



27th November – 4th December 2013 Sri Lanka

Conflict Solving Process in River Basin Organizations Sri Lanka

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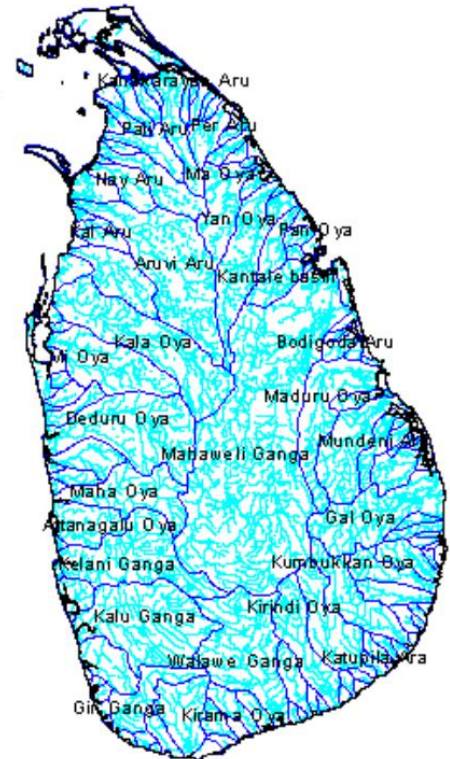


Introduction, Sri Lanka

- Land area - 65,610 Km²
- Area under water bodies - 6200 Km²
- Annual average rainfall - 1900 mm
- Evaporation – 50%
- Seepage – 20%
- Available as stream flow – 30%
- 103 river basins, 20% of rivers are perennial
- 17 rivers have basins over 1000 Km²
- Per capita water availability 2400 m³

Adequate water resources in aggregate terms. But, variations in spacial and temporal distribution severe stresses to the demand/supply equilibrium.

103 River Basins of Sri Lanka





There is a lengthy history of conflicts over water resources

Why – Fresh water

- Limited resources
- Use for various purposes
- Planning, development & management are done by Human beings
- Important to carefully identify the possible conflicts areas during the planning stage and appropriate measures /solutions should be built in to the system.



Recent Conflicts Over Water Resources in Sri Lanka

- I. Commencement of Elam war (IV) at Mavilaru Sluice.
- II. Water quality issues at Ratupaswala.
- III. Kandalama – Huruluwewa Feeder canal
(u/s & d/s conflicts)



Mavilaru Sluice Closure

In July 2006, conflict over water erupted between the GOSL and LTTE

- GOSL accused the LTTE of shutting the Mavilaru sluice gates in NE Sri Lanka.

- The LTTE defended saying they closed the gates in protest over GOSLS delays in improving the distribution system in the region.

President stated that supply of water was a non-negotiable fundamental right



27 November - 07 December 2013 (Lanka)





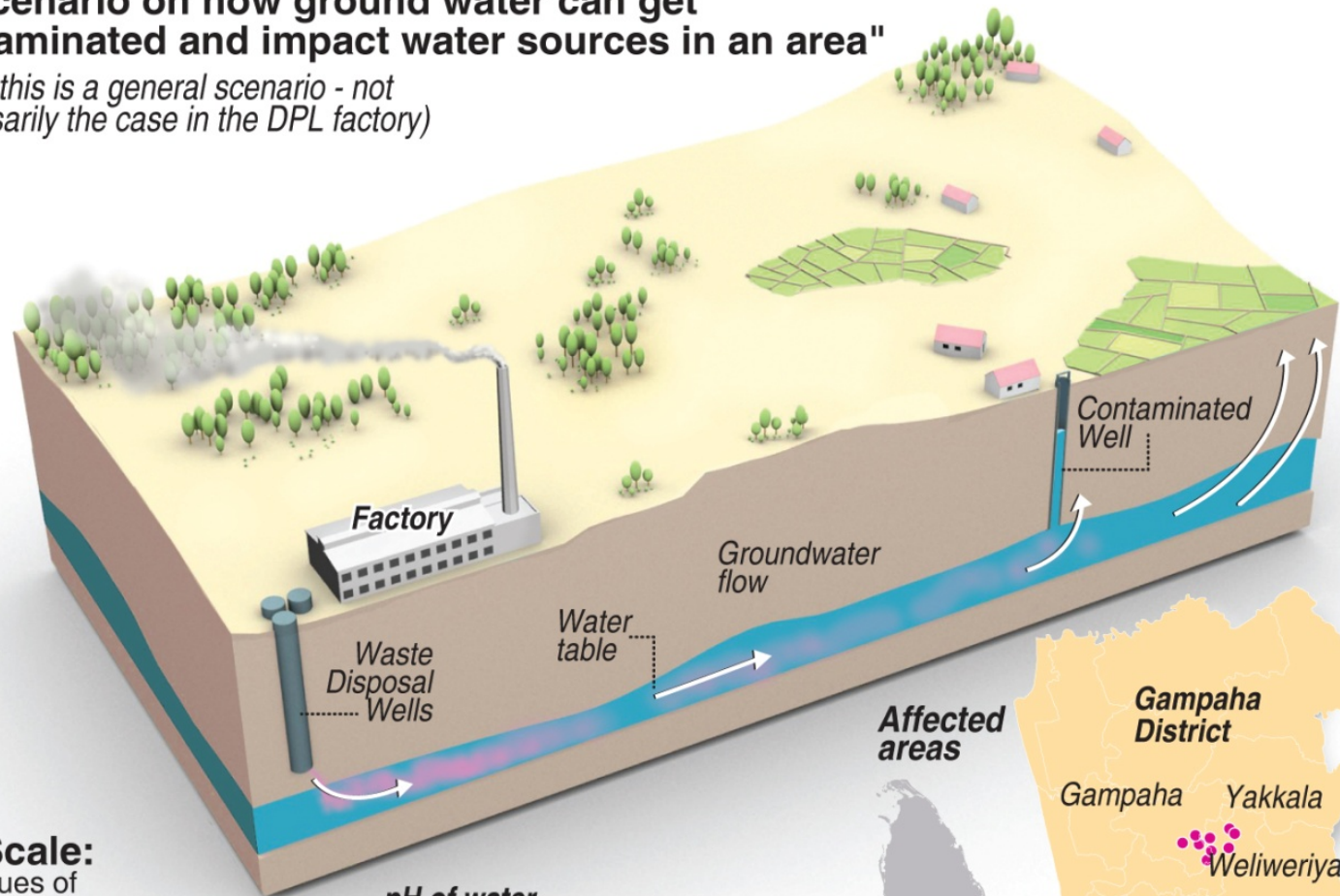
Water Quality Issue of Rathupaswala, Weliweriya

- Villagers complained a rubber gloves factory was discharging chemical effluents on the ground polluting their only source of water, their wells in the area.
- Manufactures Latex gloves by processing natural rubber.
- Process generate many harmful industrial waste.

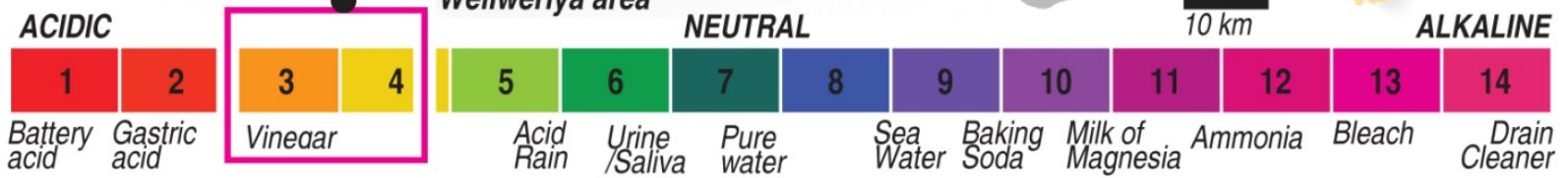


"A scenario on how ground water can get contaminated and impact water sources in an area"

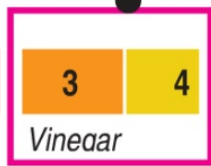
(Note: this is a general scenario - not necessarily the case in the DPL factory)



pH Scale:
pH values of some common substances



pH of water reported from Weliweriya area



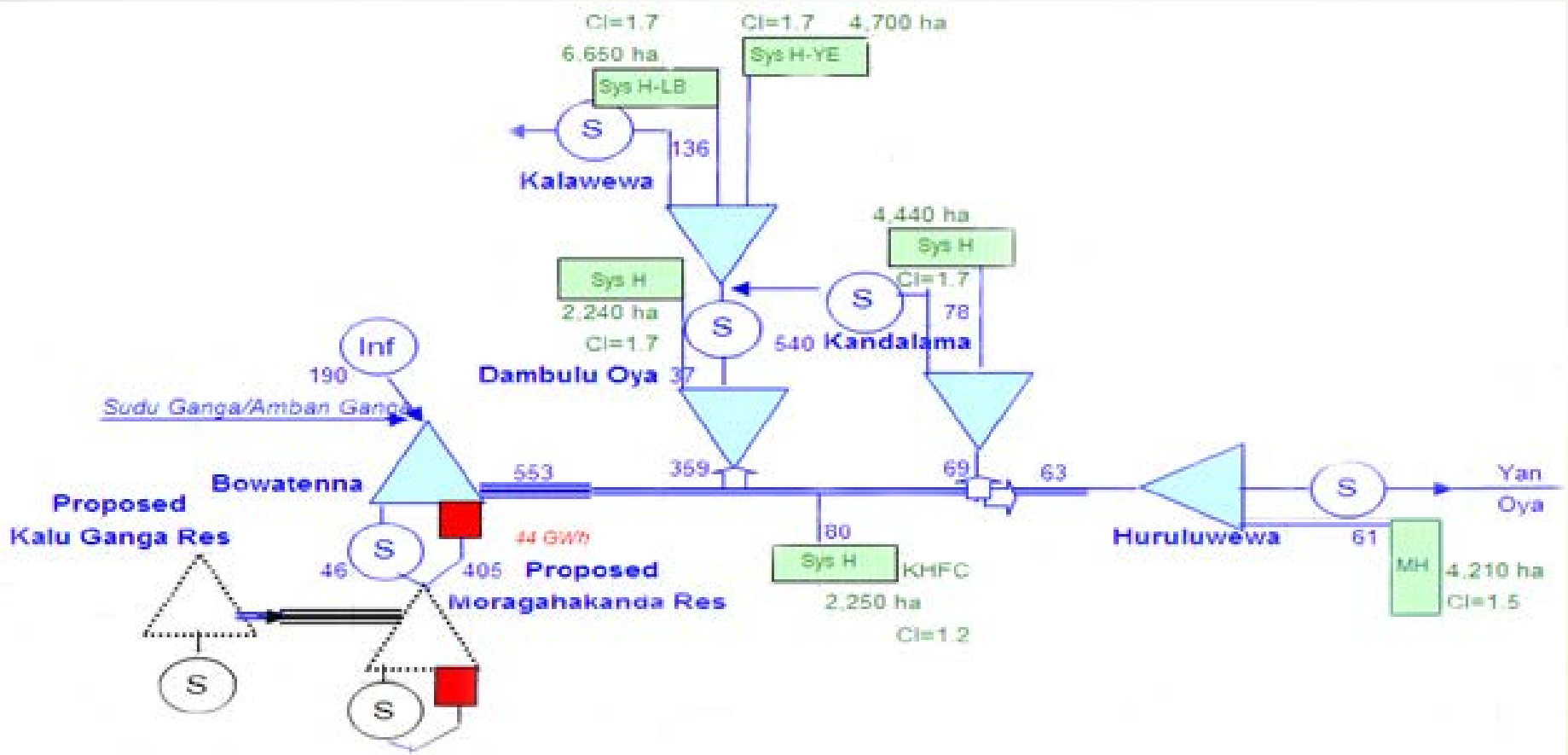
Affected areas



Source: Wikipedia, ST Infographic: Nalin Balasuriya



IP Number: 17/000000/2013/01/04





Generally, in many river basins, conflicts have arisen in water allocation and management among

- Geographical units within the basin.
- Different water use sectors
- Water users themselves within and outside each sector.
- Some times conflicts may occur between boundaries of river basins and those of administrative / political boundaries.
- Water resources are used as a weapon during military action.
- Water resources are used for achieving a political goal.



For the last 50 years and now

Water resources development and management remained sectorally separated.

Mahaweli Authority of Sri Lanka

Irrigation Department

Agrarian development department

Irrigation

National Water Supply & Drainage Board – Domestic and Industrial water supply & surface drainage

Ceylon Electricity Board – Hydropower generation, transmission and distribution of electricity

Water Resources Board – Ground water

Little coordination among above sectors in different water uses such as irrigation , water supply, hydropower and environmental conservation,

Each Institutions plans and implements activities related to their sectors quite independently of other Institutions.



Mainly Conflicts Occur between

1) Food Security and Environmental conservation

- irrigated agriculture
- poverty reduction

Maintenance of Eco system
water quality
Health
Land degradation

2) Food Security and hydropower

3) Economic & and Environmental conservation

Social development

- Urbanization



Major areas where conflict between food security and environment exist

- Protection of water shed
- Maintaining water quality in rivers and waterways
- Increasing irrigation efficiency (more crop per drop)
- Sustainable management of groundwater
- Maintaining dry weather flows and mitigation damage to wild life and eco systems.
- Use of agro chemicals and industrial pollution
- Elephant damage to crops

Similarly conflict between urbanization and environment occur

- Waste discharge to water ways
- Sand mining



Core issues that needs to be tackled at basin level to avert a possible conflicts in the water sector

- a) aspects of food security.
- b) the issue of increased urbanization and population growth.
- c) need to impute an economic value to water.
- d) Value of clean water bodies.
- e) Impacts of industrial and agricultural pollution.



Available mechanism for eliminate / minimize and mitigate the water related conflicts

- Institutional bodies should be established in river basin level or existing Institutional set up should be optimally utilized for implementation of IWRM
- Provide platform for discussion and communication of ideas as well as opportunities for linkages with the relevant administrative, regulatory and political institutions
- Stakeholder will identify water issues, their underlying causes and found solutions through IWRM.
- Will contribute to thematic dialogues on issue relating to land and water management such as
 - water governance
 - water and poverty
 - Food security and Environment
 - Investment and cost sharing



Conflict resolution process

- 1) Promote Basin Committees as platform for basin level dialogues
 - Demonstrate that competition between food and environment can be solved by basin level committees.
 - Create awareness through workshops at schools, religious places etc.
 - Gather insights through dialogues.
 - Provide integrated technical advice.
- 2). Establish base line study in water- stressed basins – use available information's.
- 3). Identify key stakeholders
 - Farmer Organizations, Plant associations, Government officials (Irrigation, water supply, Health, Forest, Wild life, Electricity etc), Academics/Researchers, Industrialists, Hoteliers, Political Leaders, Clergy



4. Organize initial consultations on issue identified

- Free ranging discussions focused on IWRM.
- Shifting confrontations to consensus and compromise.
- Address issues identified by stakeholders
 - Ground water, Water quality, Over extraction
 - Pipe borne water below standard
 - Ground water depletion due to sand and clay mining
 - Pollution from hospital waste, Industries, Commercial Institutions
 - Watershed degradation, soil erosion (food and environment)
 - Poor agricultural practices and agro-chemicals, cultural habits pollute d/s water.
 - Lowering of river bed affects basin floods.
 - Industrial pollution (factories, saw and timber mills)
 - Effects on wildlife, tourism, festivals)



5. Identify underlying causes

- Technical - Conventional approach
- Community action - Not recognized
- Policy - River regulation absent
- Institutions - Fragmented
- Management - Breakdown in Regulatory regime
- Enforcement - Weak
- Political - Power politics at play
- Poverty - Prevent positive actions



Mahaweli Basin

- Mahaweli Authority of Sri Lanka (MASL) is the single body with power and authority over water resources management in Mahaweli River Basin
- adopts an integrated approach in managing water resources in the Mahaweli River Basin.
- Allocate water among different stakeholders coming under the basin through a coordination body (water panel)
- Manage the Irrigation & hydropower infrastructure and settlement areas as well as upper watershed areas.
- Addresses policy, governance and allocation issues.
- Develop the hydropower within the basin.
- Undertakes management and regulation functions and facilitate further development of resources of the basin.



Mahaweli Basin

The Mahaweli Basin Offers the opportunity to examine issues that are specific to the different reaches of the river but still hydrologically linked.

- In d/s development area the competition between agriculture and environment is acute.
- The middle areas in the source of industrial pollution with impact on water quality and supplies of drinking water.
- The u/s areas is affected by catchment degradation which has an overall impact on the flow regime, sedimentation, pollution and flooding



Thank You

