

Rainwater Harvesting Initiatives

KAHAWATTE PLANTATIONS PLC

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❑ Operates as Two Region

– Nawalapitiya Region

- Barcaple estate
- Craighead Estate
- Galamuduna Estate
- Imboolpitiya Estate
- Kataboola Estate
- Queensberry Estate
- Westhall Estate

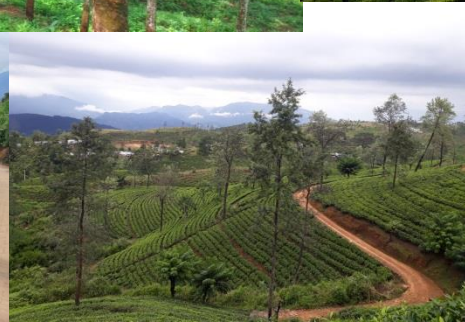
– Kahawatte Region

- Ekerella estate
- Endana Estate
- Opatha Estate
- Wellandura Estate
- Houpe Estate
- Hunuwella Estate
- Poranuwa Estate
- Rilhena Estate
- Pelmadulla Estate

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□ Cultivated Extent

- Tea **3309.56 Ha**
- Rubber **1868.39 Ha**
- Cinnamon **272.82 Ha**
- Commercial Forestry **914 Ha**



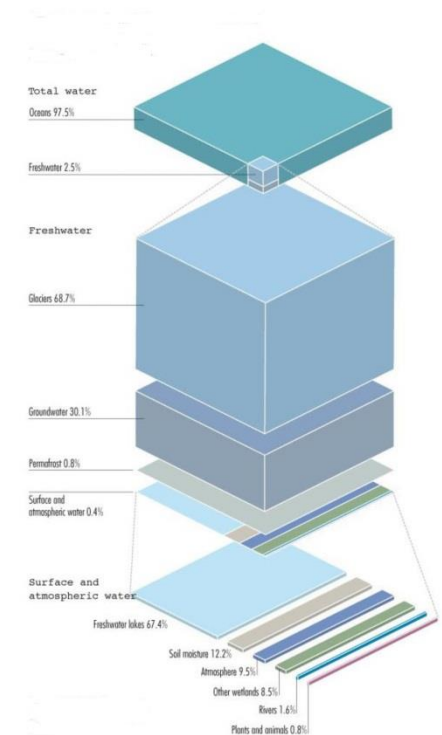
What does mean by Rainwater Harvesting???

- ❑ Collection of **rainstorm**-generated **runoff** from a particular area (**a catchment**) in order to provide water for human, animal, or crop use

(<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/water-harvesting>)

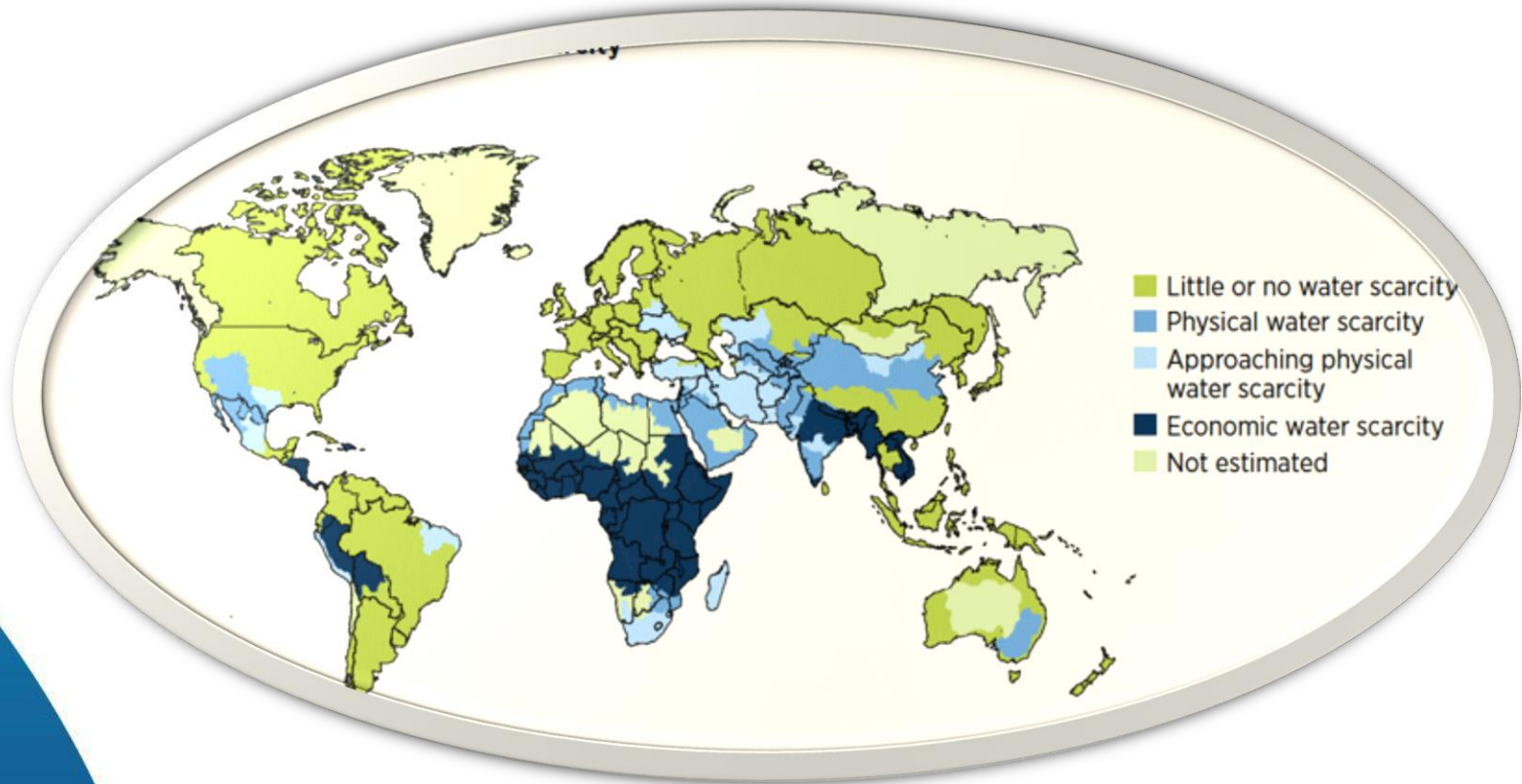
- ❑ Why Rain Water Harvesting

- ✓ To address the water scarcity
- ✓ Conserve the water resource
- ✓ Reduce flood flows
- ✓ Ground water charging



(<https://www.who.int/globalchange/ecosystems/water/en/>)

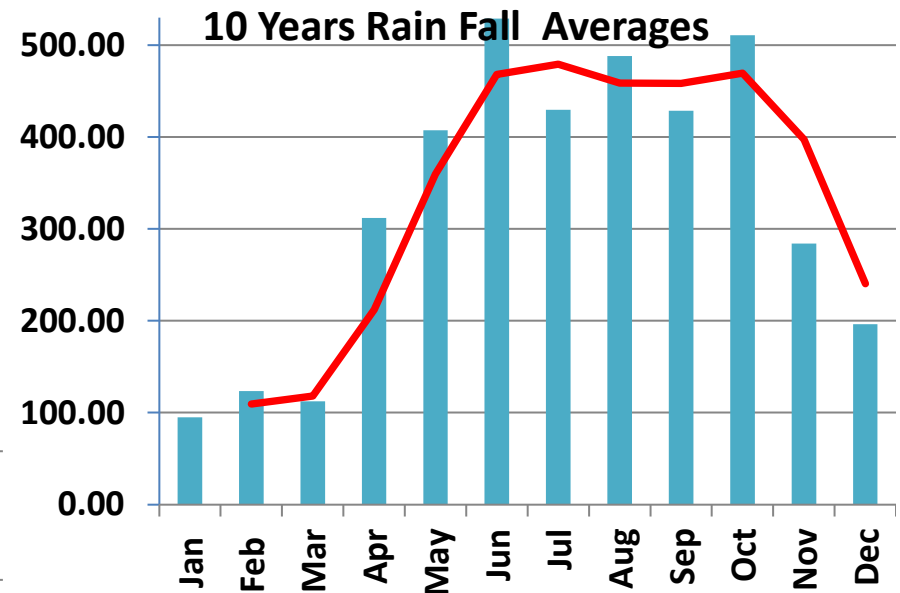
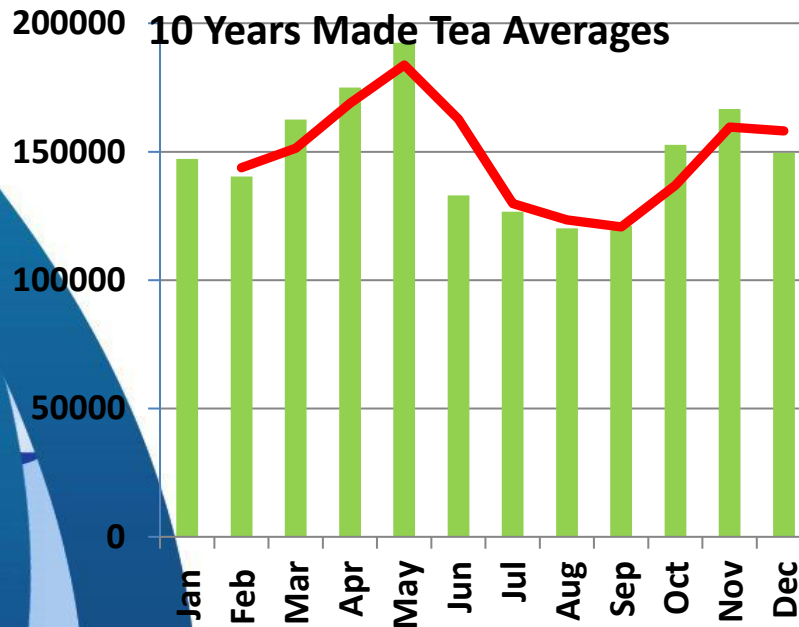
Global Physical and Economic Water Scarcity



(<https://www.un.org/waterforlifedecade/scarcity.shtml>)

Why Rain Water Harvesting for **KWPL**

- ☐ Dry Spell During ,
Dec, Jan ,Feb & March
- ☐ Crop Losses
- ☐ Nature Conserve
- ☐ Community usage



Methods of Rainwater Harvesting at **KWPL**

❑ Depends on

- ✓ Type of use-Agriculture
- ✓ Water requirement

❖ Surface Runoff Collection


- Reservoirs
- Ponds

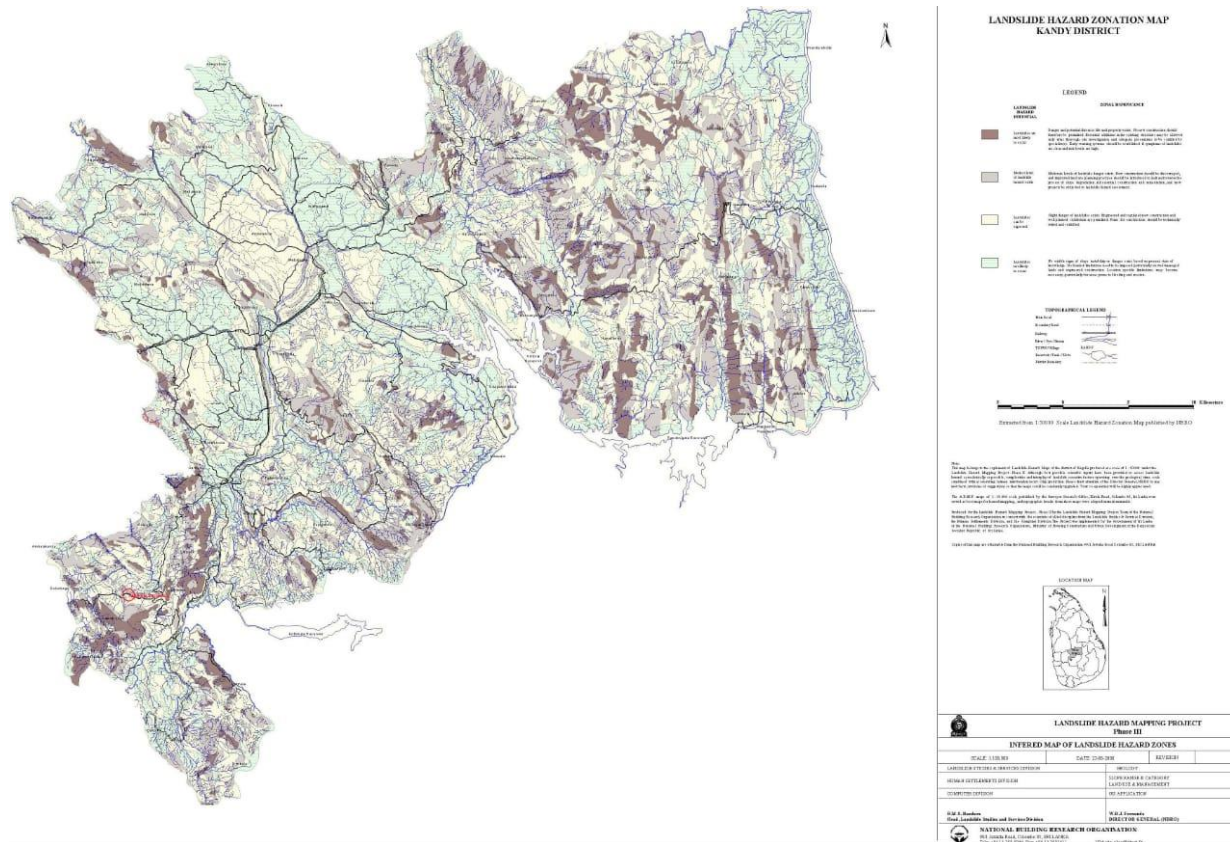
❖ Roof Top Collection



Methods of Rainwater Harvesting at KWPL Cont...

❑ Selection of Location

- ✓ Catchment area
 - ✓ Geographical features
 - ✓ Elevation
 - ✓ Access road
 - ✓ Soil type
- 



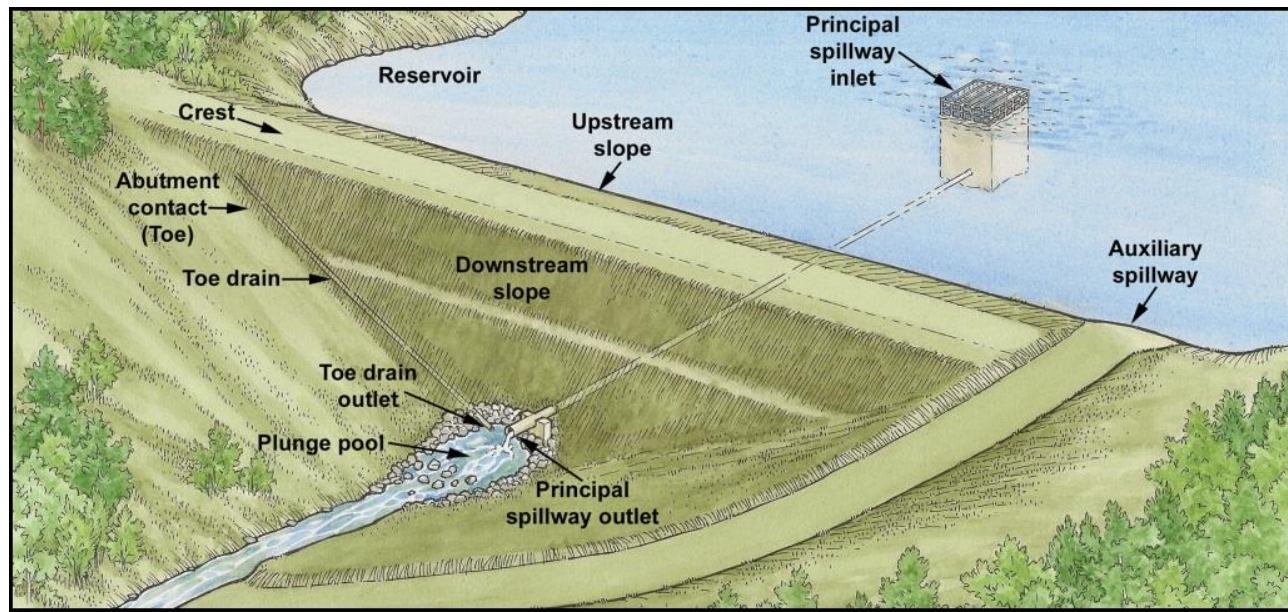
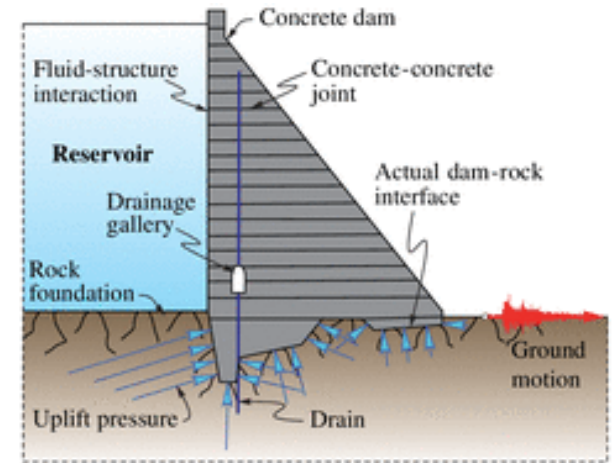
Methods of Rainwater Harvesting at KWPL

Cont...

☐ Reservoirs

❖ Constructed Reservoirs at KWPL

✓ Gravitational dam



Methods of Rainwater Harvesting at KWPL Cont...

- ❖ Constructed at Reservoirs at KWPL
- ✓ Gravitational Dam-Westhall Estate



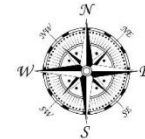
Methods of Rainwater Harvesting at KWPL

Cont...

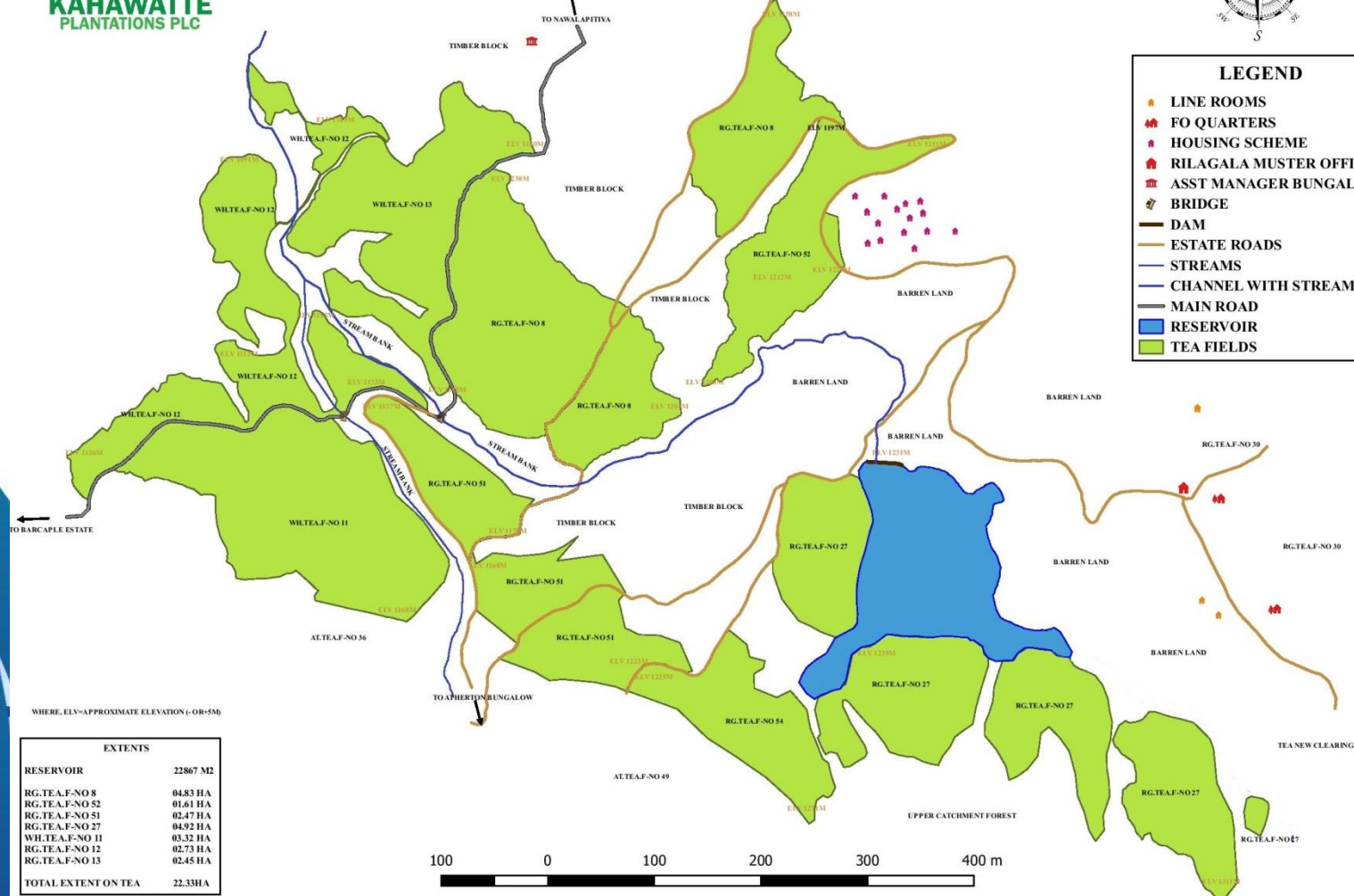
Irrigation Plan for Rilagala Reservoir



KAHAWATTE PLANTATIONS PLC
NAWALAPITIYA REGION-WESTHALL ESTATE
LAND USE MAP OF PROPOSED RAIN WATER HARVESTING PROJECT

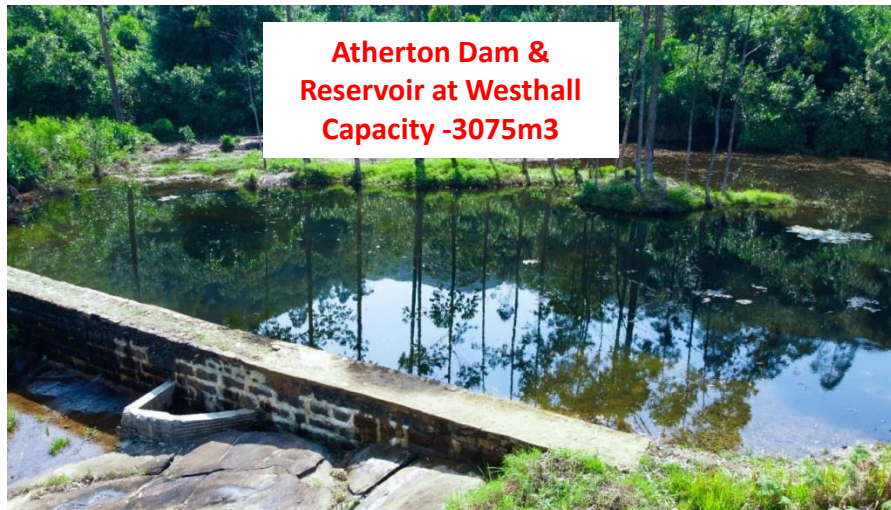


LEGEND	
	LINE ROOMS
	FO QUARTERS
	HOUSING SCHEME
	RILAGALA MUSTER OFFICE
	ASST MANAGER BUNGALOW
	BRIDGE
	DAM
	ESTATE ROADS
	STREAMS
	CHANNEL WITH STREAM
	MAIN ROAD
	RESERVOIR
	TEA FIELDS



Methods of Rainwater Harvesting at KWPL Cont...

- ❖ Constructed Reservoirs at KWPL
- ✓ Gravitational Dam-Westhall Estate



Methods of Rainwater Harvesting at KWPL

Cont...

- ✓ Constructed Reservoirs at KWPL
- ✓ Gravitational Dam-Imboolpitiya Estate



Galoya Dam & Reservoir at
Imboolpitiya
Capacity -14024m3



Methods of Rainwater Harvesting at KWPL

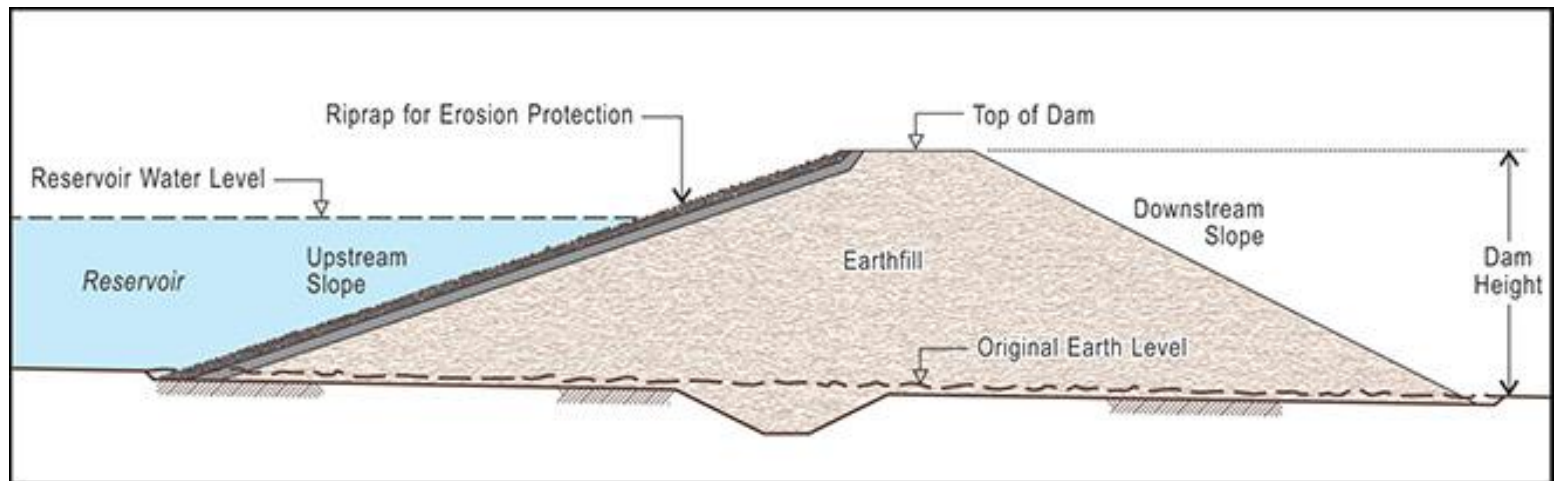
- ❖ Constructed Ponds at KWPL
- ✓ Gravitational Dam-Craighead Estate



Methods of Rainwater Harvesting at KWPL

Cont...

- ✓ Constructed Reservoirs at KWPL
- ✓ Earthen Dam



Methods of Rainwater Harvesting at KWPL

- ✓ Constructed Reservoirs at KWPL
- ✓ Earthen Dam-Craighead Estate



Lower Dam & Reservoir at
Craighead
Capacity -10763m³

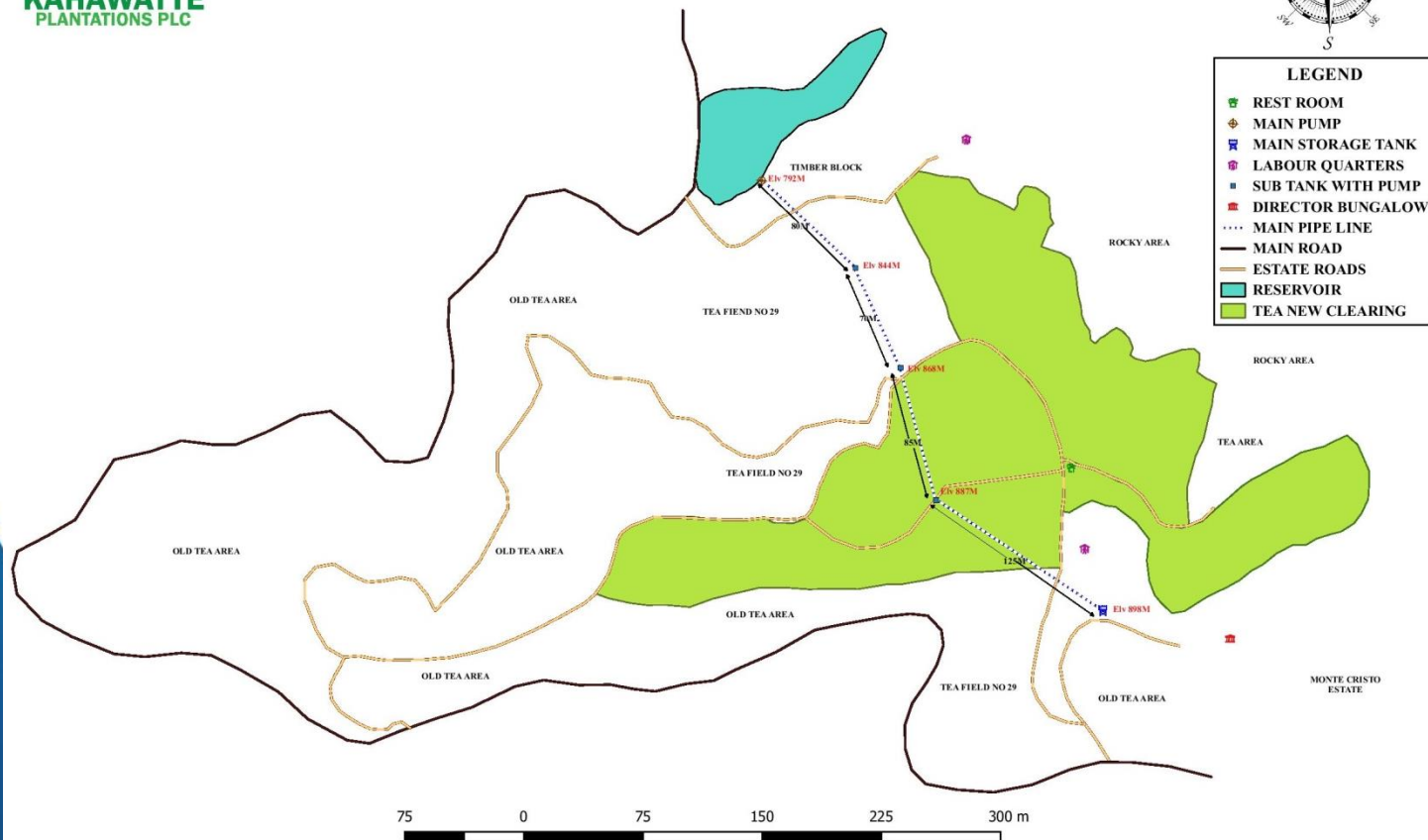
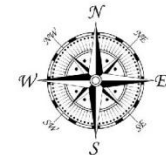
Methods of Rainwater Harvesting at KWPL

Cont...

Irrigation Plan for Craighead Reservoir



KAHAWATTE PLANTATIONS PLC
CRAIGHEAD ESTATE-LOWER DIVISION
LAYOUT OF THE PROPOSED IRRIGATION SYSTEM FOR TEA NEW CLEARINGS



Methods of Rainwater Harvesting at KWPL

Cont...



Methods of Rainwater Harvesting at KWPL

- ❖ Constructed Pond at KWPL
- ✓ Earthen Dam-Craighead & Galamuduna Estates



Methods of Rainwater Harvesting at KWPL

❖ Constructed Pond at KWPL

✓ Earthen Dam-Barcaple Estates



Methods of Rainwater Harvesting at **KWPL**

Cont...

❖ Community Usage

- ✓ Inland Fisheries Project
 - 10000 Fingerlings at Westhall
 - 5000 Fingerlings at Craighead
- ✓ Duck-fish integration at Craighead



Methods of Rainwater Harvesting at KWPL

Cont...

❖ Roof Top Collection

❖ Imboolpitiya Estate



Methods of Rainwater Harvesting at KWPL

Cont...

☐ Total Capacity Achieved

Estate	Total Capacity (m3)
Barcaple	15038
Craighead	12613
Imboolpitiya	14331
Kataboola	2325
Westhall	85330
Queensberry	161
Galamuduna	1222
Total	129799

Operational Maintenance

- ❑ De-siltation
- ❑ Dam maintenance
 - Weed removal
 - Protect from wild animal



Disadvantages of RWH

- ☐ Unpredictable rainfall pattern
- ☐ Initial high cost
- ☐ Siltation of reservoirs
- ☐ Needs of technical knowledge



THANK YOU