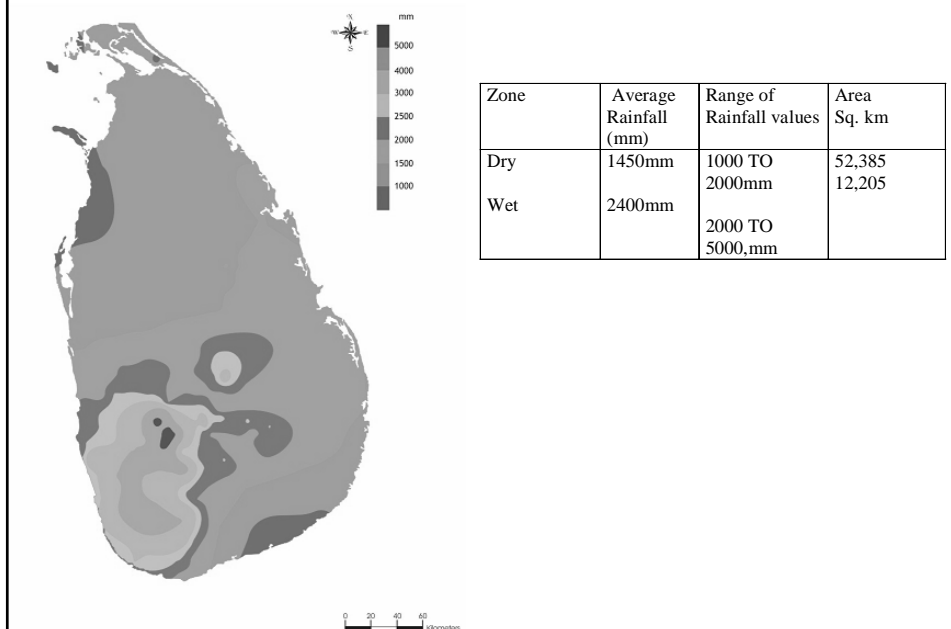


MAHAWELI WATER PANEL (WMP) AND INTER BASIN WATER TRANSFERS AND MANAGEMENT IN MAHAWELI SYSTEMS

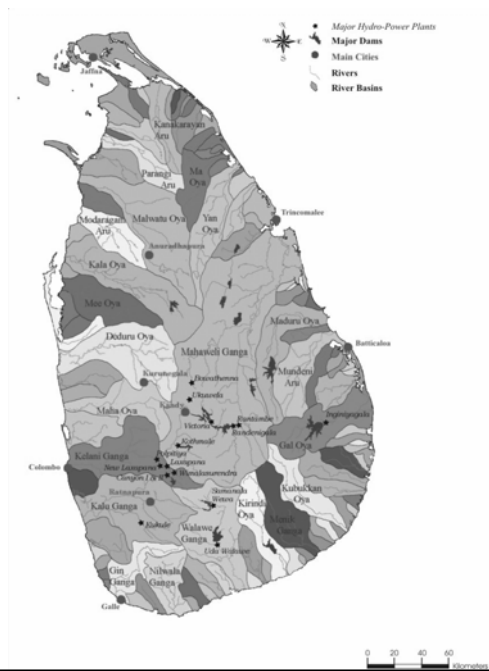
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Climatic Regions in Sri Lanka

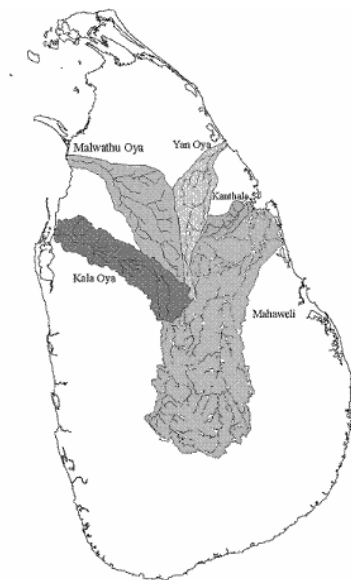


RIVER MAHAWELI

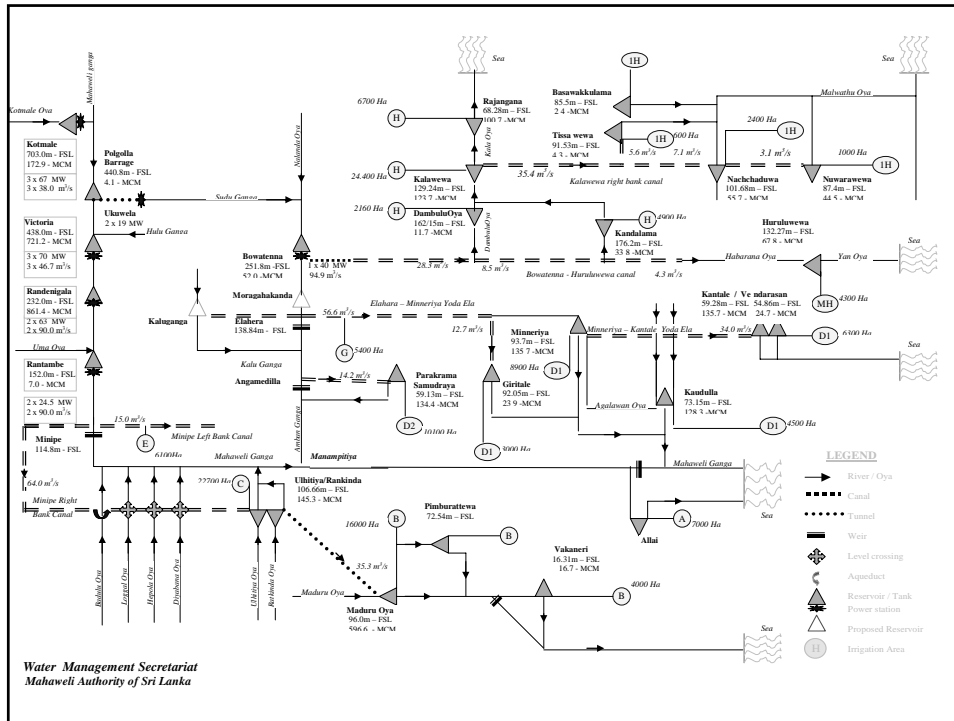
- Mahaweli is one of the few river basins that benefit from both monsoons.
- The volume is about 21% of the discharge of all the river basins of Sri Lanka.
- Mahaweli is considered as the most beneficial river with its copious flow (10,100 mcm per annum) starting from the Central hills and running through a dry fertile plateau.



Basinwise planning in Mahaweli Development



- The Project resulted in harnessing the water resources of Mahaweli Ganga, a main tributary- Amban Ganga and the adjacent Maduru Oya.
- The benefits extended to adjacent Malwatu Oya, Yan Oya and Kala Oya basins.
- The land area contained under these river basins is about 30% of the total land area of Sri Lanka.



WATER MANAGEMENT PANEL

- With the completion of Accelerated Mahaweli Program in late 1980s, **Inter/intra Basin Water Transfers and Management** became one of the major functions of Mahaweli Authority of Sri Lanka (MASL).
- Mahaweli Authority of Sri Lanka (MASL) with the involvement of other agencies and Ministries concerned, established the Water Management Panel (WMP) and Water Management Secretariat (WMS)

WATER MANAGEMENT PANEL

- is headed by Director General, Mahaweli Authority of Sri Lanka
- Members are the heads of government agencies involved with the management and operation of the Mahaweli Project.
Ministry of Agriculture; Irrigation Department; Ceylon Electricity Board; Agriculture Department; Government Agents/District Secretaries etc
- The Director, Water Management Secretariat functions as the Secretary to the Panel.

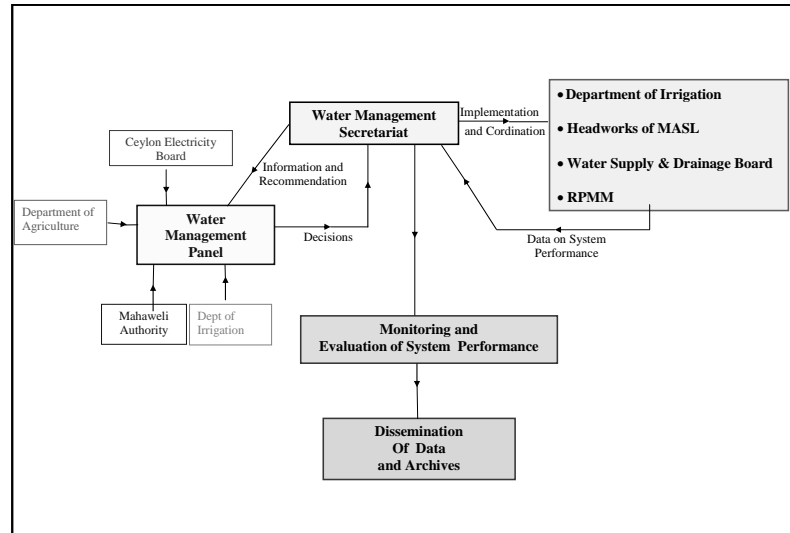
FUNCTIONS OF WATER MANAGEMENT PANEL (WMP)

Principal functions of the WMP are :

to govern the management of water resources of the Mahaweli system to achieve optimum benefits from irrigation as well as from hydro-power.

Formulation of operation policy and setting of overall cultivation programs for the irrigated area served by Mahaweli program.

Water Resource Planning & Implementation in Mahaweli Authority



Allocation/Distribution Priorities and Program

- A SOP is prepared prior at the beginning of each season and the planning process that involves decide the allocation/distribution priorities & program for the season.
- SOP is prepared through a consultative process
 - IEE & RPMM provide cultivation data (crop type, extents, first date and last date of water issues)
 - Irrigation demand based on crop data
 - CEB availability of power plants, energy & peak demand
 - Other inputs past hydrological data, system status at the beginning of the season, Diversion capacities of structures, Maintenance programs of power plants & other structures.

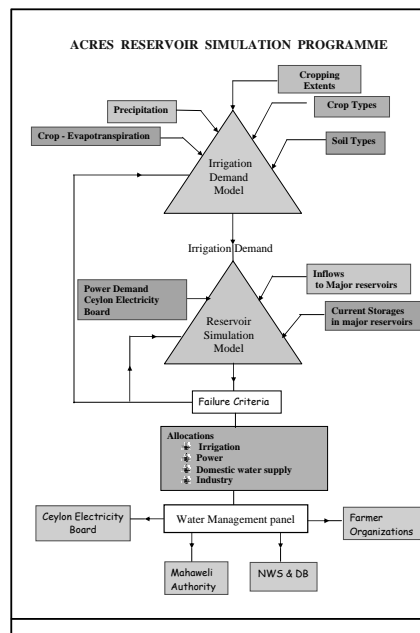
Feasibility of the Proposal

Feasibility of the Proposals Are Examined Using a Computer Program (ACRES Reservoir Simulation Program)

Curtailment of Cultivation Area and Change of Dates of Water Issues May Occur.

SOP Prepared Is Discussed at the Pre-seasonal Water Panel Meeting That Will Be Held With the Participation of All Concerned Parties and Farmer Representatives.

Seasonal Planning with the use of Reservoir Simulation Model



SOP gives the following details calculated assuming average & dry weather conditions, for all reservoirs and irrigation schemes connected with Mahaweli development.

- * projected reservoir releases
- * energy generation (hydro & thermal)
- * Projected diversions
- * reservoir behavior
- * Allocation of water for each irrigation scheme
- * Sluice issues
- * Expected rainfalls.

WEEKLY PLANNING MEETINGS

- Operational plan need to be reviewed
 - Weekly meetings are held
 - MASL, ID, CEB & NWS&DB participate
 - Weekly allocations based on SOP are decided at Friday meetings
- There are variations from the operational plan
- Operational plan is updated with new data if the variation are significant

Balancing needs hydropower/irrigation and Other Uses & Decision Making and Allocation Process

- Rule Curves have been developed for deciding power/irrigation releases
- Rationing policy under dry weather conditions are incorporated in it.

KOTMALE RESERVOIR

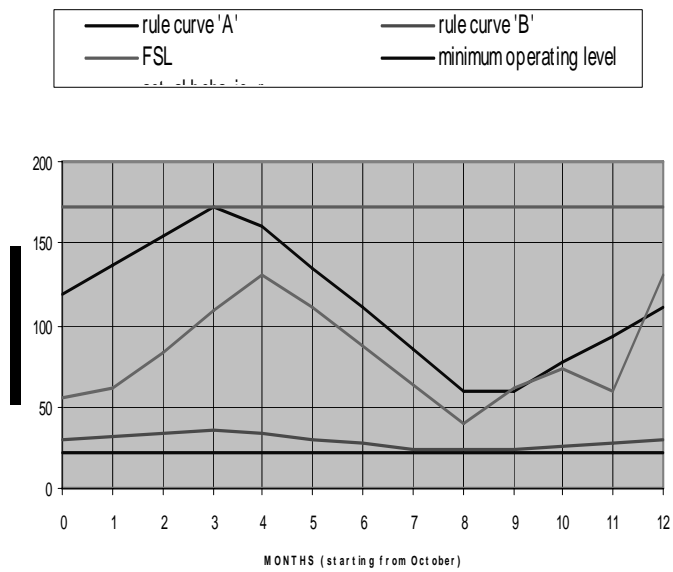
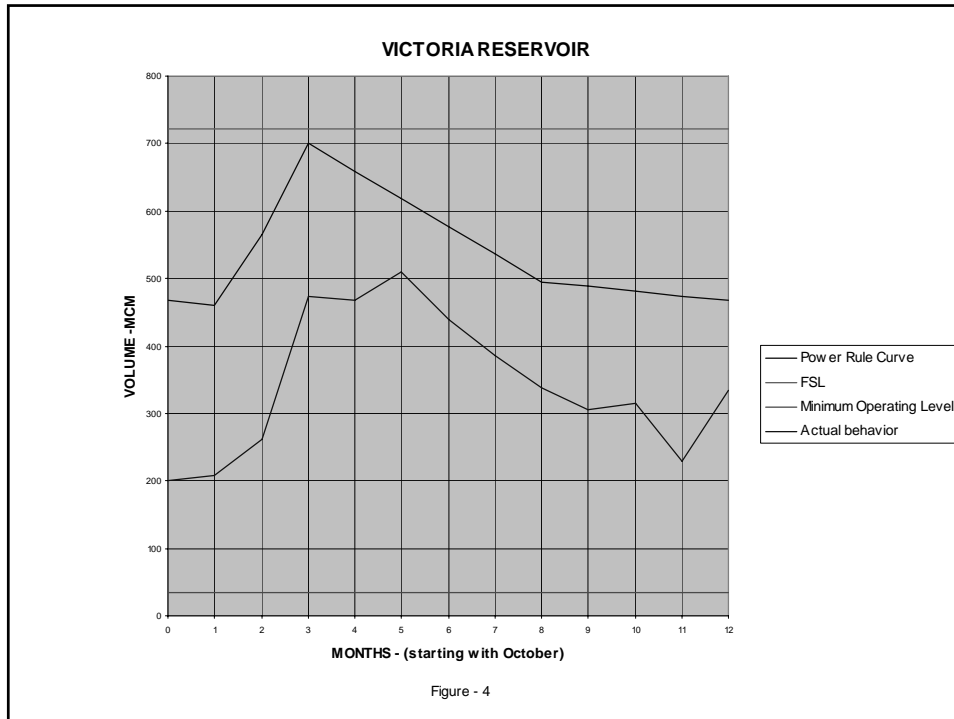


Figure-3



Feedback Arrangements

- At weekly meetings previous weeks performances and shortcomings are discussed
- Daily, water level of reservoirs, diversions and spill/releases are obtained over the phone.
- RPMM send details of water issues weekly to WMS on daily basis
- IEE provide those details monthly to WMS
- CEB provide details connected with power generation (hydro & thermal) weekly
- WMS publishes a Monthly Review Report
- WMS also publishes a Seasonal Summary Report at the end of each season

Data Base

- WMS maintains a data base with under-mentioned details:
 - Irrigation scheme/system performance
 - Main system reservoir/power station performance
 - Thermal station generation
 - Main system diversions
 - Cropped area
 - Hydrological data (rainfall, runoff etc.)

Conflicts – Conflicts arise while implementing the approved plans (when rains are not received as expected.)

- Hydro-power generation requirement during off season when maintenance works are in progress.
- Restrictions in Generation Capacity. (Water releases are too much when generated at full capacity.)
- Over the diversion volumes from Polgolla.
- Limitation on capacities of diversion tunnels and canals
- New demands for domestic & industrial water supply
- Non-adherence to SOP
 - More extents are cultivated
 - Delayed cultivation
 - Overuse of water etc.

THANK YOU