

SYSTEMS OF WATER PROVISION FOR THE MARGINALIZED IN SRI LANKA



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Front cover photograph: *An outdoor water standpipe in Lunupokuna* by B. Henry Mitchel (2022)

Systems of Water Provision for the Marginalized in Sri Lanka

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in Sri Lanka**

Sri Lanka's Water Sector

Introduction

This document is an outcome of a desk research study carried out for understanding the current context of the water sector in Sri Lanka. It is a compilation of published research articles, project reports of recently conducted water supply projects, and official statistics reports from the National Water Supply and Drainage Board (NWSDB) to provide an overall insight into the drinking water supply. The topics discussed in the report are, urban, rural, and estate water sectors and issues identified by other research on low-income groups in each area, brief information on water policy (urban drinking water policy and rural water policy), upcoming projects, the current NWSDB tariff structure, and water affordability. This compilation of information uses extracts from other published material, which are acknowledged.

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Urban, Rural, and Estate Water Sectors

Eighteen percent of the population of Sri Lanka is urban and around 81% is rural. (World Urbanization Prospects: 2018 Revision). The rural population includes the estate sector, which comprises 5% of the national population.

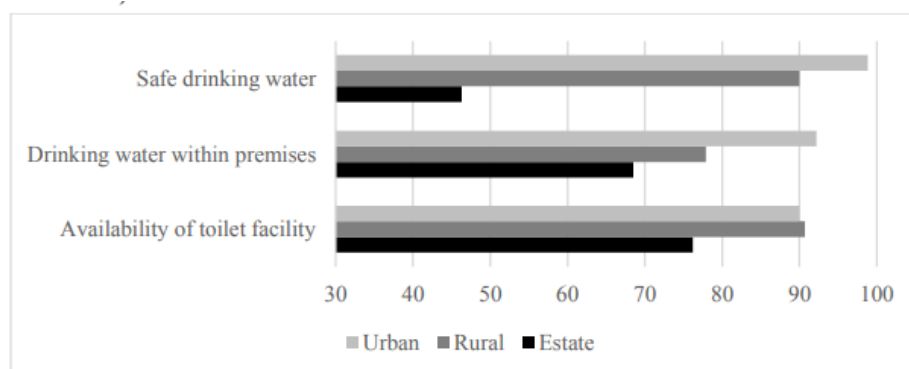
As per the current definition used by the Department of Census and Statistics (DCS), only municipal and urban council areas are considered urban. Pradeshiya Sabhas are considered the rural sector. According to the National Policy for Rural Water Supply and Sanitation (2001), Pradeshiya Sabha areas with a population of more than 6,000 are identified as urban for the purposes of water supply and sanitation services. ([Toward Sustainable Water and Sanitation Services in Sri Lanka, 2015](#))

On a nation-wide basis, piped water systems and protected wells deliver safe water to almost 90% of the urban population and 60% of the rural population. Piped water is supplied to 51% of the population at present which is over 6 million people. Tube wells provide water to a population of more than 2 million (3.2%). In addition, 36% of the population living in Sri Lanka has been provided with safe drinking water through protected dug wells. ([Annual Report, 2019](#))

Accordingly, 90% of the urban population and 60% of the rural population are provided with safe drinking water facilities. The proportion of households with access to an improved water supply is about 76% at present which was 71% in 2004. However, disparities in service coverage across regions are still prominent, despite the massive investments made during the last few decades in the water sector. ([Source: National Drinking Water Policy](#))

Overview of Urban, Rural, and Estate Water Supply

Figure 1 Overview of urban, rural and estate water supply

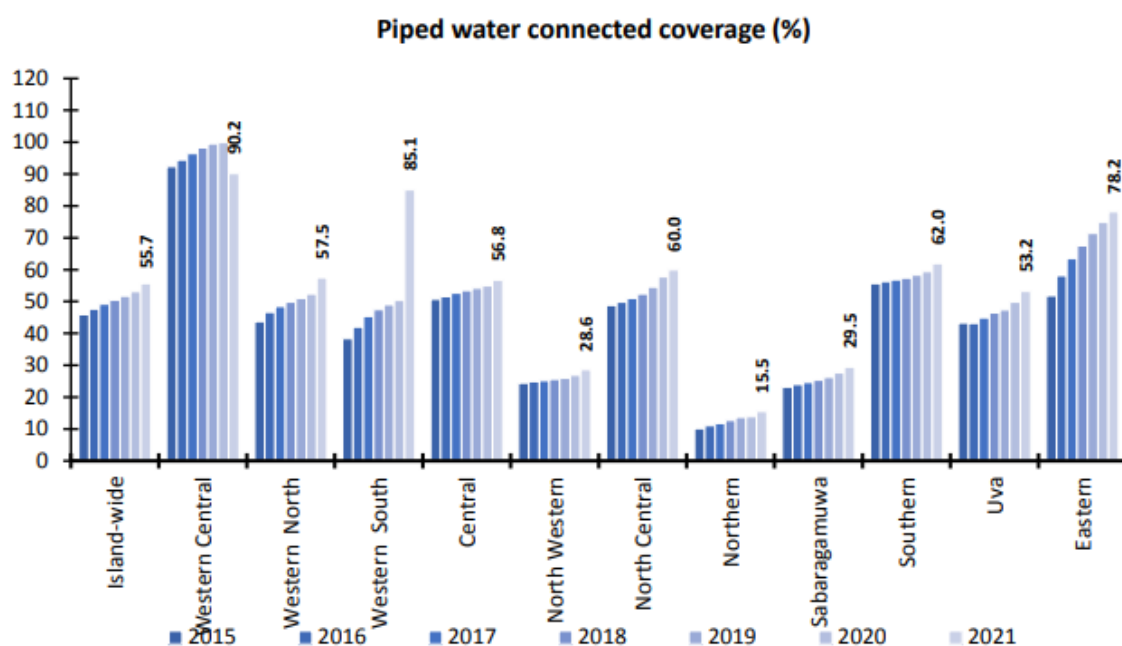


Source: Sri Lanka, Department of Census and Statistics 2015.

The estate sector has the lowest service level in both water supply and sanitation. According to the Household Income and Expenditure Survey 2012/13 (Sri Lanka, Department of Census and Statistics 2015), only 46% of the estate population has access to safe drinking water, while more than 90% of the urban and rural population enjoy such assets.

Unequal Distribution of Piped Water Access by Province

Figure 2 Coverage of piped water connections



Source: (Key Performance Indicators, NWSDB 2021)

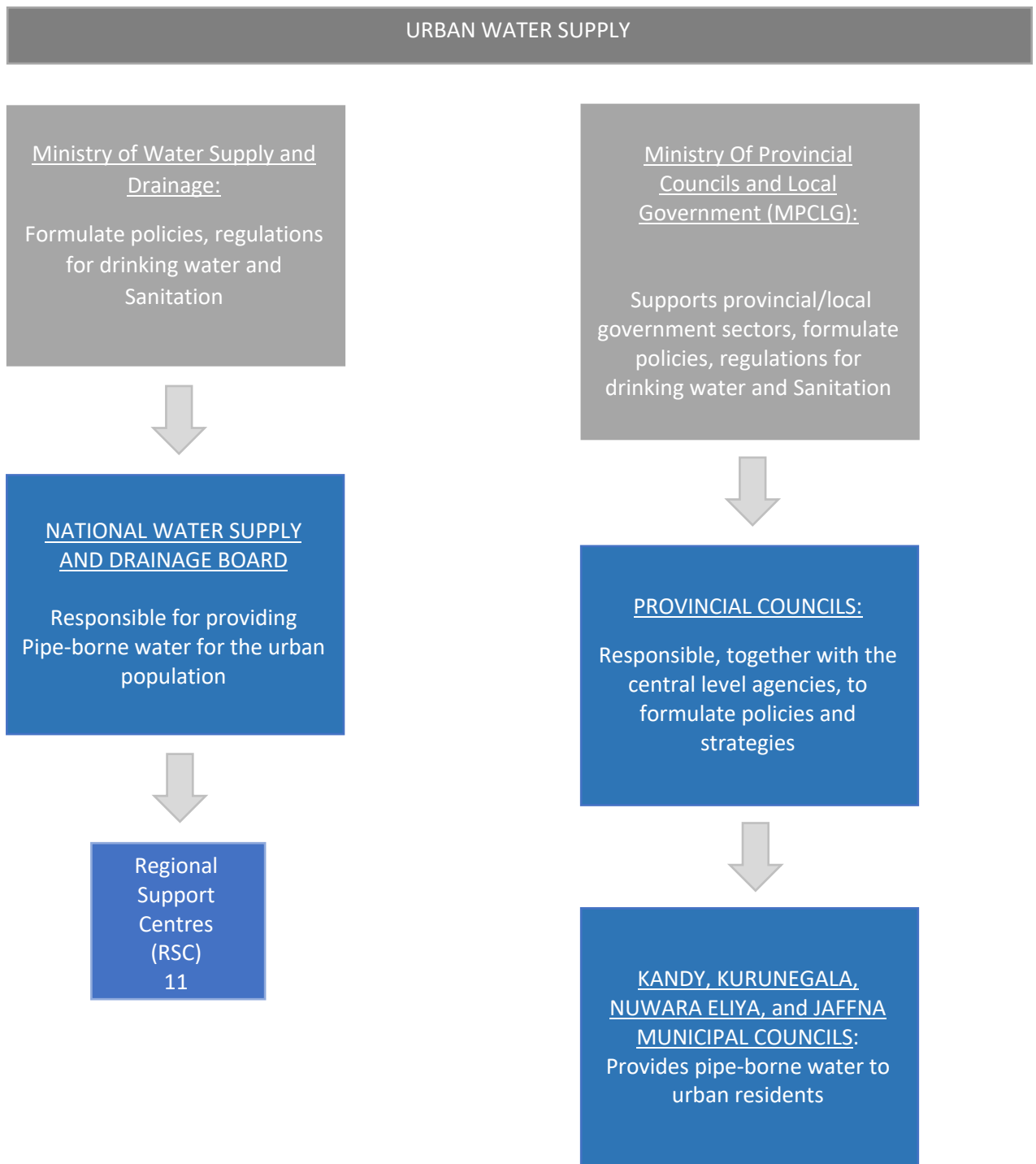
Coverage of piped water supply mirrors uneven spending, with the Western Province having the highest coverage (90%) and Northern Province the lowest (15%).

According to the Sri Lanka Demographic Health Survey (DHS), 90% of households have access to safe drinking water and sanitation coverage. However, there are strong spatial differences with only 36% of people having access to piped water and 2% to piped sewerage disposal. Coverage also largely benefits urban populations, with 57% of households in the estate sector not having access to improved water sources. In Nuwara Eliya, a district hosting a substantial share of the estate population, access to clean water stands at 54%. In contrast, Colombo has an access rate of 99.9%.

The above text is sourced from [\(World Bank 2021\)](#)

Urban Water Supply

Figure 3 Institutional Framework



The above section is sourced from [Toward Sustainable Water and Sanitation Services in Sri Lanka, 2017](#)

Service Delivery Mode and Institutions of Urban Water Supply

The NWSDB is responsible for water supply services to urban areas in Sri Lanka, except for areas where municipal or urban councils provide the water supply (Kandy, Kurunegala, Nuwara Eliya, and Jaffna). Regional Support Centres (RSC) were established with the help of an institutional development programme funded by the U.S. Agency for International Development (USAID). Currently, NWSDB operates through 11 RSCs, each headed by a deputy general manager who reports to another general manager at the head office in Colombo.

Although many functions – including design – are now decentralized to RSCs, a move supported by the Institutional Strengthening for Decentralized Service Delivery in the Water Sector technical assistance project, funded by the Asian Development Bank (ADB), some key functions, such as finance, human resource management, and procurement, are still managed centrally. The RSCs are positioned to coordinate with local authorities, such as provincial councils, to improve water supply services in the regions. Furthermore, decentralization is desirable to enable RSCs to respond more effectively and promptly to local needs and to coordinate with other relevant agencies, such as the Office of the Medical Officers of Health, at the local level.

Urban Water Supply Coverage

Table 1 Urban water supply coverage nationwide

Indicator	2006–07	2009–10	2012–13	Percent change,
				2006–13
Urban population (millions)	2.7	3.0	3.6	33.3
With access to safe water (%)	97.7	87.6	98.8	1.1
With access to drinking water within premises (%)	88.1	88.9	92.2	4.6
With sufficient drinking water (%)	96.6	97.3	98.2	1.6
With sufficient bathing/washing water (%)	94.8	95.8	97.8	3.1
Urban mean household income (current rupees)	41,928	47,783	69,880	66.7 ^a

Sources: DCS 2007, 2010, 2015.

On a nation- wide basis, piped water systems and protected wells deliver safe water.

Access

Access to safe water in 2012–13 in urban areas was 98.8%, having overcome the impact of about 10% 2006–7 (table 3.1). More than 92% of the urban population is reported to have access to drinking water within their premises. Urban water supply is provided through 331 urban water supply programmes that provide more than 1.9 million connections (NWSDB, 2016) covering about 7.4 million people. Although many small towns that are outside the official definition of urban areas are already covered by these water supply programmes, some areas in the previously conflict-affected areas to the North and East are in the process of getting piped water.

Adequacy and Reliability

About 98% of the urban population is estimated to have sufficient water for drinking, bathing, and washing. About 40% of the urban water supply programmes provide 18–20 hours of continuous supply. Most households have adapted to these hours by constructing water storage tanks on their premises, though poorer households may not have sufficient space for storage tanks. The low pressure in pipes from discontinuity in the water supply may be causing contamination of water within the distribution network. Overall, demand for water is increasing due to changing lifestyles and greater appliance use made possible by increasing incomes.

Operational Performance: Key Service Indicators – NWSDB (2006–15)

Table 2 Operational performance of NWSDB

Indicator	2006	2011	2015
Piped water supply coverage (%)	29	42	45.9
Consumption, liters per capita per day	117	—	—
Non-revenue water, islandwide (%)	34	30.4	27.3
Non-revenue water, Colombo (%)	51.8	49.9	46.1
Water availability (number of hours per day)	16	20	20
Bacterial water quality compliance (%)	95	98	99.5
Number of water connections (millions)	0.98	1.49	1.95
Number of public standpipes (number of units)	8,146	6,376	1,824
Sewerage connections (number)	9,472	11,173	17,870

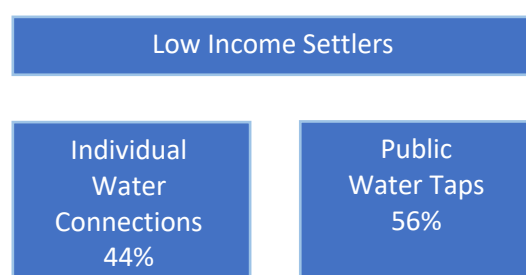
Sources: World Bank 2014; NWSDB 2015, 2017.

Note: — = not available.

Financial Performance of NWSDB:

The NWSDB has recorded Rs. 1,816,772,395 profits for the year 2017; however, it turned into loss for the following two years as Rs. 568,695,429 and Rs. 1,176,834,646 in 2018 and 2019 respectively, mainly in the absence of a tariff revision since 2012.

Low-income people and Urban Water Supply – Colombo’s Case



Two studies conducted in 2005 and in 2020 with the implementation of Sri Lanka: Greater Colombo Water and Wastewater Management Improvement Investment Programme (GCWWMIIIP) documented the water and sanitation situation of Colombo’s low-income settlers. Accordingly, it was found that, over half (78,000 households) of Colombo’s population is estimated to live in 1614 low-income communities. Only 44% of households in these densely-populated settlements have access to an individual water connection; the balance relies on public water taps.

A survey conducted in the Greater Colombo Area in 2017 identified 1,346 Water User Groups (WUG) in over 41,000 families. A WUG is a group of households who use a common metred water outlet – a public stand posts (PSP) – and who collectively pay for their water usage. The common taps are situated close to the dwellings at an average distance of 54 metres and people spend thirty-eight minutes per day on an average, to fetch water. Stand post users paid an individual monthly charge between Rs. 50 and Rs. 75, which is shared among the water user households, at the time of the survey. Additionally, it was also found that there were about 1000 illegal water connections within the Colombo Municipal Council (CMC) region, where some house owners had taken permission for only one tap, but as the pipeline passed in front of their houses, and was connected to the sump. While some others install small suction pumps to their taps to draw more water. The motor is switched on

as soon as the water is supplied and hence consume more water. This has turned out to be a great headache for those living near their houses as they do not get water even for drinking purposes.

During the survey it was identified that PSPs were not metred, and already disconnected PSPs, due to various irregularities, have been re-connected and illegally used (GCWWMIIIP, 2020).

Issues and constraints faced by low-income settlers related to water use.

1. Illegal status – The majority (55%) of the urban poor do not own the housing plot on which they live. They cannot apply for individual water connections because the NWSDB provides such connections only to those who can provide proof of property ownership and a recent receipt for payments of property tax.
2. Political interest – The provision of public water taps has historically been an important means by which local political leaders win popular support. The NWSDB established that over 7000 public water taps are available in the city of Colombo. Among them, about 5187 (74%) are located in low-income settlements, providing water free of charge following the requests of elected representatives and local political leaders.
3. Willingness to pay – The urban poor in Colombo expressed their willingness to pay for water to ensure a better or more reliable service. However, it was clear that they are often unable to pay the very high one-off connection charges. For example, after community mobilization sessions of WUG, the billing data in 2019 reflected that the percentage of PSPs having arrears over Rs.3, 000.00 has dropped to 3% from 14% in the year 2016.
4. External factors related to housing and land size do not enable the settlers to get individual water connections.

Figure 4 Example cases of external constrains of getting individual water connections.

At Muhandiram road a PSP was used by four families. Their houses are so small and they did not have space for bathing or washing activities. Although they wanted to have individual water connections, because of the above constrain they were unable to get their connection. The CMABC team has guided them in this situation and suggested an alternative arrangement for obtaining individual water connection and discontinue PSP. As a result, four families got their individual water connections and installed the meter in their house and placed the outlet pipe at the common bathing place enabling them to safely handle their individual water connections. This has been an innovative best practice of reducing NRW under the GCWWMIIIP.

This model was copied by other settlements such as Brass Founder Street, Colombo 13, St. Anthony's Road, Colombo 3 and Nelson Lane, Colombo 8.

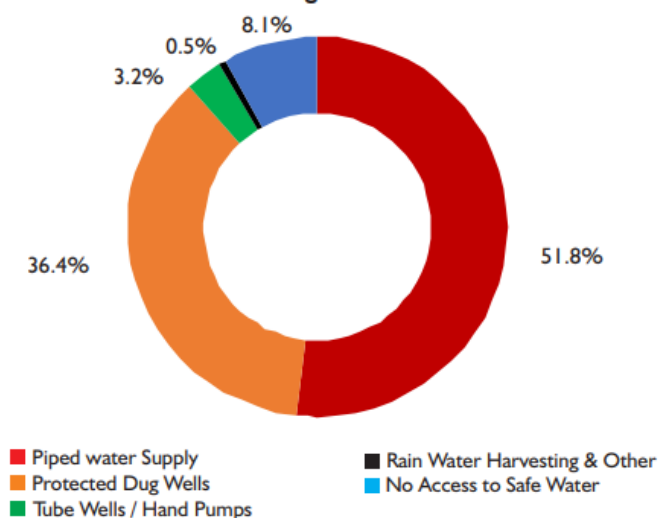
5. Limited capacities of the service delivery agencies – The technical staff of the utility agencies have very little expertise in working in partnership with civil society organizations. These officials often perceive community mobilization and community participation as being too time consuming.
6. Geographical location – It was recognized that most low-income communities are located in low-lying areas that are often far from the existing service lines. Moreover, the irregular layout pattern of the community causes problems when it comes to providing water lines. Sources: Consultancy services for community mobilization, awareness & behaviour change under the GCWWMIIIP, 2020 ([Premakumara, 2005](#)).

Principal forms of access to drinking water in Sri Lanka and CMC areas

- A study conducted in urban and semi-urban areas of Colombo found that the vast majority of households retain wells, even after piped water become available. In the Colombo Metropolitan area, when the pipe water connection is provided, the use and occupancy of wells decreases, while in the suburbs such as Piliyandala, Homagama, Kesbewa and Malabe, 61%, 58%, 53%, and 51% of households respectively are using both piped and well water. The main advantage of using both piped water and well water is that it reduces the monthly average water consumption, and hence, the bill.

Figure 5 Access to safe water coverage

Access to Safe Water Coverage



Source: [\(Biswas, Jayatilaka, and Tortajada 2006\)](#)

- It is advised not to use tube wells mainly in the CMC area due to the excessive pollution of the water table. The CMC had raided several eateries which used groundwater from illicit tube wells, mainly by hotels and restaurants since food prepared using tube well water becomes contaminated.

Source: [The politics of progress on water and sanitation in Colombo, Sri Lanka, 2013](#)

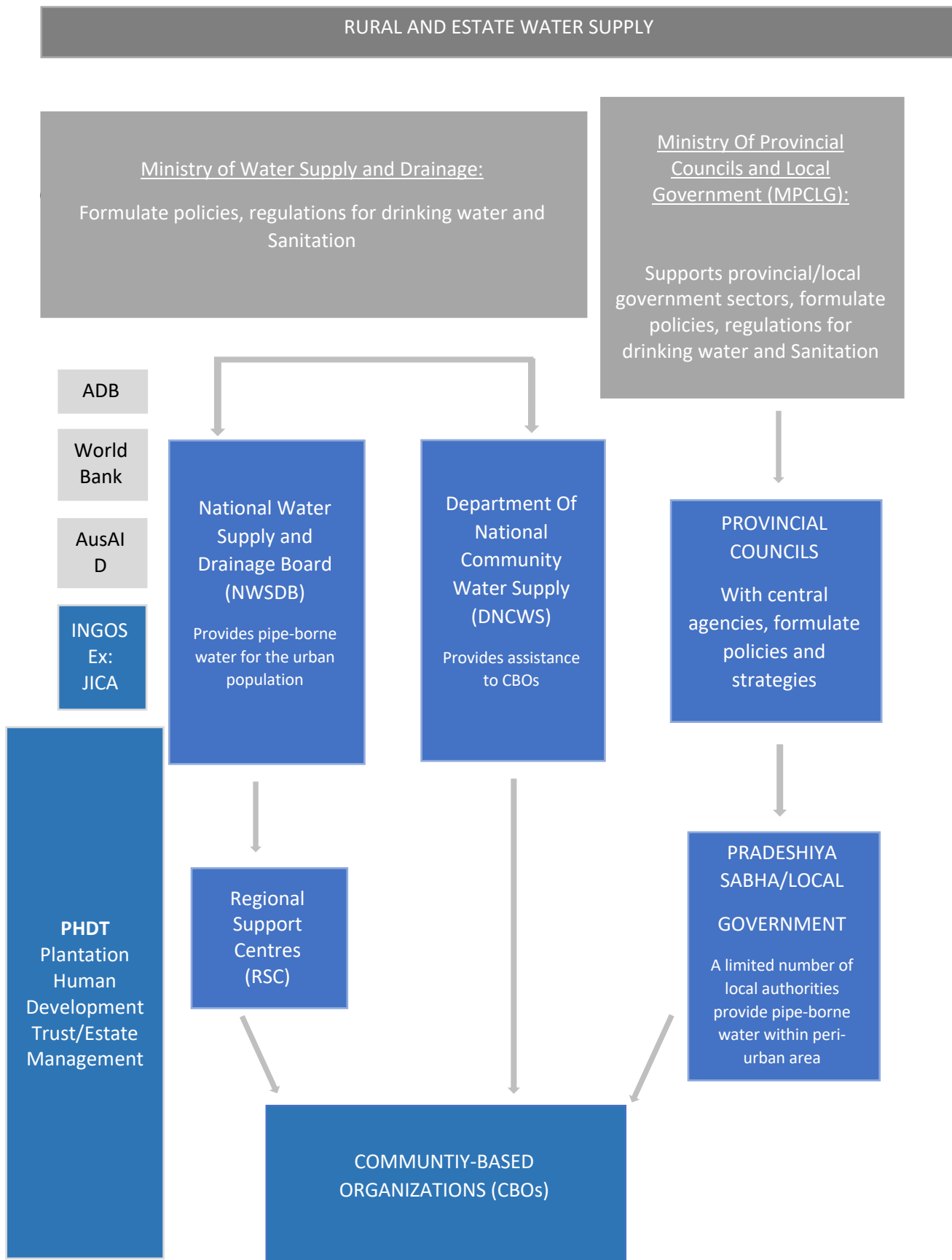
Table 3 Different ways how water is sourced within CMC area.

Administrative unit	Number of households	Well			Pipe-borne water			Other				
		Protected well within premises	Protected well outside premises	Unprotected well	Tap within unit	Tap within premises but outside unit	Tap outside premises	Rural water supply project	Tube well	Bowser	Bottled water	River/tank/stream/spring/other
Sri Lanka	5,188,047	1,650,550	758,363	227,418	1,076,948	340,594	159,510	494,898	168,344	23,428	9,297	278,697
%	100	31.8	14.6	4.4	20.8	6.6	3.1	9.5	3.2	0.5	0.2	5.4
Western province	1,452,474	577,885	93,996	35,636	533,454	59,276	38,821	56,967	40,892	1,364	1,285	12,898
%	100	40	6	2	37	4	3	4	3	0	0	1
Colombo district	558,755	121,297	11,862	7,026	350,327	26,942	18,202	17,600	1,754	58	682	3,005
%	100	21.7	2.1	1.3	62.7	4.8	3.3	3.1	0.3	0	0.1	0.5
Colombo municipality*	118,697	804	332	652	94,434	7,770	10,556	2,932	456	14	433	314
%	100	0.7	0.3	0.5	79.6	6.5	8.9	2.5	0.4	0.0	0.4	0.3

Note: * Figures for Colombo municipality are derived as the sum of reported figures for Colombo and Thimbrigasayaya divisional secretariats.

Rural and Estate Water Supply

Figure 6 Rural and estate water supply institutional framework



Service Delivery Modes and Institutions: Community-based organizations (CBOs) are the mainstay of rural water supply. Introduced through a pilot programme in the 1990s as part of the World Bank-funded Community Water Supply and Sanitation Project, CBO programmes have grown in popularity, and several development partners, including ADB and Japan International Cooperation Agency (JICA), have funded projects to establish CBO-based Rural Water and Sanitation (RWS) programmes. At present, an estimated 4,500 such programmes are in existence, ranging in size from less than 50 connections to more than 1,000 connections, providing piped water to about 2.6 million beneficiaries

Institutional Issues: The larger sectoral context in which RWS programmes operate has an important role in ensuring their sustained service delivery. In this context, the roles and functions of the NWSDB, Department of National Community Water Supply (DNCWS), and local authorities overlap somewhat and need clarification. Although the DNCWS is the lead agency and has a clear mandate to oversee, monitor, and give guidance to the RWS sector in the country, it is a relatively new agency, and it needs technical and financial support to fulfil these functions. The NWSDB can provide technical support to DNCWS mainly because of its current role as technical support provider to CBOs. For example, the NWSDB has well-staffed RSCs (with RWS units) in all the regions while DNCWS is currently in the process of establishing parallel district-level structures. Furthermore, the NWSDB's RWS unit has an existing database of CBOs, which needs further support and resources to be complete and up-to-date, but the DNCWS is collecting data for a new, parallel database. Through their projects, development partners have tested different institutional designs to support the CBOs.

Access: As of 2012–13, an estimated 90% of rural households reportedly have access to safe drinking water, mostly from protected dug wells, and almost 87% had adequate water for washing and bathing (DCS 2015). However, these static figures do not capture seasonal variability and the adequacy of water available year-round. Unlike in urban areas, where piped water supply is the norm, less than 15% of the rural population has access to piped water, and the rest continue to experience the inconveniences associated with fetching water either from dug wells in the yard or from a distance. Focus group discussions with rural households conducted for this case study suggest that many rural households meet their water needs by tapping a range of sources. These include water provided by CBO programmes, trusted wells (either their own or wells shared with neighbours), and buying drinking water from private providers, along with using water from rivers, streams, irrigation tanks, and canals for washing and bathing.

Adequacy and Reliability: Most CBOs provide far less than 24 hours of water supply because of inadequate or seasonally varying supply at the source, inadequate labour for operating the pumps, or unaffordable electricity bills. Focus group discussions with beneficiaries revealed that most households manage by storing water in 500-litre overhead tanks or other large containers. Many use a range of sources, including wells and buying water from private vendors. Economic constraints are rarely the reason for using alternative sources. However, demand for piped water drops during the wet season, when other sources are plentiful.

Quality: The quality of water supplied by CBOs is a major concern in many areas, and focus group discussions with beneficiaries suggest that most households cope with this by boiling or filtering the water (or both) or by using the CBO water for purposes other than drinking. Beneficiaries have a greater awareness of water quality because CBO water is tested regularly — for example, under the Greater Kandy Water Supply Project supported by JICA, the Katugastota Water Treatment Plant was equipped with laboratory facilities to test CBO water in the Kandy District.

Affordability: A beneficiary household joins a CBO programme by paying an initial connection fee and monthly fees depending on use. At the outset of the programme, the household can choose to pay

for the connection fee in cash (equivalent to between SL Rs 15,000 and 20,000), contribute labour, or a combination of both. This has proved to be an affordable model for many who join during the establishment of the programme. Those joining later can pay for the connection cost only in cash, which some may find difficult to afford. In such cases, CBOs help by offering loans with extended payments. Bill collection across a sample of CBOs shows substantial variation. Defaults in payments are attributable to dissatisfaction with unreliable supply, faulty metres resulting in disputed bills, and a perceived lack of authority on the part of the CBO. The CBOs tend to take a sympathetic view of default by households with economic constraints or those with elderly and/or disabled heads of households and make special arrangements to accommodate them.

Water Supply and Sanitation in the Estate Sector

The estate sector in Sri Lanka includes about 1 million people (less than 5% of the country's population) and consists of areas with cash crop plantations with more than 20 acres of land and 10 or more resident labourers. Historically, estate management rather than the government has provided services to the estate population. Accordingly, 10.9% of the estate population is poor compared with 2.1% of the urban sector and 7.6% of the rural sector (DCS 2015).

Access to Improved Sanitation: Improved sanitation facilities covered 76.2% of the estate population by 2012–13 compared with 90% for the rural sector. Sanitation is mainly through on-site latrines, but their construction quality is uncertain because there are many reported instances of water-source pollution due to unsanitary latrines used by the plantation communities. The regional plantation companies, with support from the Plantation Human Development Trust (PHDT), typically manages the programmes. The development partners have had limited engagement in Water Supply and Sanitation (WSS) in the estate sector. Of 38 projects active during 2007–16, only one project refers to the estate sector. The World Bank-supported Second Community Development and Livelihood Improvement Project has constructed 467 community water supply projects and 695 sanitation sub-projects, some of which are in the estate sector. Because of the estate sector's special features (plantation management provides basic services instead of the state), the most appropriate institutional model to deliver water and sanitation services to estate populations is still unclear. Various community-based models with varying levels of ownership and participation by the plantation companies have been tried with the assistance of development partners, but they have achieved limited success, mostly because of low capacity and low interest in managing WSS programmes among estate populations.

The above section is sourced from [\(Toward Sustainable Water and Sanitation Services in Sri Lanka, 2015\)](#)

Rural and Plantation Sector Water Supply – Issues faced by Tea Plantation Communities

Conflict and violence motivated by competition over water resources occur in plantation communities in Sri Lanka. Based on a series of needs and context assessments conducted in the plantation sectors, it has been found that water, as a resource, plays a key role in either triggering these conflicts or acting as a root cause of conflict and violence. Furthermore, findings show that a community-based water resource management project is effective in mitigating and managing conflicts within plantation communities and provides an opportunity to resolve wider conflicts occurring within these communities.

The First Level of Conflict: At Home

Women in the tea estates, specifically within the selected areas, get up in the morning at about 4.30 (on average). Their first task is to make sure that they get a good position in the queue to collect water

from the common water tap somewhere near their line room. The last person to join the queue will have to spend approximately 20-30 minutes to get one or two full buckets of water. The wait time varies between line room segments as some line room segments have one tap for 10 family units while others have one tap for 15-20 family units. Conflict can arise first thing in the morning between neighbours in the queues. Some people jump queues and some women use their buckets to hold their place in the queue instead of being physically present which can create conflict (some women put their buckets in the queue at midnight to avoid waiting in the morning). In many instances, the last few people in the queue do not get water due to blockages or breakages caused by communities in the upper divisions. When women get into these fights men will usually get involved later. Sometimes these events reignite cycles of conflict, which had been latent for some time.

The Second Level of Conflict: Within Communities

The next type of conflict that occurs in the morning is at the community level and is between the upper divisions and the lower divisions. Early in the morning the upper division communities block the water or break the pipelines to divert water to their divisions, communities, and families, restricting the water use by communities situated in lower divisions. It was noted that in most cases women are responsible for collecting water in the morning as well as other chores like cooking for the family, cleaning, and preparing the children for schooling. In most cases, men do not help with these tasks, compounding the pressure on women to complete the tasks alone. This creates tension and frustration for women, which leads to conflicts in the morning between the parents and children as both men and women need to start work by 7.30 a.m. in the tea fields. Often because of these tensions in the morning, the parents (men and women) go to work late and they face conflict in the field with their supervisors (kankanis).

When this happens continuously, it leads to conflicts with the management and in extreme cases, workers will lose pay. The plantation estates did have common bathing and toilet areas (some of them are still available and used). Eventually, the communities started building toilets and private temporary bathing areas within the vicinity of their houses to ensure privacy and security for women and children. Even so, most community members could not use these facilities continuously and effectively as they did not have access to water. This resulted in the continued use of the common facilities. These common toilets and bathing areas have created conflicts due to a lack of security and improper maintenance. The groups that were most affected were children and women. With these challenges, the communities continued to defecate in the open and they continued to wash themselves in water that flowed downstream to other communities who used the same water for drinking and cooking purposes. The estate communities in this area tried to compensate for their low income with additional income-generation options. The most common methods were animal husbandry (especially cattle rearing) and small-scale vegetable gardening. These processes created a lot of waste in the community as many people use the same stream to wash the area where the animals lived (cow or goat sheds, poultry sheds etc.), the animal (cow or goat), gardening equipment (with pesticides) and vehicles. This created or exacerbated pre-existing conflicts between upper- and lower-division communities.

The Third Level of Conflict: Higher Levels

Since these communities were brought down from southern India and settled with minimal facilities, they expected the plantation estate management to provide necessities for their welfare. In a way, this was justifiable due to the agreements that were made with estate management and the government under which the communities were brought to Sri Lanka. The communities considered water a necessity and expected and demanded the estate management to provide them with safe and

sufficient water. This proved very challenging for the estate management and they have continued to overlook this need. Negligence and inability of the estate management to provide this basic need has led to conflicts between the communities and the management. When community versus estate management conflicts arise, it concerns the trade unions and then these community-level problems are taken up as socio-political conflicts between different political parties (trade unions). Discussions based on water resources intensify during the time of elections – specifically local government elections. Sometimes these discussions end up in large-scale violence triggering another conflict. Communities realize that providing water is the responsibility of the local government but do not know how to hold the local government accountable after the elections. Although the communities pay a subscription to their political parties/unions to speak on their behalf, the problem continues and remains unresolved from election to election.

The above section is sourced from a study done based on the tea plantation communities and the root causes of violence and conflict. [Source: \(Annaraj 2015\)](#)

Additionally, a study conducted for assessing social issues for rural water supply found some other issues that affect low-income families related to water in rural areas:

- Dependence on untreated surface water
- Least level of water in the dry season
- 17%–25% portion of families having monthly income lower than 10,000LKR
- Disparities in daily wages for women
- Tariffs for CBO water are higher than NWSDB and Pradeshiya Sabha tariffs. During FGDs, beneficiaries noted this discrepancy, but stated that they saved by settling the bill within the village itself because the cost of travelling to the closest town to pay the NWSDB, for example, would exceed the cost of the water bill

[Source: \(Bellanthudawa et al. 2022\)](#)

Water Policy

National Drinking Water Policy

The National Drinking Water Policy provides a framework for addressing the key issues and challenges facing the country's water supply sector in the provision of safe water supply to the people of Sri Lanka. There are two sub-sectors that could be identified for the purpose of applying this policy in the water supply sector, namely:

1. Rural Water Supply Sub-Sector

A policy document has been approved for the rural water supply and sanitation sub-sector by the cabinet in 2001. The rural water supply & sanitation policy comprehensively addresses the rural water supply aspects coming under the purview of mainly the provincial councils and Pradeshiya Sabhas. The drinking water services for this sub-sector is mainly by way of dug wells, tube wells, rainwater harvesting, and small-scale rural piped water supply systems.

2. Urban Water Supply Sub-sector

The urban water supply services focus mainly on the provision of pipe-borne water to urban areas as defined by towns, cities, urban centres, industries and some suburban areas.

The national drinking water policy has identified the relevant authorities and parties related to water supply in Sri Lanka and their activities and expectations have been documented in the policy.

The Government – through the Ministry of Water Supply

- Takes the lead role in the coordination of activities among all stakeholders and provides a platform for institutional collaboration for maximizing efforts and mobilizing resources.
- Promotes decentralization and devolution of responsibilities to appropriate provincial, regional, and local levels in consultation with relevant parties.
- Promotes social environmental and institutional sustainability.
- Promotes decentralization and devolution of responsibilities to appropriate provincial, regional, and local levels in consultation with relevant parties.
- Promotes domestic water supply as a priority.

The National Water Supply & Drainage Board (NWSDB), is the principal agency responsible for the development, operation, and maintenance of drinking water supplies. It is mandated to engage in development, service provision, and regulate quality standards of designs and water supplies to the public. The NWSDB

- Takes responsibility for the design, construction, and operation of small, medium and major pipe- borne water supply schemes.
- Provides technical assistance to other stakeholders on all technical aspects.
- Develops macro level development and investment plans for piped water supplies.
- Builds partnerships in operational areas to enhance service levels and build the capacity of small-scale operators for sustainability.
- Prepares financial management systems to ensure the sustainability of the piped water sector.
- Maintains a database on access to water supplies, water quality, etc.
- Promotes and actively involved in water source /catchment protection programmes.
- Transfers the operation and maintenance function of rural water supply schemes and small-scale water supply schemes to local authorities and community-based organizations.

Other Agencies – Such as Non-Governmental Organizations (NGOs) continue to act as proxies for communities and have also developed medium and small-scale water supply systems for communities and mobilize funding. However, in all such activities they are guided by government policy and practice, accountable to the government and provide all statistical information to the government to facilitate planning and monitoring of progress in the sub-sector.

Provincial Councils

- Assist the rural water supply sub-sector development activities.
- Promote investment, development, and sustainable management of water supplies in the province.
- Liaise and coordinate with the government and other stakeholders.
- Ensure sustainable management of water supplies by local authorities.
- Promote and are actively involved in the conservation and effective management of watersheds to ensure sustainable use of water for the communities

Local Authorities

- Take responsibility for planning, design and implementation and quality assurance of small and medium water supply schemes including operation and maintenance according to sound public utility practice.

- Develop partnerships with the users for operations and maintenance activities to enhance service delivery.
- Provide the necessary technical assistance to CBOs, where needed, for implementing and managing the water supply systems.
- Promote and be actively involved in water resource and catchment protection through a participatory approach.
- Ensure environmental harmony in all development activities.
- Ensure technical feasibility and financial viability of water supply systems.

The Beneficiaries

- Actively participate in ensuring water safety.
- Collaborate with the service provider in keeping with their responsibilities to ensure the sustainability of the service.
- Actively participate and contribute toward preservation, protection, and conservation of water resources.
- Actively participate and collaborate with the service providers on awareness raising campaigns.
- Promote the participatory approach and contribute to the planning, design, and construction stages of a project.
- In certain circumstances, may form community-based organizations (CBOs) to plan, implement, and manage their community water supply systems.

Financing of Drinking Water Supplies

Policy

Allocate available resources based on social and economic considerations to ensure equitable distribution of investments for water supply services across the country, adopting appropriate prioritization criteria.

Strategies

- Investments for financing drinking water are prioritized based on
 - Need
 - Health imperatives
 - Population density
 - Per capita investment
 - Financial viability
 - Economic benefits
 - Social factors
 - Environmental sustainability factors
- Investments will also be guided by commitments to goals and conventions. The needs shall be assessed considering the targets for increasing coverage and improving the quality of services.
- Funding of water supply systems will include reasonable and adequate provisions for water source and catchment protection and improvements, for water quality surveillance, human resources development, and research.
- Disbursement and use of funds shall follow principles of transparency and accountability.

- The government will subsidize or provide subsidies where necessary on considerations of social and economic necessities. Subsidies in all cases will be targeted at the needy.
- Investment in water supply will be integrated with sanitation wherever possible.

Financial Sustainability

Policy

Financial sustainability needs to be ensured for uninterrupted services through the adoption of an affordable and acceptable tariff system.

Strategies

- Water charges will apply only where there is a cost.
- An adequate quantity of drinking water at an affordable cost will be available to all.
- The following cost components for protection, processing, and delivery will be recovered through a service charge.
 - Capital cost and interest incurred
 - Operation and maintenance cost
 - Replacement and rehabilitation cost
- A lifeline requirement will be available to the poor through a subsidy targeted to the poor.
- Financial sustainability principles will apply uniformly across the country.

Additionally, it includes policies on **Water Source Management and Water Conservation** which aim to provide public awareness programmes to reduce encroachments, misuse, and pollution; promote and ensure water demand management and conservation, rainwater harvesting and use, and the reclaim and reuse of water; prevent water pollution and enable the use of alternative sources for non-consumption purposes; and offer incentives for conservation and efficient use of resources through appropriate measures consistent with other policies and programmes.

Improvement of Services

Policy

Enhance the quality of services provision by continuous assessments and improving operational and system efficiency.

- Establish key performance indicators and continuous assessment of consumer satisfaction and feedback for improvement of services.
- Planners and providers of drinking water programmes and supplies will develop adequate in-house capability in understanding the social needs and issues of the public.
- Those without access to improved drinking water supplies will be given priority in future developments. Improvement of services for the estate population, the internally-displaced and the differently-abled will receive special attention.
- Periodically update procedures and develop Standard Operating Procedures (SOP) to enhance the efficiency of operations.
- Carry out awareness-raising programmes for beneficiaries and encourage consumer participation in the execution of programmes, wherever possible.

Capacity Building Research and Training

Policy

Promote research in developing innovative ideas for continuous improvement of cost effectiveness and efficient use of resources in the provision of water services. Build capacity to develop professional standards required to address issues related to safe water in the changing socio-economic environment.

- Promote water-saving technologies through improved system designs and services, and optimize benefits from available resources and assets.
- Encourage the adoption of user-friendly and lower-cost water treatment plants.
- Find innovative means to reduce the cost of development and investments required to achieve the sector goals.

The policy also includes strategies related to the regulation of the NWSDB and Disaster Preparedness.

The above section is sourced from [The National Drinking Water Policy, 2001](#)

National Policy for Rural Water Supply and & Sanitation Sector

Access to a Basic Level of Water Supply

The Guidelines described below are the minimum requirements and levels of services to ensure health. This does not limit the demand for higher standards by the users. Where the users demand higher standards, they should contribute to the incremental capital cost.

Quantity of Water – The minimum requirement of water for direct consumption, preparation of food, and personal hygiene is considered to be 40 litres per person per day.

Haulage Distance – The maximum haul of water to the dwelling of any user should not exceed 200m. In steep terrain, this should be reduced with consideration to the effort for hauling water.

Adequacy of the Source – The minimum daily rate of extraction of water should not be less than 10 litres per minute per capita at the source. This supply should be available 90% of the time.

Equity – A supply system should provide water security to all members of the community. The operation and maintenance of the facilities should be effective and ensure that the total interruptions per year do not exceed 10 days.

Quality – The quality of water supplied as a basic service should conform to the currently accepted minimum standards for health-related microbiological and chemical contaminants.

Flexibility to Upgrade – The basic facilities provided should be sufficiently flexible to enable upgrading if and when desired by the users. The users should bear the entire cost of additional facilities for improved services over and above the basic facilities provided.

Safe Water Supply Systems – The following systems will be the accepted methods of providing safe drinking water:

- a) Piped Water Supply Systems with Adequate Treatment
- b) Deep/Shallow Wells with Hand Pumps

- c) Protected Springs
- d) Protected Dug Wells
- e) Protected Rainwater Catchment Systems

However, under epidemic or other risk situations, special treatment may be required.

Sector Partners and the Responsibilities

The rural water supply also has a similar institutional structure with government, provincial councils, local authorities, community-based organizations (CBOs), non-governmental organizations (NGOs), the private sector, and international donors involvement.

Rural water supply will be regulated to ensure efficiency, reliability, and quality of supplies and services. For this purpose, suitable regulations will be enacted by provincial councils and local authorities. The government will facilitate the formulation of an appropriate legal framework and necessary provisions within which the provincial councils and the local authorities may enact statutes and bylaws.

The scope of such regulation should include the following:

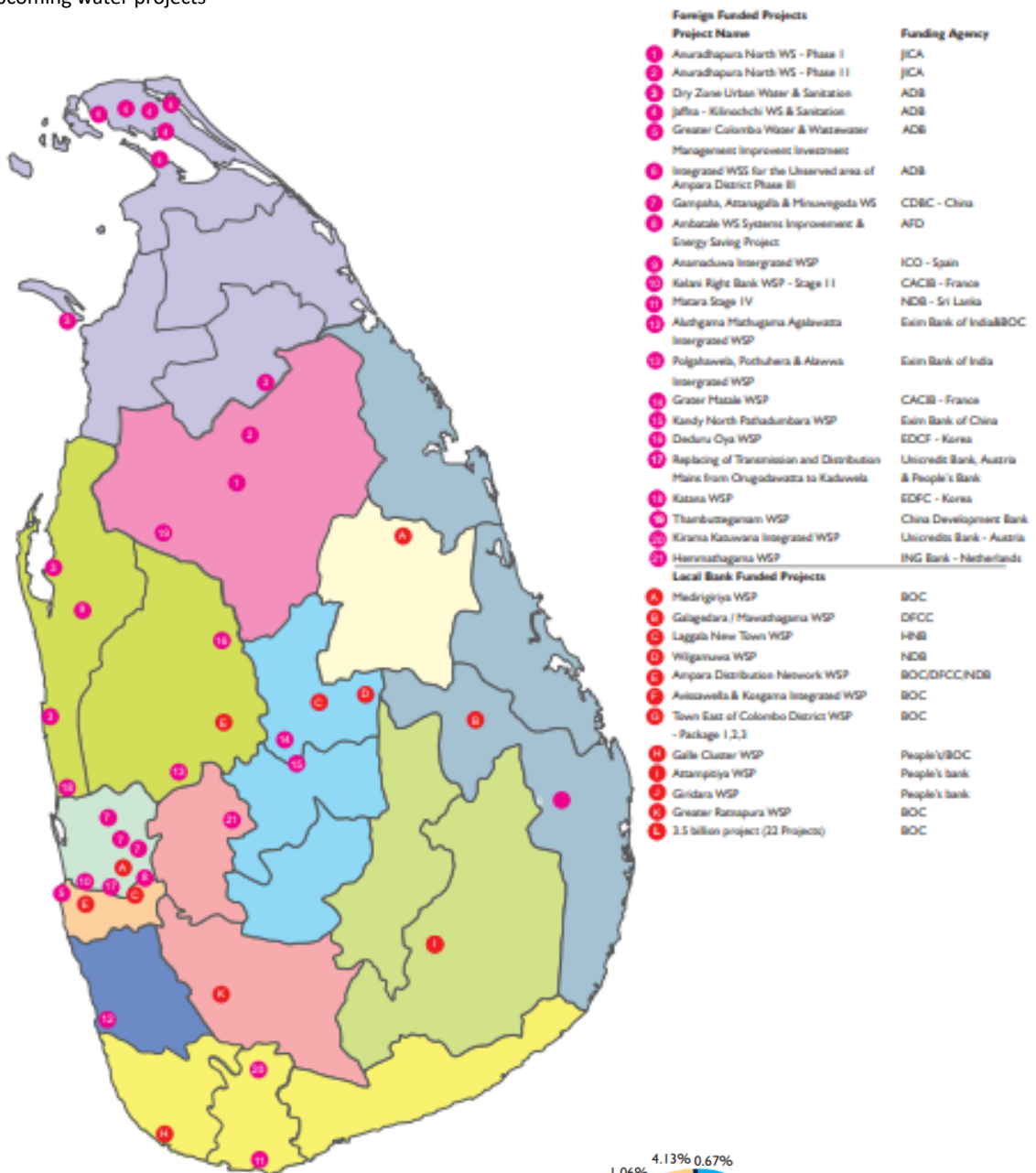
- (i) Extraction of water from natural sources to ensure equity and sustainability.
- (ii) Allocation of water for different purposes among users.
- (iii) Water entitlements.
- (iv) Conservation of water resources and watersheds including proper drainage and prevention of pollution.
- (v) Standards of the quality and the level of services of both potable water and sanitation.
- (vi) Implementation of tariff structure.
- (vii) Conflict resolution among stakeholders.
- (viii) Protection of user rights.

The above section is sourced from the national policy document of [National Policy for Rural Water Supply & Sanitation Sector, 2001](#)

Upcoming Projects

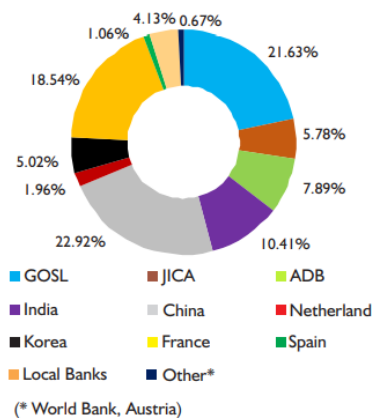
Foreign and Locally Funded Projects

Figure 7 Upcoming water projects



Foreign Aid Contribution by Funding Agencies and Related GOSL Funds

Figure 8 Contribution of foreign aid for water projects

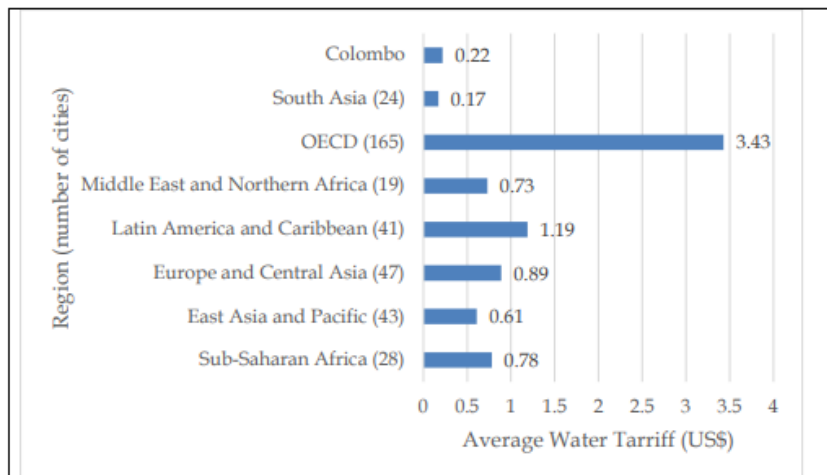


Foreign Funded Projects		Local Bank Funded Projects	
Project Name	Funding Agency	Project Name	Funding Agency
1 Anuradhapura North WS - Phase I	JICA	A Medirigiriya WSP	BOC
2 Anuradhapura North WS - Phase II	JICA	B Galagedara / Mawathagama WSP	DFCC
3 Dry Zone Urban Water & Sanitation	ADB	C Laggala New Town WSP	HNB
4 Jaffna - Kilinochchi WS & Sanitation	ADB	D Wilgamuwa WSP	NDB
5 Greater Colombo Water & Wastewater Management Improvement Investment	ADB	E Ampara Distribution Network WSP	BOC/DFCC/NDB
6 Integrated WSS for the Unserved area of Ampara District Phase III	ADB	F Avissawella & Kosgama Integrated WSP	BOC
7 Gampaha, Attanagalla & Minuwangoda WS	CDBC - China	G Town East of Colombo District WSP - Package 1,2,3	BOC
8 Ambatale WS Systems Improvement & Energy Saving Project	AFD	H Galle Cluster WSP	People's/BOC
9 Anamaduwa Intergrated WSP	ICO - Spain	I Attampitiya WSP	People's bank
10 Kelani Right Bank WSP - Stage II	CACIB - France	J Giridara WSP	People's bank
11 Matara Stage IV	NDB - Sri Lanka	K Greater Ratnapura WSP	BOC
12 Aluthgama Mathugama Agalawatta Intergrated WSP	Exim Bank of India&BOC	L 3.5 billion project (22 Projects)	BOC
13 Polgahawela, Pothuhera & Alawwa Intergrated WSP	Exim Bank of India		
14 Grater Matale WSP	CACIB - France		
15 Kandy North Pathadumbara WSP	Exim Bank of China		
16 Deduru Oya WSP	EDCF - Korea		
17 Replacing of Transmission and Distribution Mains from Orugodawatta to Kaduwela	Unicredit Bank, Austria & People's Bank		
18 Katana WSP	EDFC - Korea		
19 Thambuttegama WSP	China Development Bank		
20 Kirama Katuwana Intergrated WSP	Unicredits Bank - Austria		
21 Hemmathagama WSP	ING Bank - Netherlands		

Source: NWSDB

Tariff and Water Affordability

Figure 9 Average water tariff for selected cities across the regions in the world, and Colombo



Source: Global Water Intelligence 2015.

Note: OECD = Organisation for Economic Co-operation and Development.

In principle, Social Affordable Tariff (SAT) is the limit beyond which tariffs should not be raised. There is no international standard limit and the commonly used measure is that the proportion of the annual household cost of water and sanitation services should not exceed 5% of income.

The entire population of the country contributes to subsidising about 700,000 water connections. The government has taken responsibility to ensure the public (most of who can afford it) benefits through its 50% capital subsidy for water supply.

The Sri Lankan consumer generally pays far less for water services than for electricity and telecommunication services. In the NWSDB tariff structure there is heavy “cross subsidy”; commercial consumers pay more than the “real” cost whilst domestic consumers pay less.

The above section is sourced from: [Dharmapala and Ranasinghe, 2006](#)

Current Tariff Structure

Water tariffs applied to domestic customers increase in line with consumption levels to encourage water conservation. Charges for low levels of water consumption (up to 15 m³) are relatively low, meaning that consumers can enjoy a “lifeline” level of water consumption at very little cost.

Water and Low-income groups Tariffs – 2012.09.18

Domestic – Samurdhi Recipients

This tariff shall apply to water provided to households of Samurdhi recipients for domestic purposes.

Table 4 Tariff structure for Samurdhi recipients

<i>No. of units</i>	<i>Usage Charge Rs./Unit</i>	<i>Monthly Service Charge Rs.</i>
00 - 05	5.00	50.00
06 - 10	10.00	50.00
11 - 15	15.00	50.00
16 - 20	40.00	80.00
21 - 25	58.00	100.00
26 - 30	88.00	200.00
31 - 40	105.00	400.00
41 - 50	120.00	650.00
51 - 75	130.00	1,000.00
Over 75	140.00	1,600.00

Domestic – Non-Samurdhi Tenement Garden

This tariff shall apply to supplies of water to households, other than those of Samurdhi recipients, residing in tenement gardens, for domestic purposes.

Table 5 Tariff structure for residents of tenement gardens for domestic purposes

<i>No. of units</i>	<i>Usage Charge Rs./Unit</i>	<i>Monthly Service Charge Rs.</i>
00 - 05	8.00	50.00
06 - 10	11.00	65.00
11 - 15	20.00	70.00
16 - 20	40.00	80.00
21 - 25	58.00	100.00
26 - 30	88.00	200.00
31 - 40	105.00	400.00
41 - 50	120.00	650.00
51 - 75	130.00	1,000.00
Over 75	140.00	1,600.00

Domestic – Other than for Samurdhi Recipients and Tenement Garden Residents

This tariff shall apply to supplies of water to households, other than those of Samurdhi recipients and residents of tenement gardens, for domestic purposes.

Table 6 Tariff structure for domestic purposes of water

<i>No. of units</i>	<i>Usage Charge Rs./Unit</i>	<i>Monthly Service Charge Rs.</i>
00-05	12.00	50.00
06-10	16.00	65.00
11-15	20.00	70.00
16-20	40.00	80.00
21-25	58.00	100.00
26-30	88.00	200.00
31-40	105.00	400.00
41-50	120.00	650.00
51-75	130.00	1,000.00
Over 75	140.00	1,600.00

Public Stand Posts and Garden Taps

Table 7 Tariff structure for public stand posts and garden taps

<i>No. of units</i>	<i>Usage Charge Rs./Unit</i>	<i>Monthly Service Charge Rs.</i>
00-25	10.00	250.00
26-50	10.00	500.00
51-100	10.00	1,000.00
101-200	10.00	1,600.00
Over 200	10.00	2,500.00

This section of the text is sourced from the NWSDB Law in 2012. [Source: National Water Supply and Drainage Board Law, 2012](#)

Establishing the demand and capturing willingness to pay among low-income groups in Colombo

The study conducted across the three municipalities of Moratuwa (MMC), Dehiwala-Mount Lavinia (DMMC) and Colombo (CMC) by the Centre for Poverty Analysis (CEPA) found that demand for individual connections was high, especially in Colombo and Moratuwa where over 90% of those sampled expressed willingness to connect, while the demand in Dehiwala Mount Lavinia was slightly lower (77%). The expressed value of individual connections was in terms of added convenience, time saved, more privacy, and better security. The benefits were seen as greater for women, who are usually tasked with fetching water to the house, and households with elderly, disabled, and young children.

"I would not need to wake up at night to fill water if we have an individual household water connection."

Female, Colombo, age 48

"Every one in the community will benefit from getting an individual connection. Even though these are slum areas, women still prefer privacy. They prefer filling buckets of water to a tank in the house to bathe inside over bathing outside in public in the common tap."

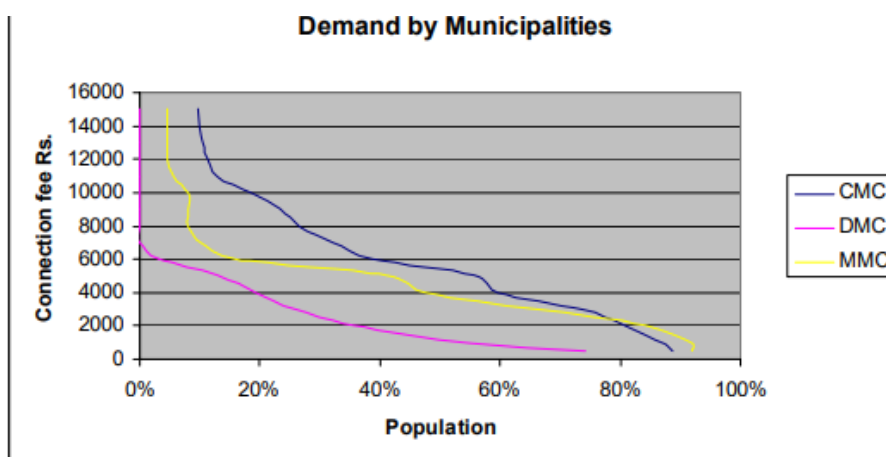
- Community Leader, Moratuwa, Male

Source: CEPA, 2009

Furthermore, the problems experienced while using common facilities, such as wastage of time, lack of privacy, and problems with neighbours were expressed as reasons for why individual connections were preferred over free public facilities. Evidence of their felt need is also supported by the fact almost half (46%) of the sampled households had tried to get connections but had not been successful. Reasons given for the failure to connect ranged from not being able to meet the upfront costs, the process of having to submit as a group not working in their favour, and lack of follow-up from the NWSDB.

Among those unwilling or unsure about getting an individual connection, issues of space, cost, and uncertainty regarding their place of living were the main deterrents. In Colombo, lack of space to construct facilities inside the house as well as for drainage was the main limiting factor while in Dehiwala-Mount Lavinia, the temporary nature of the unconnected settlements is the main reason for their unwillingness to incur the expense at this point. This brings us to the crux of the matter: are households that have a high demand for individual connections willing to pay for such connections? The survey asked households to state levels of preferred amounts based on their ability to pay within set intervals. Rs. 0 – Rs. 15,000/-, where Rs. 15000/- was the amount for the general connection fee charged by the NWSDB. The results revealed sharply downward sloping demand curves with a small percentage indicating a willingness to pay at the asking rate of 15,000, while many congregated at lower amounts. At the range of around Rs 5,000, 54% of unconnected households in Colombo, and almost 40% of unconnected households in Moratuwa are likely to connect, while only 13% of unconnected households in Dehiwala-Mount Lavinia would connect. The graph below illustrates the demand curves by the municipality that is indicative of the general trends in these municipalities.

Figure 10 Demand for Individual water connections



Source: CEPA 2009 (Based on household survey results from willingness to pay study)

The demand curves also showed that willingness to pay differed across municipalities, USS and households, revealing that for different locations there are different levels of preferred payment amounts. In terms of what drives their willingness to pay, the regression outputs showed that the amount reported strongly correlated with income and proxy variables of income, but were not found to be highly correlated with factors that affect demand, such as having the elderly, people with disabilities, and young children in the household or problems faced when using public utilities. Therefore, the willingness to pay was capturing how much people could afford to pay rather than their perceived need or value for the service, showing that many were unable to translate their demand into a market-visible amount.

This section of text is sourced from a study conducted by the Centre for Poverty Analysis (CEPA) in 2009 [Source: CEPA,2009.](#)

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