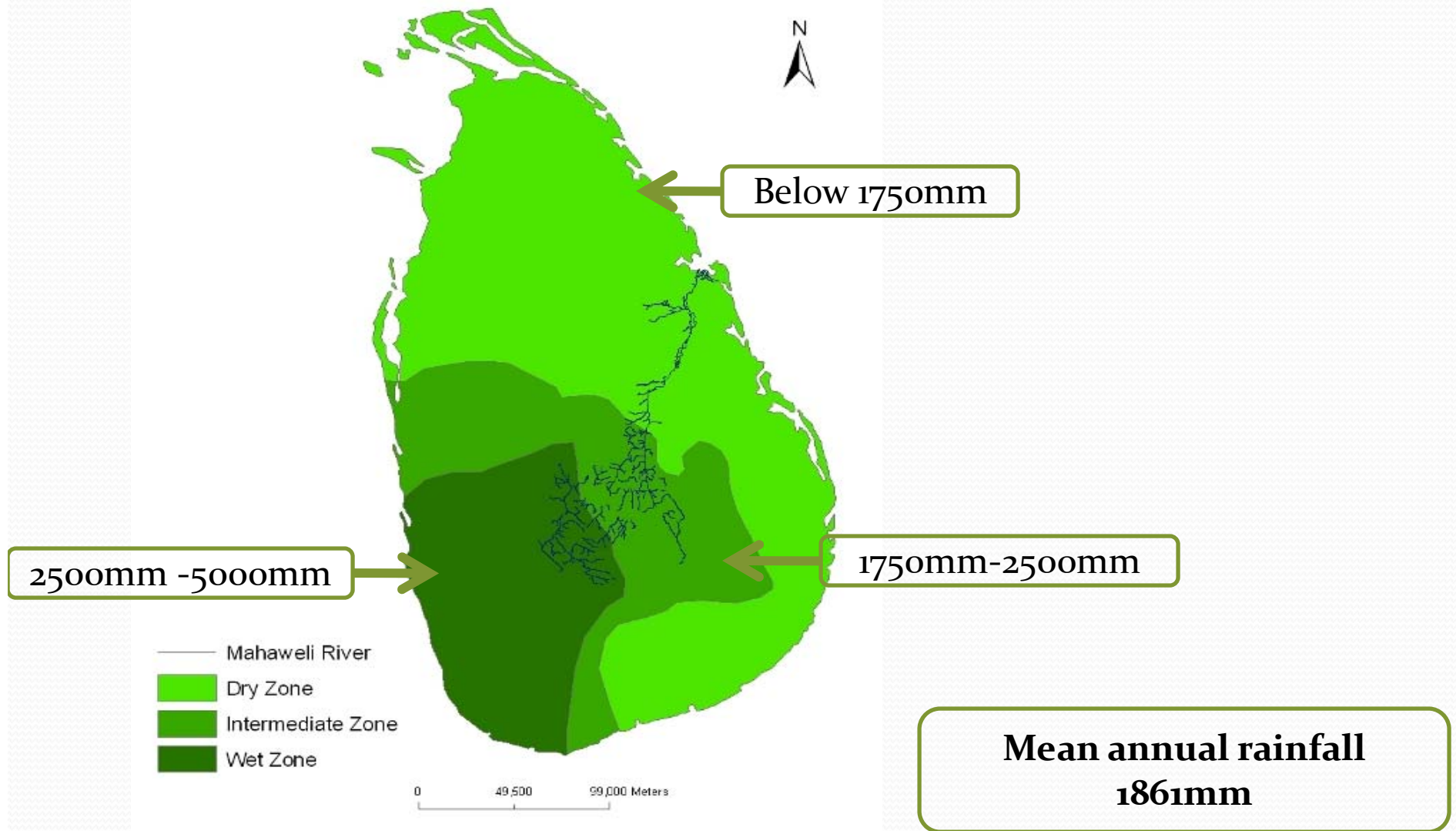


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Annual Rainfall & Climatic Zones



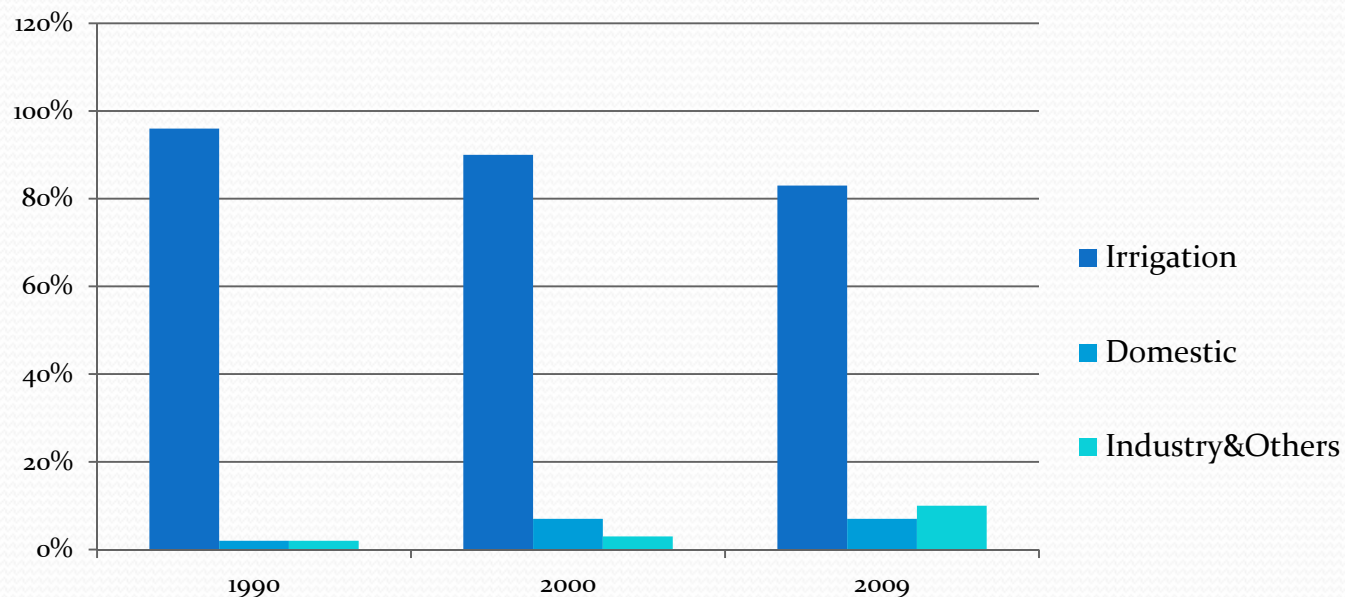


Water Availability

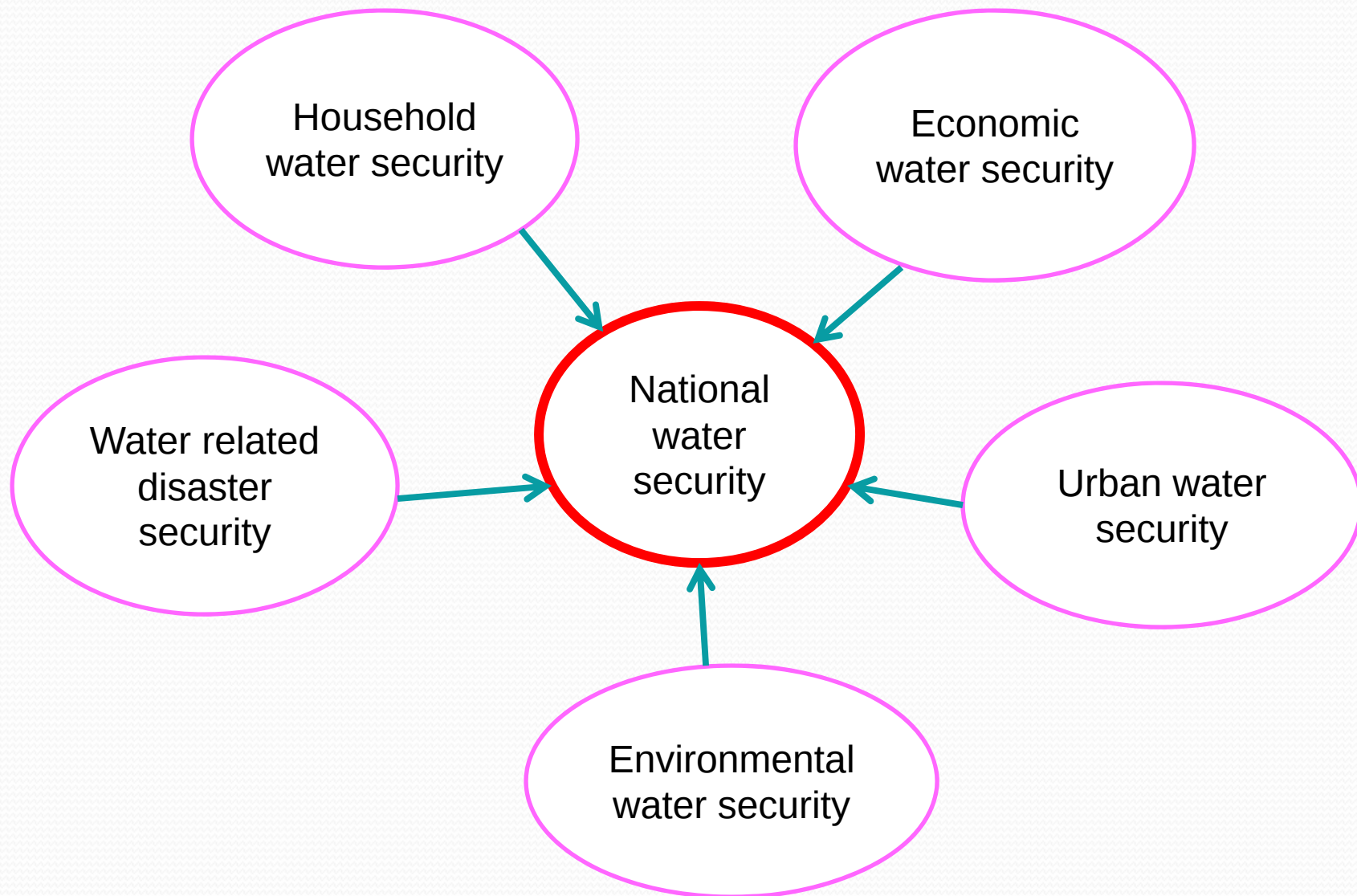
- Surface water 43000-45000 MCM
- Ground water 7800 MCM
- Per Capita Water Availability 2260 CM
- According to UN standards, per capita water availability in Sri Lanka is at an adequate level.
- However, Sri Lanka experiences water scarcity due to spatial and temporal variations in rainfall pattern
- Such water scarcities are overcome to some extent by trans basin diversions.

Sectoral Water Usage in Sri Lanka

Sector	1990	2000	2009
Irrigation	96%	90%	83%
Domestic	2%	7%	7%
Industry & Others	2%	3%	10%



Water Security



Some Enabling Factors

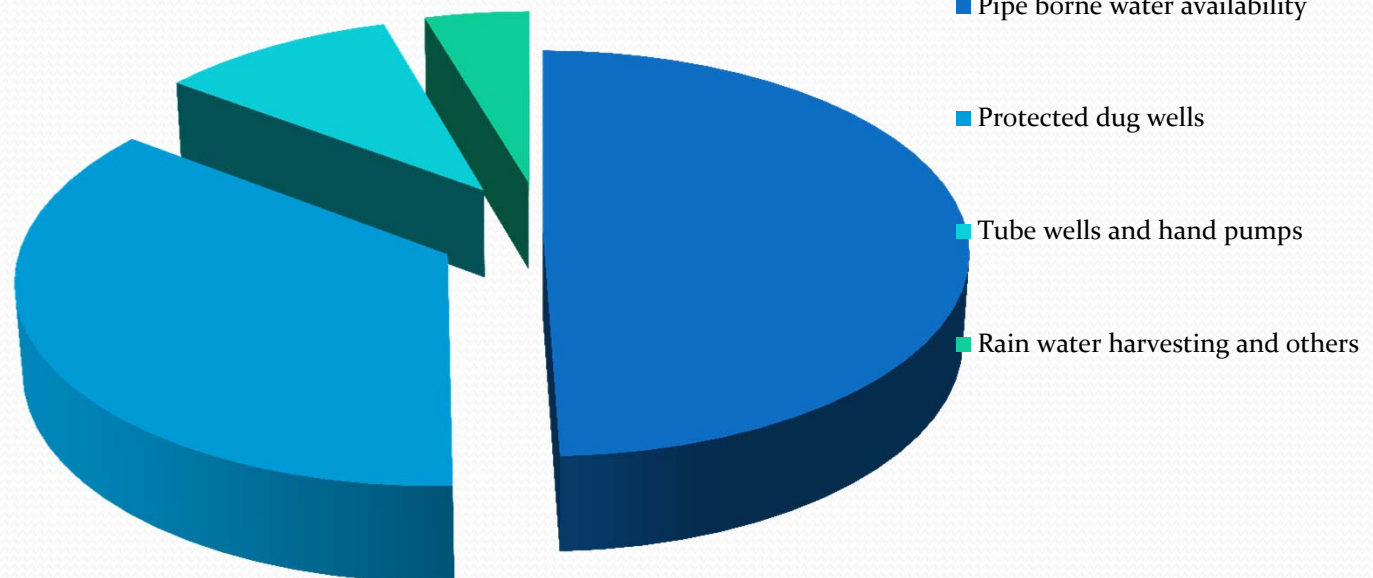
- A Water Heritage * (hydraulic civilization spanning 2500 years)
- Reservoir Cascades (highest density in the world)
- Electrification (85% coverage)

- * *“Let not a drop of water go to the sea without first being of use to man” King Parakramabahu the Great- AD 1153-1186*



Household Water Security

- Safe water coverage 88%
- Pipe borne water availability 43.5%
- Protected dug wells 31.5 %
- Tube wells and hand pumps 9 %
- Rain water harvesting and others 4 %
- Sanitation coverage 86%



Household Water Security Progress and Success Stories

- Government Policy Framework for 2010-2020, provides for pipe-borne water facilities are to be increased to 60% and safe water to 100% by 2020
- Sanitation is always linked to household water, increased level to sanitation with government grants/support for building toilets to low income rural and urban families.
- Bringing behavioral changes and promoting better hygienic practices among user communities through effective awareness programs have decreased water related diseases.
- Private sector and NGO are engaged in sanitation advocacy and promotion activities
- Government has adopted a Rainwater Harvesting Policy in 2005, reducing burden on pipe-borne water.
- Capacity building of CBOs to manage their own water resources - 2500 CBOs involved in construction, operation and maintenance community water supply schemes. 30% national coverage.



Economic Water Security Progress

Water use for agriculture 83%

- ❖ Rain fed water 20%
- ❖ Irrigated water 78%
- ❖ Ground water 2%

Irrigation tanks and anicuts in Sri Lanka

Type of Irrigation scheme	Major	Medium	Minor
Tank	69	152	10000
Anicuts/wiers	33	78	

- ❖ Estimated total irrigation water volume 7000 MCM
- ❖ Water usage for industries 7%
- ❖ Water used for hydro power generation 24%(reused for agriculture & other purposes)

Economic Water Security Progress and Success Stories

- Trans-basin diversions are multipurpose carrying nearly 2250 MCM to be increased to more than 2500 MCM in near future. Nearly 70% of crop water ET requirement of Anuradhapura and Polonnaruwa Districts are provided through such diversions.
- A cascade system of storage d from historical times secures irrigation and livelihood, ground water recharge and environmental needs.
- Government has initiated 14 water resources development projects to harness the optimum use of surface and ground water.
- Rehabilitation and modernization of irrigation infrastructure is undertaken to Increase water use efficiency.
- Bulk water is issued for industrial sector.
- Improved water management techniques and practices are adopted (real time monitoring-MASL) for sharing water with other sectors (drinking & industrial).
- Farmer capacity is increased for community participation in irrigation management .
- Introduction of crop varieties and technologies to Increased water productivity & minimize water usage for agriculture.



OFC

Maintenance



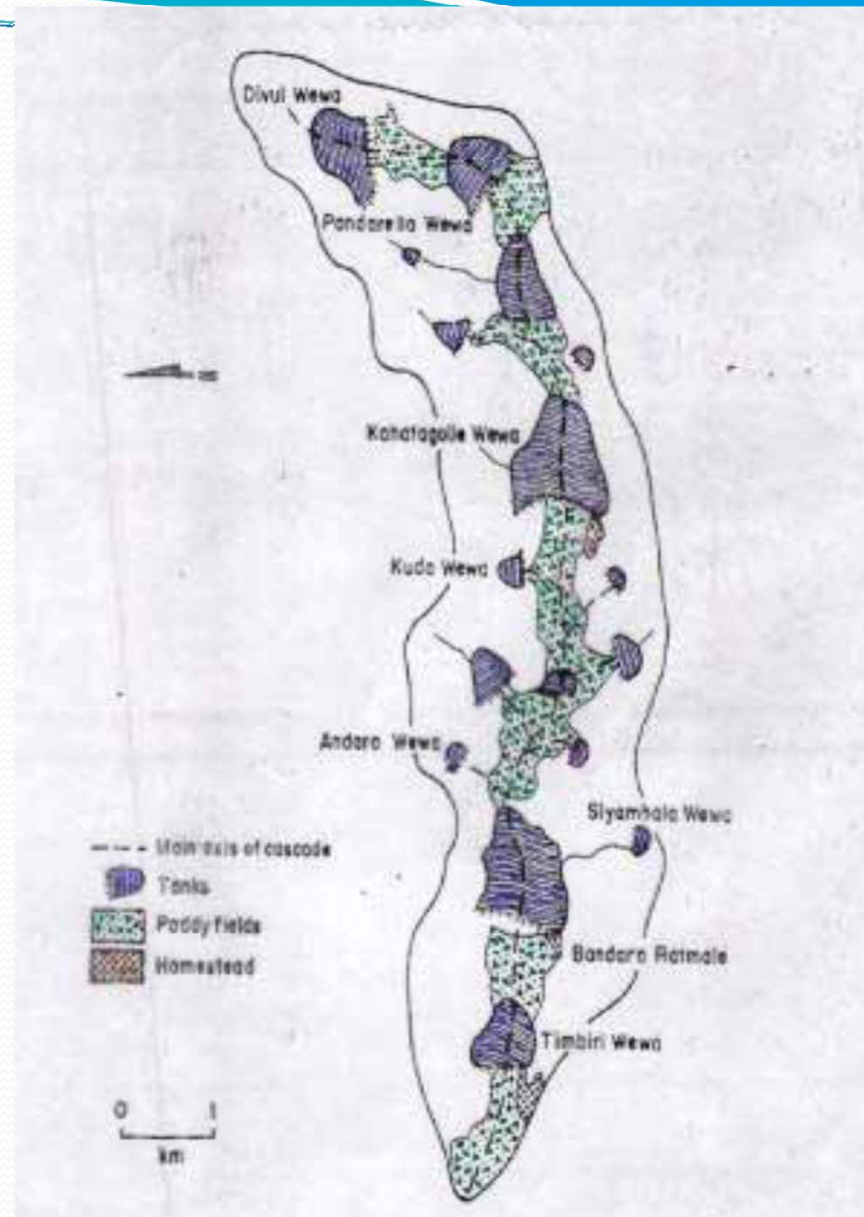
Urban Water Security Progress and Success Stories

- 89% of the total population is provided with pipe-borne water to urban areas; 3% use deep wells and 8% use shallow wells.
- 32% of industrial waste water is treated and released to environment.
- At present pipe-borne sewerage covers 3%; it is expected to expand up to 7% by 2020 in urban areas.
- We do not have secure storage of rain water to supply urban water requirements; cultural barriers/ inhibitions are constraints to use of collected water for drinking.
- Government has plans to construct 14 major water supply projects to increase water supply in main townships by 2020.
- **Challenge-Low waste water management practices. Cultural barriers to use of treated waste water.**

Environmental Water Security Progress and Success Stories

- Historical and traditional environmentally friendly cultural practices bound with minimum disturbance to the watershed.
- Illegal expansion /encroachment in agriculture in hilly areas have negatively impacted on main watersheds of the country.
- Effort to mitigate the negative effects to the watersheds through legal institutional and administrative means.
- Watershed Management Policy was accepted by government in 1994.
- In 1980, government passed the National Environment Act ,again revised in 2000 to strengthen the legal framework for sustainable environment management
- Environmental aspects when constructing irrigation facilities (fish ladders, maintaining minimum water flow , animal crossings etc)
- EIA and SIA process is followed to minimize adverse environmental effects.
- Tank and Anicut (wier) system built throughout the country support agriculture and environment; historically some of these tanks were built to conserve water only for ground water recharge and environmental purposes.

Cascade System





Resilience to Water Related Disasters

- Sri Lanka now experience s more water related disasters than in the past specially flood and earth slips / land slides.(climate variability)
- Mostly floods are encountered at the low level plains and earth slips/land slides occur in hilly areas of the country.
- To secure water related disasters government has taken following remedial actions.
- Established Disaster Management Ministry and Disaster Management Centre with District and Divisional Coordinating Officers.
- Expansion of the meteorological activities island wide.
- Improved information exchanging and data sharing mechanisms.
- Evacuation of the people in vulnerable areas.
- Emergency relief services expanded.

Floods



Earth slips



Threats and Challenges

1. Water pollution
 - over usage of agrochemicals and fertilizer
 - Unauthorized release of effluents to the water bodies by industrial sector .
 - Poor solid waste management by local authorities.
 - Dumping of garbage to water courses.
 - Direct discharge of untreated sewage by households to waterways.
2. Though there is a high potential for rain water harvesting for drinking water purposes, our cultural limitations restricts this.
3. *Build up sectoral water harmony.*



THANK YOU