# Water bodies as the source of water for irrigation in Sri Lanka



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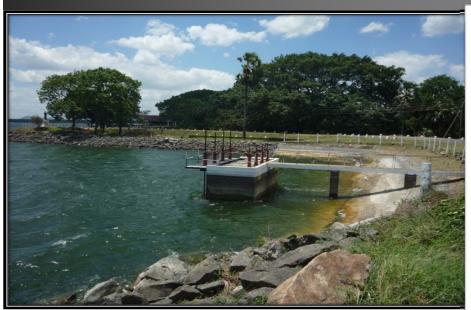
# Water Bodies in Sri Lanka Defined by.....

• Irrigation Ordinance & Agrarian service Act

Rivers

– Reservoirs / Tanks/Lakes

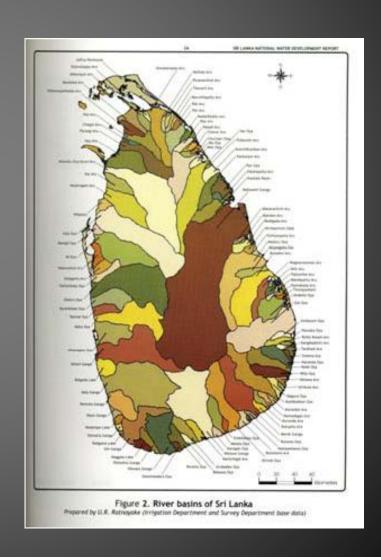
Canals





#### Water Bodies of Sri Lanka – Rivers

- There are 103 distinct river basins with a total length of about 4500 km. Largest is the Mahaweli with the size 335 km long and approximately 10,500 sq. km area. Most rivers originate from the central hills.
- River basins that cross two or more provinces are called interprovincial river basins and are managed by the central government. Majority of basins are inter-provincial.
- River basins start and end in the same province are called provincial river basins and are managed by the Provincial Councils.



#### Water Bodies in Sri Lanka – Reservoirs

- Areal and temporal distribution has made it necessary to have reservoirs and the country's topography has made it possible to build reservoirs
- World's first-ever reservoir is supposed to have been built in Sri Lanka (Abhaya Wewa or Basawakkulama in Anuradapura).



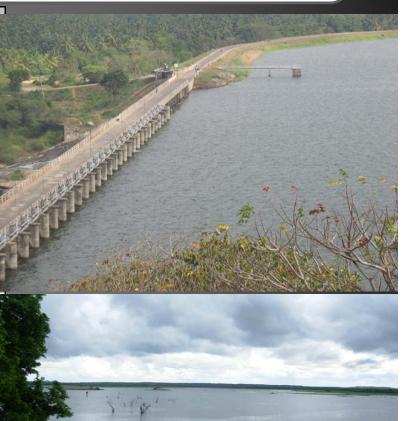
#### Water Bodies in Sri Lanka-Reservoir Density

Sri Lanka
has a very
high
reservoir
density
compared
to most
countries.

Type of Reservoir	Number	Area (ha)	%
Major Irrigation	71	70,850	41.7
Medium Irrigation	160	17,001	10
Minor Irrigation	>26,000	39,271	23.1
Lakes	4	4,049	2.4
Hydro-electric	7	8,097	4.8
Mahaweli	7	13,650	8
Multipurpose	/	13,030	
Other		17,023	10
Total Area		169,941	100

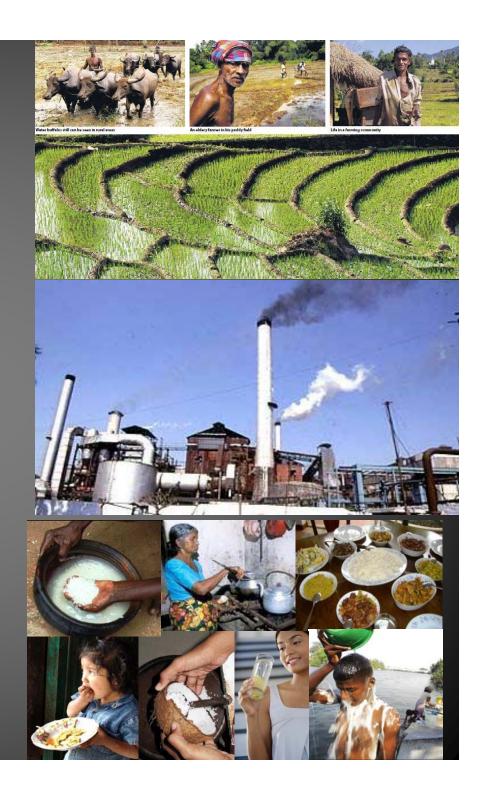
#### District distribution of 71 major reservoirs -ID

		NO OF	GROSS
NO	DISTRICT/	TANKS	CAPACITY
			MCM
1	AMPARA	7	1,233
2	ANURADAPURA	11	524
3	BADULLA	6	77
4	BATTICALOA	4	173
5	HAMBANTOTA	11	467
6	MATARA	2	4
7	MATALE	3	35
8	KURUNEGALA	9	95
9	MONARAGALA	3	44
10	POLONNARUWA	4	422
11	PUTTALAMA	2	91
12	TRINCOMALEE	5	227
13	VAVUNIYA	1	33
14	MANNAR	3	50
	TOTAL	71	3,475



#### Reservoirs

 Tradition continues and the large no reservoirs from small & medium to large play a vital role in water resource management providing multiple services of irrigation, hydropower, flood control, domestic water, industrial water inland fisheries and environment.



#### Irrigated Area

**Major Irrigation (Sri Lanka)** 

421,000 ha

**Irrigation Department** 

284,000 ha

Major (Extent> 400 ha) – 106 schemes

250,000 ha

Medium (400 ha>Extent> 80 ha) – 221 schemes

34,000 ha

Mahaweli Authority of Sri Lanka

99,000 ha

**Provincial Councils** 

38,000 ha

Minor

198,000 ha

Total -

619,000 ha

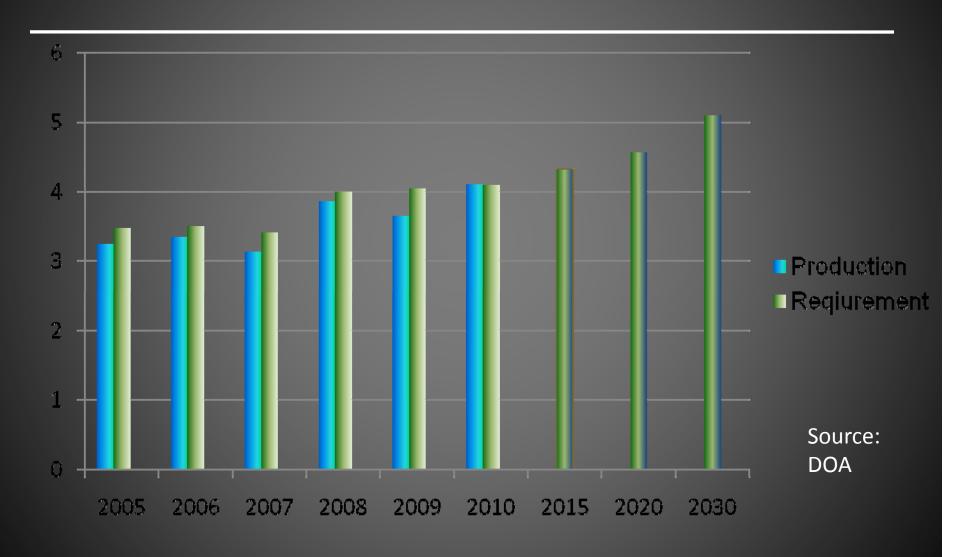
#### Sri Lanka – Main Cropping Seasons

 Sri Lanka has two distinct main cropping seasons matching with its bimodel rainfall pattern. The main cultivation season Maha is from October to March of the following year and the second cultivation season Yala is from April to September.



### National Requirement of Paddy

MT



#### Other Benefits

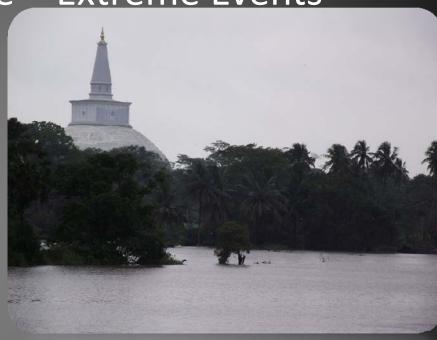
- Hydro Power
  - Planning to cover 40% of the national requirement but it will change with the availability
- Increase the Ground water level
- Increase nutrition level through inland fishing
- Change Landscape
- Environment create to flora & fauna

#### Challenges faced......

Impacts of Climate Change – Extreme Events

Floods







#### Challenges faced......

Impacts of Climate Change – Extreme Events

Drought



#### Challenges faced......

- Impacts of Climate Change
  - Temperature increase High Evaporation
- Impact of Human activities
  - Water Pollution Increase water born diseases and water related diseases
  - ➤ Water Weeds





Rajanganaya tank bed cultivation



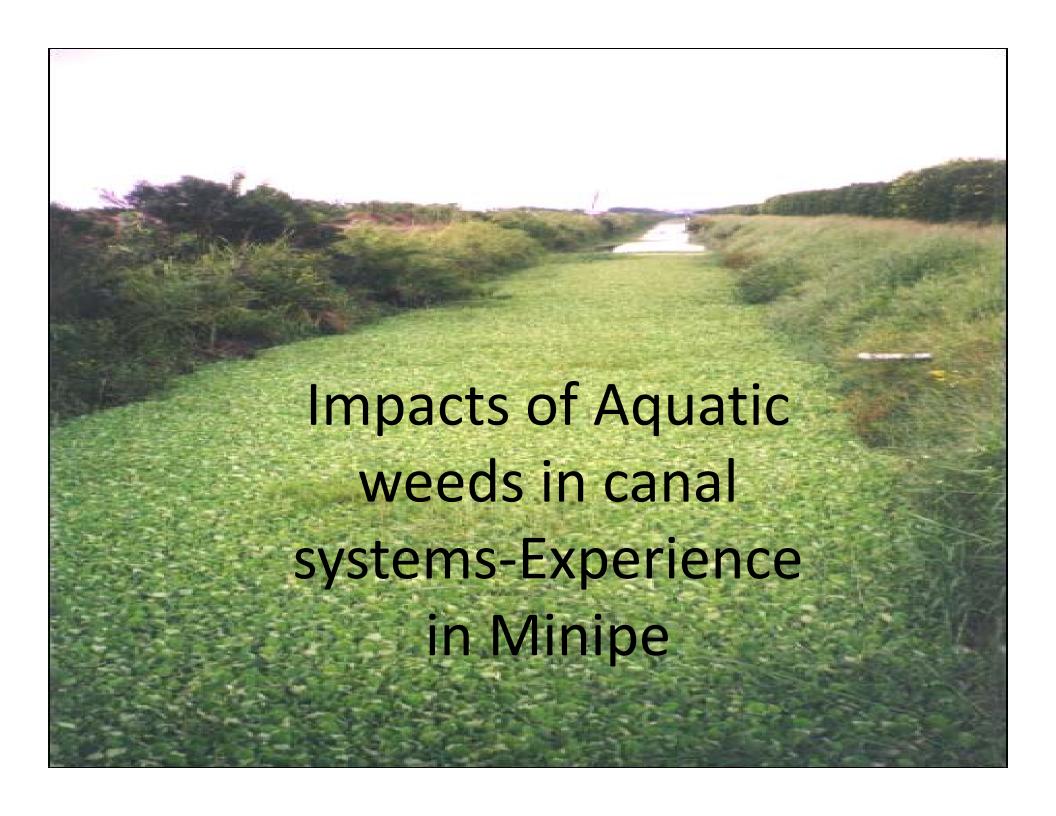


#### **Garbage dumping at Karavahu Scheme**



### UNOTHORIZED CONSTRUCTION AND ENCROCHMENT IN DIYATHURE MAIN CANAL





## Deep rooted water weeds





#### Meeting the Challenges – Last Decade

- High reservoir density helped in water management enabling storage of erratic rainfall
- Development of new water storages and diversion facilities such as Weheragala, Mau-Ara, Weli Oya Diversions.

#### New Reservoirs under construction

- Multi Purpose
  - Deduru Oya
  - -Uma oya
  - Rambukkan Oya
  - Yan Oya





#### Outlook for 2012 & Beyond

Govt. 10 year Development Plan 2012-2022 envisages:

- Self-sufficiency in food crops that can be grown locally (Import substitution)
- Produce for export market
- Increase efficiency in irrigated agriculture in order to cater for water demands in other sectors
- Develop strategies for adaptation to effects of climate change.





#### **Thank You for your Attention**

Irrigated Agriculture has much to do in building a water & food secure Sri Lanka......

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