Assessing the impact of climate variability and change on water, energy and food systems in South Asia

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Climate variability – what it means to Sri Lanka?

- Agro-ecological zones
- Water resources
- Farming systems
- Water, energy and food
Agro-ecological zones

Average Rainfall
- DZ < 1750 mm
- IZ 1750 - 2500 mm
- WZ > 2500 mm

Elevation
- Low < 300 m
- Mid 300 - 900 m
- Up > 900 m
Water availability and vulnerability

Major climatic zones

Areas vulnerable to drought

Rivers and tanks
Rainfall pattern
Water deficit
Seasonal drought
Other concerns

- Decreasing number of wet days
- Shift in season
- Frequent droughts and floods
- Absence climate related policies
- Institutional issues
Water Resources
River basins of Sri Lanka

- Divided into 103 river basins
- Average annual river-flow at 30% of the RF is 40,680 mil m$^3$
- Mahaweli Ganga drains 16% of the country and carries water from wet to dry zones
- Total length is 332 km.
- Catchment area is 10,450 km$^2$
- Annual discharge is 7,650 mil m$^3$
- Dammed at least at eight places
- Most successful multipurpose, integrated regional development
Groundwater resources of Sri Lanka
Surface water resources

- Major schemes
- Minor schemes
  - Rainwater harvesting
  - Runoff water reuse
  - Flood control
  - Groundwater recharge
  - Environmental benefits
Farming system

- Major export crops (Tea, Rubber and Coconut)
- Minor export crops (spices)
- Rice
- Other field crops (OFCs)
  - Irrigated
  - Rainfed
Trend in paddy yield (Maha & Yala)
Poverty by sector

Total population
20,277,597 (DCS, 2012)
Energy

• Hydropower
  – Major
  – Mini
• Thermal
Thank you