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Development Cooperation

THE POLITICAL AND INSTITUTIONAL CONTEXT OF THE WATER SECTOR IN SRI LANKA

An overview



Funded by the European Union



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Water Management Institute Sri Lanka

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Cover page photo: various aerial pictures of Sri Lanka's water landscapes
(Source: Jaime Royo-Olido, EU Delegation 2015)

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An overview

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About the European Union Delegation to Sri Lanka and the Maldives

The European Union (EU) Delegation in Sri Lanka is governed by the 1975 Commercial Cooperation Agreement and the 1995 Agreement on Partnership and Development signed with the Government of Sri Lanka. Through dialogue and partnership, the Commercial Cooperation Agreement aims to enhance and develop: diversification of trade and investment; networking between EU and Sri Lankan business communities; strengthening of technical, economic and cultural linkages and provision of technical assistance to Sri Lanka to interact more effectively with the EU; and support of Sri Lanka's efforts to improve the living conditions of the poorer sections of the population along with the environmental protection and sustainable management of natural resources. The EU Delegation to Sri Lanka opened in 1995. The office is located in Colombo but is also accredited to the Maldives. The EU ambassador who heads the delegation office is accredited to both Sri Lanka and the Maldives and has full diplomatic status. The EU Delegation comprises staff from the European Commission's Directorate-General for International Cooperation and Development (DEVCO) and from the European External Action Service (EEAS).

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The International Water Management Institute (IWMI) is a non-profit scientific research organisation focusing on the sustainable use of water and land resources in developing countries. The IWMI is headquartered in Colombo, Sri Lanka, with regional offices across Asia and Africa. The IWMI's mission is to provide evidence-based solutions to sustainably manage water and land resources for food security, people's livelihoods and the environment. The IWMI works in partnership with governments, civil society and the private sector to develop scalable agricultural water management solutions that have a tangible impact on poverty reduction, food security and ecosystem health.

Institutional foreword

H. E. TUNG LAÏ MARGUE

The Ambassador of the European Union to Sri Lanka and the Maldives



Water lies at the very heart of most developmental processes and Sri Lanka, despite possessing rich water resources, is still confronting important threats. This brief introductory study was deemed necessary for the European Union to start understanding the complex yet crucial institutional setting in which water is governed in Sri Lanka. Sri Lanka has performed well with regard to the millennium development goals. However, as climate change-induced events become more recurrent and as new challenges emerge, such as the chronic kidney disease of unknown aetiology, adversely affecting thousands of

people, there is a need to go beyond achievements so far. We hope that this study will help anyone interested in engaging in Sri Lanka's water sector.

The European Union Delegation to Sri Lanka and the Maldives is very pleased of having collaborated with the IWMI, headquartered in Sri Lanka. The IWMI's mandate includes providing research for the operationalisation of development actions. We believe that such collaborations are particularly synergic and that the IWMI can add enormous value to donors' work. Deepening on the analysis of the water sector is a fundamental contribution that requires being sustained over time.

In parallel to this study, the EU is also supporting the capacity building of the National Water Supply and Drainage Board of Sri Lanka with a grant of close to EUR 6 million implemented via the Agence Française de Développement. The EU has funded the construction of various drainage schemes, such as in Mannar and in Vavuniya, with the United Nations Office for Project Services and numerous water, sanitation and hygiene schemes implemented by Unicef and several international and local non-governmental organisations. The EU will remain attentive to ways in which it may be able to help improve the management of water resources in the future in Sri Lanka.

Plate 1 — Landscape including reconstructed housing and a temple in Mullaitivu District
(Source: Jaime Royo-Olid, EU Delegation 2015)



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The views presented represent those of the authors alone, who take responsibility for any misinterpretations and errors.

Plate 2 — Rawana falls, Ella, Badulla District of Uva Province.
(Source: Jaime Royo-Olido, EU-Delegation 2014)



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Plate 3 — Beneficiary from EU-funded water supply implemented by Oxfam GB in Ampara District.
(Source: Jaime Royo-Olud, EU-Delegation 2015)

Abbreviations and acronyms

ADB	Asian Development Bank
AFD	Agence Française de Développement
CEA	Central Environmental Authority
CKDu	chronic kidney disease of unknown aetiology
DAD	Department of Agrarian Development
EU	European Union
FO	farmer organisation
GDP	gross domestic product
ID	Irrigation Department
IUCN	International Union for the Conservation of Nature
IWMI	International Water Management Institute
IWRM	integrated water resources management
JICA	Japan International Cooperation Agency
MASL	Mahaweli Authority of Sri Lanka
MIWRM	Ministry of Irrigation and Water Resources Management
NGO	non-governmental organisation
NWSDB	National Water Supply and Drainage Board
USAID	United States Agency for International Development
WRB	Water Resources Board
WRM	water resources management

Executive summary

Sri Lanka has made significant achievements in its water sector in recent years and has attained its millennium development goal targets with respect to the provision of safe water and improved sanitation. However, challenges remain requiring financial, social and organisational development policies that fit the country's new political and economic context. The water sector lies at the crossroads of the human, political and economic development of Sri Lanka, hence the need to assess its current institutional setting.

This report is the outcome of a scoping study of the current political and institutional context in which Sri Lanka's water sector functions. The objective of the study is to inform development agencies, such as the European Union (EU), represented by its Delegation to Sri Lanka and the Maldives, that wish to engage in the water sector. The study should help understand: (i) the significance of power relations within the sector, (ii) the vested interests and (iii) the links to national political processes that are central to planning investments and interventions in the sector. The background to the study is a growing concern among development practitioners about political economy risks associated with planning development operations. The methodology adopted in this study draws on common components of analytical frameworks formulated by development agencies such as the United States Agency for International Development (USAID), the Department for International Development (DFID), the Norwegian Agency for Development Cooperation, the European Commission and others for documenting and analysing political and institutional contexts. The analysis focuses on two levels: (a) country-level assessment that documents the macroeconomic context, national water policy and strategies, macro-level institutions for water governance, role of non-governmental organisations (NGOs) and donor actions; and (b) the role and responsibilities relating to the water sector delegated to subnational (i.e. provincial councils) entities. The sector analysis defines the organisational context of Sri Lanka's water sector and provides an inventory of the actors and their interests, powers and motivations. A summary of subsector budgets and other financing modalities and the intra and inter-sectoral institutional arrangements and coordination mechanisms are discussed.

In Sri Lanka, there are just over one hundred distinct river basins, over three hundred man-made major and about 12 000 minor irrigation reservoirs, many requiring cross-district cooperation. According to the Ministry of Finance and Planning (2013), the reservoir network can only store 35 % of the available water, while releasing the rest to the ocean. From the remainder, nearly 80 % is used for agriculture. Although in aggregate terms there is an apparent abundance of water resources, there is pronounced temporal and spatial variability in water availability. It is estimated that by 2025 several districts in the dry zone will experience severe seasonal or year-round absolute water scarcity at the current level of irrigation efficiency.

Hydropower is a major source of the country's energy supply, with an estimated potential of about 2 000 MW, of which more than half has already been harnessed. Despite its non-consumptive nature, hydropower generation affects the temporal pattern of water release and downstream allocation for agriculture and other water use sectors, which results in a growing conflict over water demand between agriculture and energy, as has been manifested in the recent water shortages experienced in the Mahaweli development area.

The insufficient capacity of the existing sewerage system in the greater Colombo area to properly handle the wastewater and sewerage could result in poor quality water bodies and waterways. The status of wastewater as a part of the overall water budget is minimal and precise data on this component of the water balance is not readily available. It is likely that poor quality drinking water is one of the causative factors associated with the growing incidence of the chronic kidney disease of unknown aetiology (CKDu) in the North Central, North West and Uva provinces.

In addressing the above challenges, government agencies play a critical and overlapping role. There are some 40 agencies dealing with water in a complex and dynamic framework where competencies overlap. This study distinguishes government agencies dealing mainly with food production, water supply and sanitation, hydropower and environmental management.

We classify the agencies into politically high, moderate and low priority sectors based on the government's budget allocations for the various sectors and a methodology used to determine political priorities in the health sector in some countries. Irrigation (Ministry of Irrigation and Water Resources Management (MIWRM), the Mahaweli Authority of Sri Lanka (MASL), Department of Agrarian Development (DAD)); (ii) domestic water supply and sanitation (National Water Supply and Drainage Board (NWSDB)); (iii) hydropower production (the Ceylon Electricity Board); and (iv) environmental management (the Central Environmental Authority (CEA)) emerged as politically high priority sectors. Although its perceived role of the Water Resources Board (WRB) is critical, particularly with the growing importance of groundwater due to funding constraints and inadequate capacity, the WRB emerged to be a rather weak organisation in the water sector.

The study indicates that the absence of clear national and sectoral policies is a major constraint for planning water sector interventions and investments. The lack of alignment between official public policy goals and the (often-shifting) goals of political and bureaucratic actors commonly result in the failure to meet the stated objectives. A broad spectrum of stakeholders interviewed reported that the policymaking process lacks transparency in important respects.

The findings suggest that the opportunity for donors such as the EU to engage with potential change agents in the water sector is limited to a few actors. Those whom we interviewed stated that the president's secretariat, the Ministry of Mahaweli and Environment, the Official Committee on Economic Management appointed by the prime minister and the Cabinet Committee on Economic Management are reckoned to be centres of power and change agents that can influence policy and planned interventions in the water sector.

We recognise that the water sector in Sri Lanka, like in other countries in the region, is heterogeneous and saddled with complex socio-political issues involving a multiplicity of state institutions that are in a state of flux and are expected to change with proposed constitutional reforms and other modifications in the political system. Given the limited scope, the study does not attempt to analyse the full range of the political and institutional factors that currently relate to the water sector, nor does it attempt to provide a detailed assessment about the political ground realities. Nonetheless, the study does provide the foundations for more detailed analyses to develop an advanced understanding of political economy issues for planning interventions and managing Sri Lanka's water resources.

Plate 4 — Kuttam Pokuna bathing tanks or pools built by the Sinhalese in the ancient kingdom of Anuradhapura (Source: Jaime Royo-Olud, EU-Delegation 2012).



1. Background, objectives and method

Development actors, donor agencies and practitioners acknowledge that understanding political and institutional challenges is integral to the success or failure of interventions. Sensitivity about political economy factors is also seen as essential for recognising potential reputational risks for donors and their programmes and for managing such risks in ways that support development effectiveness. Integrating a political economy analysis into programme design can help identify entry points for mobilising change and maximising programme effectiveness. As Hyden (2005) notes, development partners need to move from 'getting policies right' to also 'getting politics right'. In recent years, an increasing number of development agencies (e.g. the DFID, the World Bank, the Swedish International Development Cooperation Agency, the European Commission, et al.) have made considerable effort to conduct systematic political economy analysis that complement technical diagnostics needed for planning development interventions. Understanding how political priorities shape policies helps in setting more realistic expectations of what can be achieved over what timescale and what risks can be involved.

The EU Delegation to Sri Lanka and the Maldives is considering contributing to the development of Sri Lanka's water sector through its multiannual indicative programme (2014-2020). It already funds water sector programmes through: (i) the Agence Française de Développement (AFD) in support of the NWSDB; (ii) the Food and Agriculture Organisation for irrigation; (iii) the United Nations Children's Fund (Unicef) for water, sanitation and hygiene; and (iv) the United Nations Office for Project Services for wastewater and rainwater-related management in various war-affected towns. The EU Delegation may collaborate with ongoing and planned water sector programmes of other agencies such as the Asian Development Bank (ADB) or the Japan International Cooperation Agency (JICA). As water is a highly politicised sector, the EU commissioned the International Water Management Institute (IWMI) to document the political and institutional context of the country's water sector.

The overarching objective of the study was to present an analysis of the current political and institutional challenges facing the water sector by applying a political economy approach. And the specific objectives were the following.

- (i) To analyse the political and institutional context of the water sector in Sri Lanka by looking specifically at stakeholder interests and the incentives, relationships, distribution and contestation of power among different groups and individuals associated with the water sector. Such an analysis was to support more politically feasible, and therefore more effective, development strategies by setting realistic expectations of what can be achieved, over what timescale and what risks may be involved.

- (ii) To illustrate ‘what works, why and how’ to enable better understanding and inclusion of political economy perspectives in the design, implementation and monitoring of operations in the water sector in Sri Lanka.

The methodology adopted for the study draws on components of analytical frameworks formulated by various development agencies for documenting and analysing political and instructional contexts: USAID, 2000; DFID, 2004; Nash et al., 2006; Netherlands Ministry of Foreign Affairs, 2007; the Norwegian Agency for Development Cooperation, 2010; European Commission, 2009. These frameworks share components: (i) structural factors ⁽¹⁾, (ii) institutions ⁽²⁾, (iii) actors/stakeholders ⁽³⁾ and (iv) incentives ⁽⁴⁾.

The study includes an analysis at three levels.

- (a) **Country-level assessment:** the macroeconomic context; the national water policy and strategies; the macro-level institutions for water governance; the role of external forces such as donor actions; the aid modalities; and the influencing strategies on these processes. It also covers the role and responsibilities relating to the water sector delegated to subnational (i.e. provincial councils) entities.
- (b) **Sector analysis:** what defines the sector; static mapping of the water organisational context; and an inventory of the actors: interests, powers and motivations, subsector budgets and other financing modalities, a summary of intra- and inter-sectoral institutional arrangements and coordination mechanisms.
- (c) **Analysis of operational implications by the following points.**
 - (i) Determining **entry points** for interventions by assessment of: which are the most strategic water sector institutions? Which institutions or organisations would be most effective in tackling particular problems? Who are the key individuals? How influential are they? Are they likely to be receptive players? What are the political implications for the EU when supporting/working with these individuals? Are there unconventional or previously unidentified groups that could potentially be effective collaborators? Are they politically acceptable?

⁽¹⁾ Structure ‘basically means context and refers to the setting in which social, political and economic events occur and acquire meaning, i.e. structure refers to the ordered nature of social and political relations — to the fact that political institutions, practices, routines and conventions appear to exhibit some sort of regularity or structure over time’ (Hay, 2002).

⁽²⁾ Institutions are the rules of the game in society or, more formally, are humanely devised constraints that shape human interactions (North, 1990). In consequence, they structure incentives in human exchange, whether political, social or economic.

⁽³⁾ Actors and stakeholders refer to individuals, groups or organisations who may affect, be affected by or perceive itself to be affected by a decision or interventions.

⁽⁴⁾ Incentives are the means by which interests are translated into outcomes. Incentives can be remunerative (i.e. material reward), coercive (i.e. enforcement of rules) or moral (i.e. social norms of behaviour, shame or ostracisation). Incentives are generated and embodied by institutions (North, 1990).

- (ii) Identifying **appropriate modes of support**: areas the EU Delegation to Sri Lanka and the Maldives could potentially intervene alone and in alliance with partners (local and international NGOs, donors and others).

The study is based on information collated from official documents, including: (i) a review of water sector policy documents; (ii) scrutiny of agency-specific administrative and financial regulations which are in the process of being defined by the new government; (iii) political party manifestos; (iv) government's national budget proposals; and (v) proceedings of parliamentary debates on the votes of water sector ministries documented in the *Hansard* ⁽⁵⁾.

In-depth interviews were conducted with 28 key stakeholders in government, donor, community organisations and other relevant agencies to obtain deeper power-related insights that were not available in documentary sources. Those met during the mission are listed in Appendix A1. In addition, two provincial councils were selected for concise case studies of the political economy of the water sector at the regional (provincial) level to examine the complementarities and conflicts between national and provincial priorities, namely (i) North Central Province to represent a predominantly agricultural region; and (ii) Northern Province as representative of a relatively water-scarce region. Northern Province was the epicentre of the 30-year civil war and there are growing signs of intra-provincial and transboundary water conflicts. The case studies draw on the author's personal experiences, supplemented with discussions with key informants in the provincial administrations who provided essential insights into political and institutional issues relating to water in the respective provinces.

The political dynamics in a specific sector cannot be fully explained from within the respective sector alone, but are strongly influenced by a combination of cross-sectoral and country-wide dynamics. Thus, Section 2 scrutinises the macro-political and economic context within which Sri Lanka's water sector functions. Section 3 focuses on Sri Lanka's water sector only. Section 4 is on the political economy of water in Sri Lanka. And Section 5 presents recommendations for possible areas for EU interventions.

⁽⁵⁾ The edited official verbatim report of parliamentary proceedings.

A caveat is warranted. Water sector institutions in Sri Lanka are presently loaded with complex socio-political issues and an array of institutions that are in a state of flux and are likely to be subject to changes in response to proposed reforms to the constitution of Sri Lanka and the elaboration of the country's (4-year?) development plan that the government is expected to announce 'shortly'. This report is the outcome of a scoping study of the current political and institutional context. It provides the foundations for a more detailed and refined analysis to obtain a deeper understanding of the political economy of water in Sri Lanka for planning interventions and managing the country's water resources.

Plate 5 — Floodplain landscape in Ampara District
(Source: Jaime Royo-Olvid, EU Delegation 2015)



2. Macro-political and macro-economic environment

2.1. Water and the political system: a snapshot

Fresh water resources in Sri Lanka remain a free public good with the state acting as the trustee and custodian of the resource. The government is the driving force behind the sector's development. There are some 40 state agencies across various line ministries that are involved in the administration of the water sector. This section highlights salient features of the machinery of government in Sri Lanka, especially the components which are most relevant to the water sector ⁽⁶⁾.

2.1.1. The presidency and parliament

The political system of Sri Lanka is hybrid (i.e. presidential and parliamentary) where the president is elected by the people and holds office for a term of 5 years ⁽⁷⁾. The presidency is the highest political office. The president is the head of state, the head of a 'national unity' coalition government ⁽⁸⁾ and the head of cabinet of a [multiparty system](#) and the commander-in-chief of the armed forces. The president appoints a member of parliament as prime minister who, in their opinion, is most likely to command the confidence of parliament. The Sri Lankan presidency enjoys substantial powers and is involved in every aspect of the government, can hold cabinet portfolios and can bypass the cabinet posts by delegating decisions to the presidential secretariat ⁽⁹⁾.

The parliament consists of 225 members elected under a proportional representation system. Unless parliament is dissolved earlier, each one continues for 5 years. Currently, there are 42 cabinet ministers, 19 state ministers and 22 deputy ministers. Thirteen ministries are directly vested with responsibilities related to the water sector, fragmented further between state and deputy ministers. Details of this are given in the section on water governance.

⁽⁶⁾ The machinery of government means the interconnected structures and processes of [government](#) and the allocation of government functions between ministers and department (Australian Public Service Commission, *Implementing machinery of government changes*, 2013, https://en.wikipedia.org/wiki/Machinery_of_Government).

⁽⁷⁾ The Constitution of the Democratic Socialist Republic of Sri Lanka, 19th amendment, Chapter 7, 15 May 2015, published by the Parliament Secretariat.

⁽⁸⁾ Opening the fiLKRT session of the Sri Lankan parliament on 9 January 2015, President Maithripala Sirisena declared that the two main parliamentary parties — the United National Party and his own Sri Lanka Freedom Party — would form a consensual alliance as a 'national unity government' for 2 years, <http://newsfiLKRT.lk/english/2015/09/president-officially-opens-the-eighth-parliament-sessions/108994>

⁽⁹⁾ Ibid.

The concentration of political power with the presidency has major limitations. Despite providing some stability to government, serious charges of corruption and nepotism associated with the presidency has, over the years, resulted in a demand from a major segment for a ‘Westminster style’ electoral system.

The regime change that occurred in January 2015 that voted the incumbent president to office promised a series of constitutional reforms aimed at substantially curbing the powers of the presidency and instituting electoral reforms. The 19th amendment to the Sri Lankan constitution, passed in April 2015, imposed some restrictions on the powers of the presidency. It limits the presidency to two 5-year terms and mandates that the president be responsible to parliament for the due exercise, performance and discharge of their powers, duties and functions under the constitution ⁽¹⁰⁾. The proposed 20th amendment to the constitution did not go through due to various disagreements amongst the political parties.

2.1.2. Provincial councils

Under the 13th amendment to the constitution, the government of Sri Lanka agreed to devolve some authority to the nine [provinces](#). Provincial councils are directly elected for 5-year terms. The leader of the political party that has the majority in the council serves as the province’s chief minister with a board of ministers. A provincial governor is appointed by the president. According to the current constitution, the governor of a province has overriding powers, which could be used to block the decisions of the chief minister and the provincial councils ⁽¹¹⁾. The provincial councils have full statute-making powers with respect to the [provincial council list](#) ⁽¹²⁾. All matters set out in the [reserved list](#) come under the central government. Shared statute-making powers are given in the [concurrent list](#) ⁽¹³⁾.

An exploratory survey of key officials concerned with the water sector governance was carried out in two provincial councils: Northern (Box 1) and the North Central Provincial (Box 2) councils. The findings indicate a brewing conflict of overlapping competencies relating to water management between the central government agencies and the provincial administration. The main reason for this problem, as pointed out by a senior provincial administration official, is the lack of clarity in the boundaries between the central and provincial governments. It was also stated that provincial councils are unable to make their own statutes because of a lack of capacity and a lack of adequate discretionary funds to formulate water-related statutes and other important legislation.

⁽¹⁰⁾ Ibid., Article 33 A, p. 20.

⁽¹¹⁾ 13th amendment to the constitution, Article 154 B.

⁽¹²⁾ Ibid., List I. Rehabilitation and maintenance of minor irrigation works is vested with the provincial council.

⁽¹³⁾ Ibid., List III. Under this list, inter-provincial irrigation and land development projects initiated by the state and utilise water from rivers flowing through more than one province are vested with the central government; a provincial council, however, may initiate irrigation and land development schemes within its province utilising water that flows within its territory through diversion from water systems from outside the province; all schemes where the command area falls within two or more provinces, such as the Mahaweli development project, are vested with the central government. The local government entities, together with the NWSDB (a central government agency) and community-based organisations are also responsible for the water supply and sanitation services.



Plate 6 — Basawakkulama built in 400 BC by King Pandukabaya (437-367 BC); first reservoir in the recorded history of Sri Lanka
(Source: [Pinterest.com](https://www.pinterest.com))

Box 1 — Case study: water sector challenges in the Northern Province

The Northern Province is surrounded by the Gulf of Mannar to the west, Palk Strait to the north, the Bay of Bengal to the east and the Eastern, North Central and North Western provinces to the south. According to last complete census in 1981, the population of the Northern Province was 1 109 404. There has been significant depopulation due to outmigration during the conflict period, which by 2011 reduced the population to some 997 000 persons (the district secretaries estimate). There is a high incidence of poverty, particularly in Mullaitivu, Mannar and Kilinochchi districts, which were the centre of civil conflict, at both the national poverty line: 29 %, 20 % and 13 %, respectively, and the international poverty line of USD 2.50 per day: 74 %, 61 % and 57 %, respectively (World Bank, 2015). The province is administered by a provincial council headed by a chief minister. There are five ministries and 16 departments that come under the purview of these five ministries.

Plate 7 — Aerial view of a hot dry area in the Northern Province
(Source: Jaime Royo-Olíd, EU Delegation 2016)



In the Northern Province the mean annual rainfall ranges from 1 250-1 720 mm, which is received largely during the period between October and March. There is a prolonged dry period from April to September that makes it a seasonally water-scarce region. Around 95 % of the population in the north depends on groundwater sources for drinking water supply and for other uses: industrial activities, mining and agribusiness have polluted this vital resource and wastefully used water needed by local communities. Population density is high in places where there is better access to clean water.

Authorities and farmer organisations (FOs) we interviewed believe that the Northern Province could face grave scarcity of usable water in the future unless action is taken to address the problem. The Northern Province once had a thriving agricultural sector which can be characterised as unorganised, unregulated and largely subsistence oriented. There are 54 major and medium irrigation schemes in the Northern Province, which include eight major tanks maintained by the Irrigation Department (ID). These schemes provide irrigation water to about 30 000 hectares, benefiting more than 25 000 farming families in this region. Most of the tanks were badly damaged during the civil war and need urgent repair. Farmers have constructed open dug agro-wells and tube wells for the cultivation of high-value cash crops. The chief secretary of the Northern Province noted that 'pumping of ground water has virtually reached saturation, salinity could appear and therefore we should protect ground water by increasing rain water supply to the collection'. Studies carried out by the IWMI and partners confirm this observation. It was pointed out during our discussions with NGOs working in the region that farmers still resort to inefficient traditional water management practices, characteristic of when water was abundant. They are unfamiliar with modern, efficient water irrigation practices. The problem is compounded by the lack of trained extension workers who could teach farmers about modern, efficient water irrigation technologies. Neither the provincial ID nor the provincial council have budgets for capacity building or in-service training of its staff.

The government has undertaken various projects to provide and develop the domestic water supply and sanitation services. There are nine projects that are being implemented to provide water and sanitation to the entire districts of the northern region. The government, with funding support from the ADB, had planned an ambitious project to supply drinking water to the entire peninsula and some of the surrounding islands with water obtained from the Iranamadu Tank. The proposal has caused conflict among politicians between those from the mainland and those from the peninsula. During the meeting with the chairman of the Iranamadu Farmer Organisation, he noted that 'we don't have any objections to Jaffna people getting water, but the Iranamadu Tank does not have sufficient water. Only 40 % of the canal command is irrigated. Our requirements should be met first, then the people of Kilinochchi, after that water can be diverted to Jaffna.' The north canal project proposes to build a canal from the Moragahakanda Reservoir to Mankulam in the Northern Province, which will augment water in the tanks lying in valleys en route. During our discussions with Northern Province authorities, it was pointed out that the politicians in the north are not too enthusiastic with the idea. This is because, according to the constitution, when water is transferred from the North Central Province to tanks in the Northern Province, the tanks and its command area are considered as inter-provincial systems that come under the jurisdiction of the central government. As one commentator noted, 'we want the water but we won't give up our land.'

2.1.3. Other local government bodies

Below the provincial level there are elected municipal councils (18) and urban councils (42) responsible for municipalities and cities, respectively, and below this level are Pradeshiya Sabhas (270) ⁽¹⁴⁾.

Box 2 — Case study: water sector challenges in the North Central Province

The North Central Province is an important dry-zone agricultural district consisting of major, medium, minor and trans-basin diversion irrigation facilities. There is a concern about the growing incidence of CKDu, which is believed to be related to the poor quality of groundwater (drinking water) in the area. Therefore, there is a growing demand for good quality water in the North Central Province.

All the major and trans-basin irrigation schemes and most of the medium irrigation schemes come under the purview of the central government (the ID and MASL), while 3 224 tanks that include all the minor and a few medium schemes in the North Central Province are

⁽¹⁴⁾ Village/small town-level institutions.

Plate 8 — Fallen water tower in Killinochchi which has become a symbol of destruction by war. (Source: Jaime Royo-Olud, EU Delegation 2012).



gazetted as the responsibility of the provincial council. Although minor irrigation is under the provincial council, FOs are registered under the central agency, the DAD. FOs are the main stakeholders in the entire development and management process of minor tanks. However, the provincial council has the power to form its own beneficiary organisations, such as irrigation development committees. This has yet to be implemented.

Despite the decentralised power sharing, the DAD has continued to play its traditional role of repair and maintenance of minor irrigation schemes from time to time, without either consulting or obtaining the consent of the provincial council. According to provincial council administration, if any improvement activities done by the DAD are unsuccessful, the responsibility is considered to be with the council, even though it was not party to the intervention. This has created an unhealthy power struggle between the central and provincial agencies.

Various irrigation development activities undertaken by central agencies in the upstream areas of the minor irrigation schemes also affect the water inflow to the minor schemes. The absence of formal coordination mechanisms between the central and provincial agencies hinders sustainable development efforts. The only venues to consult and to share concerns are the District Agricultural Committee, the Divisional Agricultural Committee and the District Coordinating Committee.

2.2. Macro-economy and the policy framework

2.2.1. The economy

Between 2010 and 2014, Sri Lanka's gross domestic product (GDP) grew at an average 6.7 % (World Bank, 2015) ⁽¹⁵⁾. The top sectors accounting for about 50 % of total growth were the non-tradable sectors ⁽¹⁶⁾. With [per capita](#) about USD 3 811 (2014), the country is on its way to qualify as upper-middle income by 2020. Sri Lanka's economy transitioned from a predominantly rural agriculture-based economy towards a more urbanised economy driven by services. According to the World Bank (2015), the service sector accounted for 62.4 % GDP in 2015, followed by manufacturing (28.9 %), and agriculture (8.7 %). Sustained strong economic growth in the last decade prompted the government to pursue large-scale reconstruction and development projects in its efforts to develop war-torn and other disadvantaged areas.

Headcount poverty rate (based on the national poverty line) has declined significantly from 23 % in 2002 to 7 % in 2012/2013 (World Bank, 2015). The country ranked 73 in the Human Development Index in 2014 and has surpassed most of the millennium development goals' targets set for 2015. Despite these achievements, regional disparities in economic and social opportunities for growth and access to basic infrastructure services and to markets became more apparent in the aftermath of the war. Of particular concern

⁽¹⁵⁾ The earlier estimate of GDP growth in 2013 and 2014 averaging 6.7 % has been revised downwards to between 3.4 % and 4.5 % (World Bank, 2015).

⁽¹⁶⁾ The non-tradable sectors are: construction, domestic trade, banking insurance and real estate (World Bank, 2015).

is that extreme poverty persists in the north, east, Estate Sector and the Monaragala District, where equal opportunities in terms of access to services and linkages to the labour market are weaker (World Bank, 2015). As Sri Lanka aspires to become an upper middle-income country, it will need to adjust its development models. Although Sri Lanka has made significant progress in human development, its service delivery systems in education, health and other areas must now adjust to face new and changing demands that are typical of a middle-income country. Increasing affluence and access to information will lead to higher expectations over government performance in facilitating growth, providing a higher level of services and demonstrating increasing responsiveness to a more demanding citizenry (World Bank, 2015).

2.2.2. The policy framework

In Sri Lanka there is an established tradition for the government to play a leadership and catalyst role in economic development. Its economic policy reforms of 1977 attempted to introduce reforms that focused on less government and increased reliance on market forces and private sector-led growth. Since then, there have been ebbs and flows in the state's role in economic development depending on the political orientation of the party in government and due to resistance from powerful bureaucracies. Inconsistencies in the policy framework have been a major constraint to Sri Lanka's economic growth, particularly for spurring private sector investment and encouraging entrepreneurship. Economic growth will require continued structural changes and diversification. The prime minister's policy statement presented in parliament on 5 November 2015 envisioned ⁽¹⁷⁾ promoting a globally competitive, export-led economy with an emphasis on inclusion. It identified generating 1 million job opportunities, enhancing income levels, developing rural economies and creating a wide and strong middle class as key policy priorities. Also, it discussed far-reaching reforms with a view to improve the performance of the state-owned enterprises sector and to enhance trade and foreign direct investment. However, detailed policies are yet to be clearly seen ⁽¹⁸⁾.

The prime minister's policy statement does not make specific reference to the water sector except for stating 'strengthen and build the rural infrastructure facilities from village roads, village fair'. The policy statement further states that 'we need to encourage our small- and large-scale farmers and entrepreneurs to participate in the global economy'. The government has also proposed to establish large-scale agricultural enterprises in which farmers can be members ⁽¹⁹⁾. This suggests the need for commercialising the non-plantation agricultural sector, which the prime minister has alluded to in several public fora. Commercialising non-plantation agriculture, particularly rice cultivation, will inevitably require rehabilitating and modernising Sri Lanka's aging and archaic irrigation systems to cater to the need for competitive commercial agricultural enterprises.

⁽¹⁷⁾ See the United National Front election manifesto 2015 (<http://docslide.us/documents/unf-election-manifesto.html>).

⁽¹⁸⁾ A recent newspaper report stated that the government would shortly announce a 4-year development plan.

⁽¹⁹⁾ The full text of the prime minister's economic policy statement is given in News.lk, the official government news portal of Sri Lanka, <http://www.news.lk/fetures/item/10674-economic-policy-statement-made-by-prime-minister-ranil-wickremesinghe-in-parliament>.

During our consultations with key stakeholders in the water sector, which included government agency personnel and donors investing in the water sector, the absence of clear national and sectoral policies was found to be a major constraint for planning water sector interventions and investments. A key agency personnel referred to the previous regime's 'Mahinda Chinthana' which, according to the personnel, clearly defined the then government's policies and priorities presently lacking ⁽²⁰⁾. The same sentiment was expressed by two prominent donors who have made substantial investments to improve facilities in a critical water subsector. The lack of correspondence between official public policy goals and the (often-shifting) goals of political and bureaucratic actors commonly result in the failure to fully meet the stated objectives of decentralisation and in a host of unintended consequences.

Several persons from the spectrum of stakeholders whom we interviewed reported that the policymaking process remains non-transparent in important respects. Donor agencies also reported delays by relevant government agencies approving projects ⁽²¹⁾. Reference was made to the Official Committee on Economic Management housed in the Prime Minister's Office, which has emerged as a key unit involved with policymaking as well as with facilitating the approval of project proposals ⁽²²⁾.

⁽²⁰⁾ Ministry of Finance and Planning (2013).

⁽²¹⁾ Staff of one donor agency confirmed that delays in approving projects results in under-expenditures of funds that cannot be carried forward to the next year and consequently the country loses the earmarked funds.

⁽²²⁾ The Official Committee on Economic Management is chaired by a prominent ex-bureaucrat who also functions as a senior advisor to the prime minister.



Plate 9 — Protest against tourism that denies paddy farmers water in the tanks
(Source: Sunday Leader, 17 November 2013. Photos reproduced with the permission of the editor-in-chief)



Plate 10 — Storm drain releasing water in the sea in Mannar town, funded by the EU and implemented through the UNOPS
(Source: Jaime Royo Olid, EU Delegation 2013)

3. Sri Lanka's water sector

3.1. The physical setting

In terms of aggregate statistics, Sri Lanka is relatively well endowed with water resources. The annual water supply per capita, estimated at around 2 329 cubic metres is above the standard international threshold of 1 700 cubic metres per person. Annual freshwater withdrawal is only about 25 % of the total resources (World Bank) ⁽²³⁾, which is far below the 40 % level adopted by the United Nations to mark water scarcity. Water demand in 2025 will be less than half of the available water resources and will require an increase of less than 50 % of the water actually withdrawn in 1991 (Seckler et al., 1998). Thus, in overall terms, Sri Lanka will face little or no scarcity, either physical or economic. There are 103 distinct river basins (Figure 1), 309 man-made major irrigation reservoirs ⁽²⁴⁾ and about 12 000 minor irrigation reservoirs ⁽²⁵⁾ (Climate Change Secretariat, 2010) ⁽²⁶⁾.

⁽²³⁾ World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

⁽²⁴⁾ Irrigation reservoirs with a command area of more than 80 hectares are defined as major irrigation systems

⁽²⁵⁾ Irrigation reservoirs with a command area of less than 80 hectares are defined as minor irrigation systems

⁽²⁶⁾ See Figure 3

Plate 11 — Aerial view of a lake in Central Province
(Source: Jaime Royo-Olido, EU Delegation 2015)



Aggregate statistics mask the very pronounced temporal and spatial aspects of water scarcity in the country, largely owing to the bimodal pattern of rainfall. The existing irrigation reservoir network can only store 35 % of the available amount, while releasing the rest to the ocean without being utilised (Ministry of Finance and Planning, 2013). It is estimated that by 2025, most of the districts in the dry zone will face severe seasonal or year-round absolute water scarcity at the current level of irrigation efficiency. These are districts that currently account for over 75 % of the irrigation withdrawals and have the highest increase in water withdrawals projected for the future. The water sector of Sri Lanka is dominated by surface water sources. Groundwater use is largely limited to domestic water supply and small-scale irrigation. However, there is a growing demand for groundwater that is facilitated by low-cost drilling and pumping technologies and a government subsidy for groundwater development for small-scale agriculture that was introduced in the early 1990s.

A major problem emerging in many areas is the degradation of water quality that can critically reduce the water available for potable, agricultural and commercial uses. In rural areas, agricultural runoff is the dominant pollution source. This deterioration of water quality has contributed to a serious environmental health crisis. Chronic kidney disease, thought to result from contaminated groundwater, is widespread, particularly in the rural areas of the dry zone. Climate change is a growing problem. There is ample evidence that suggests that Sri Lanka's climate has already changed. During the period 1961-1990,

Plate 12 — Aerial view of an artificial water pond in a hot dry area in the north of Sri Lanka
(Source: Jaime Royo-Olvid, EU Delegation 2015)



air temperature increased by 0.016 °C per year and annual precipitation decreased by 144 millimetres (mm) (7 %) compared to the period 1931-1960 (Eriyagama, 2010). It is expected that there will be significant rainfall changes up to 2050. These changes will make water security more difficult and costly to achieve even though the country has traditionally enjoyed reliable water supplies and few water shocks.

Sri Lanka has a tropical monsoon climate. Rainfall varies spatially from 800 mm to over 5 500 mm. Annual runoff is estimated at around 35 % to 40 % of the total rainfall. The island is divided into three principle agro-climatic zones based on hydrology, meteorology, soils and vegetation, in other words: wet, intermediate and dry zones. The total renewable water resources available in the freshwater ecosystems of Sri Lanka are estimated at 49 km³ of surface water, 8 km³ of groundwater and a further 7 km³ of overlapping water (World Resources Institute, 2003). The annual withdrawal amount is estimated at 8.7 billion metres³, indicating no overall water shortage (Fan, 2015). Although, in terms of aggregate statistics, Sri Lanka is relatively well endowed with water resources, there are pronounced temporal and spatial aspects of water scarcity in the country, largely owing to the bimodal pattern of rainfall. In addition, nearly 80 % of the annual flow of the dry zone rivers occurs in the 4-month period from October to January. It is estimated that by 2025, most of the districts in the dry zone will experience severe seasonal or year-round absolute water scarcity at the current level of irrigation efficiency (Amarasinghe et al., 1999).

Plate 13 — Aerial view over Kilinochchi District
(Source: Jaime Royo-Olido, EU Delegation 2015)



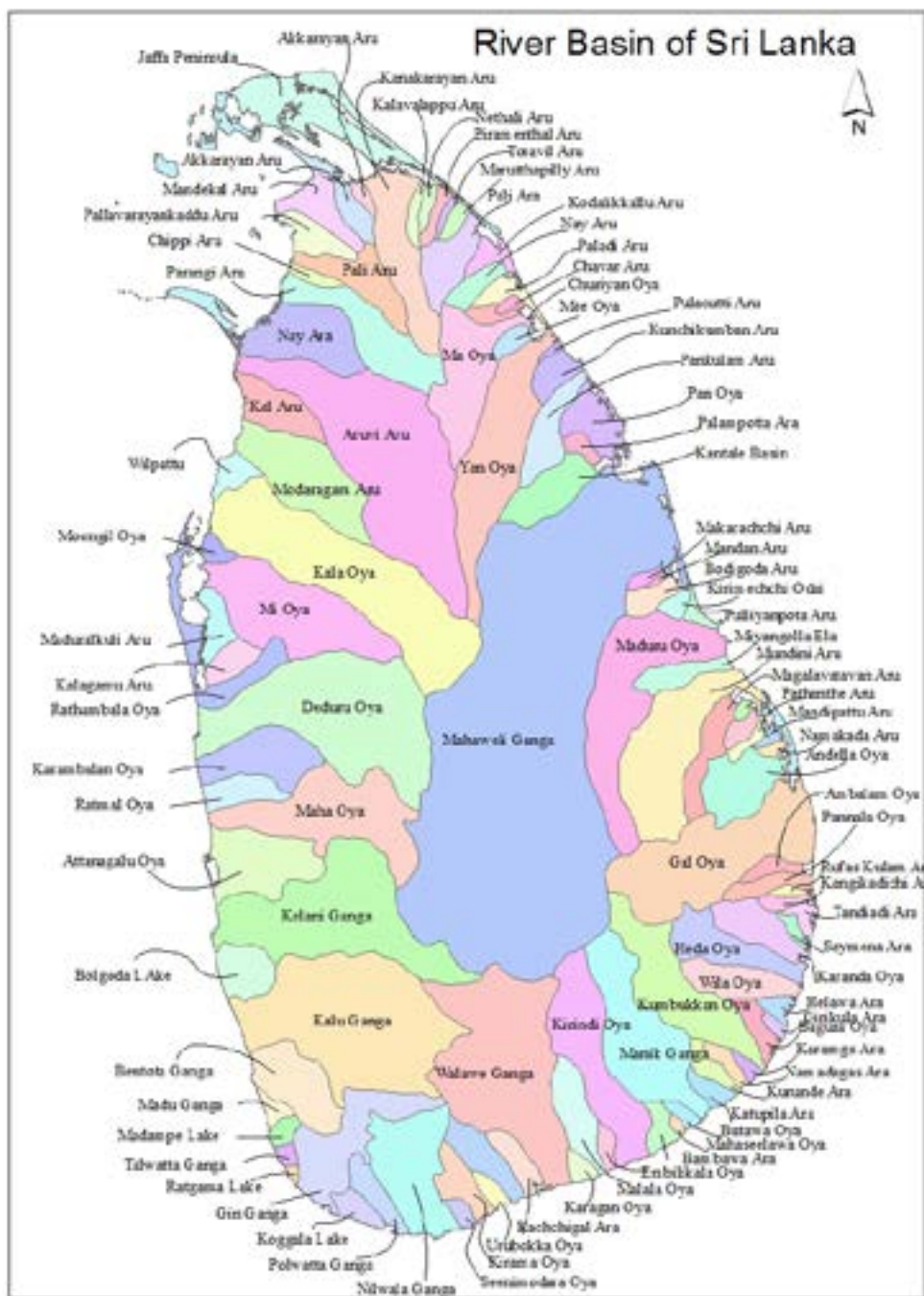


Figure 1 — River basins of Sri Lanka
(Source: IWMI)

The estimated annual total wastewater generation in the country is 273 million cubic meters. A major part of this volume is diverted to the sea or surface water bodies (Jayakody et al., 2006). The amount of wastewater and solid and liquid waste produced by industries located in the major industrial parks is approximately 30 million cubic metres per year (Jayalal and Niroshani, n.d.). The insufficient capacity of the existing sewerage system in the greater Colombo area to properly handle the wastewater and sewerage could result in poor-quality water bodies and waterways (Imbulana et al., 2010). The status of wastewater as a part of the overall water budget is minimal and precise data on this component of the water balance is not readily available.

Plate 14 — Arali reservoir in Jaffna
(Source: Hamish Appleby, IWMI CommsResources)



3.2. Water use and water productivity

Annual fresh water withdrawals ⁽²⁷⁾ in Sri Lanka in 2014 are estimated to have been around 13 billion m³ during the period 1962-2014 (World Bank data) ⁽²⁸⁾. Of this total, about 87 % is utilised for agriculture and about 6 % for municipal water supply and industry, respectively (World Bank Data, *ibid.*).

Paddy, the staple food crop of the inhabitants of Sri Lanka, is traditionally the major crop cultivated under surface irrigation schemes. It is a high-priority crop in terms of food and nutrition to the nation (Sri Lanka National Agricultural Policy ⁽²⁹⁾). About 560 000 hectares of irrigated land is devoted to paddy cultivation, which produces about two thirds of the total national rice output. Average water duty for paddy cultivation is 6 acre-feet (7 400 m³), which is much higher than in many other Asian countries (Ministry of Finance and Planning, 2013). Groundwater use in agriculture is mainly for non-paddy crop cultivation. Extraction

⁽²⁷⁾ Fresh water withdrawal is the quantity of water removed from available sources for use in any purpose, excluding evaporation losses

⁽²⁸⁾ <http://data.worldbank.org/indicator/ER.H2O.FWTL.K3>

⁽²⁹⁾ www.agrimin.gov.lk/web/images/docs/1252389643AgPolicy4.pdf

Plate 15 — Farmers irrigating an onion field in Jaffna
(Source: Hamish Appleby, IWMI CommsResources)



of groundwater for cash crop cultivation has been increasing rapidly over the last two decades in the dry zone areas of Sri Lanka (IWMI, 2003; Athukorala and Wilson, 2012), especially after the introduction of low-cost drilling and pumping technologies.

In 2015, 45 % of the population was connected to a domestic piped water supply through water supply schemes operated by the NWSDB, community-based organisations (34 %) and local authorities (9 %) (NWSDB, 2015a). According to the national census conducted in 2011, 54 % of the population in the country were dependent on groundwater (dug wells and tube wells) for their drinking water needs (DCS, 2012). The current level of average non-revenue water is 28 % (NWSDB, 2015b). The value of non-revenue water records a higher value of 47 % in Colombo city, mainly due to the large number of water leaks occurring in the distribution system owing to the ageing of pipes and other reasons (NWSDB, 2016).

Although industrial water use is a growing sector in the country, there is no reliable and systematically collected data on availability of water sources for industrial requirements, current usage, the type of water source, future requirements, and the production and disposal of wastewater (Imbulana et al., 2010). Most of the industries heavily depend on groundwater-deep wells as they are cheaper than the public water supply schemes. Groundwater is the primary source of water in the export promotion zones, industrial estates and the small and large enterprises and hotels. Industrial water consumption is reported by the NWSDB as 39 % of its total water supply and accounts for 25 % of its revenue, which is significantly less than the domestic water consumption (NSF, 2010).

The nexus between water, energy, food and the environment has been attracting increasing policy attention in many countries in recent years. In Sri Lanka, too, demand for water for power generation is important, as hydropower is a major source of the country's energy supply. The estimated potential of hydro-resource is about 2 000 MW, of which more than half has already been harnessed. Despite its non-consumptive nature, hydropower generation affects the temporal pattern of water release and downstream allocation for agriculture and other water use sectors. There are growing conflicts over water demands for agriculture and hydropower owing to recent water shortages experienced in the Mahaweli development area. There is often a mismatch between water demands for hydropower generation and resultant water releases for downstream water needs, particularly for agriculture. Further exploitation of water resources is becoming increasingly difficult owing to social and/or environmental impacts associated with large-scale development.

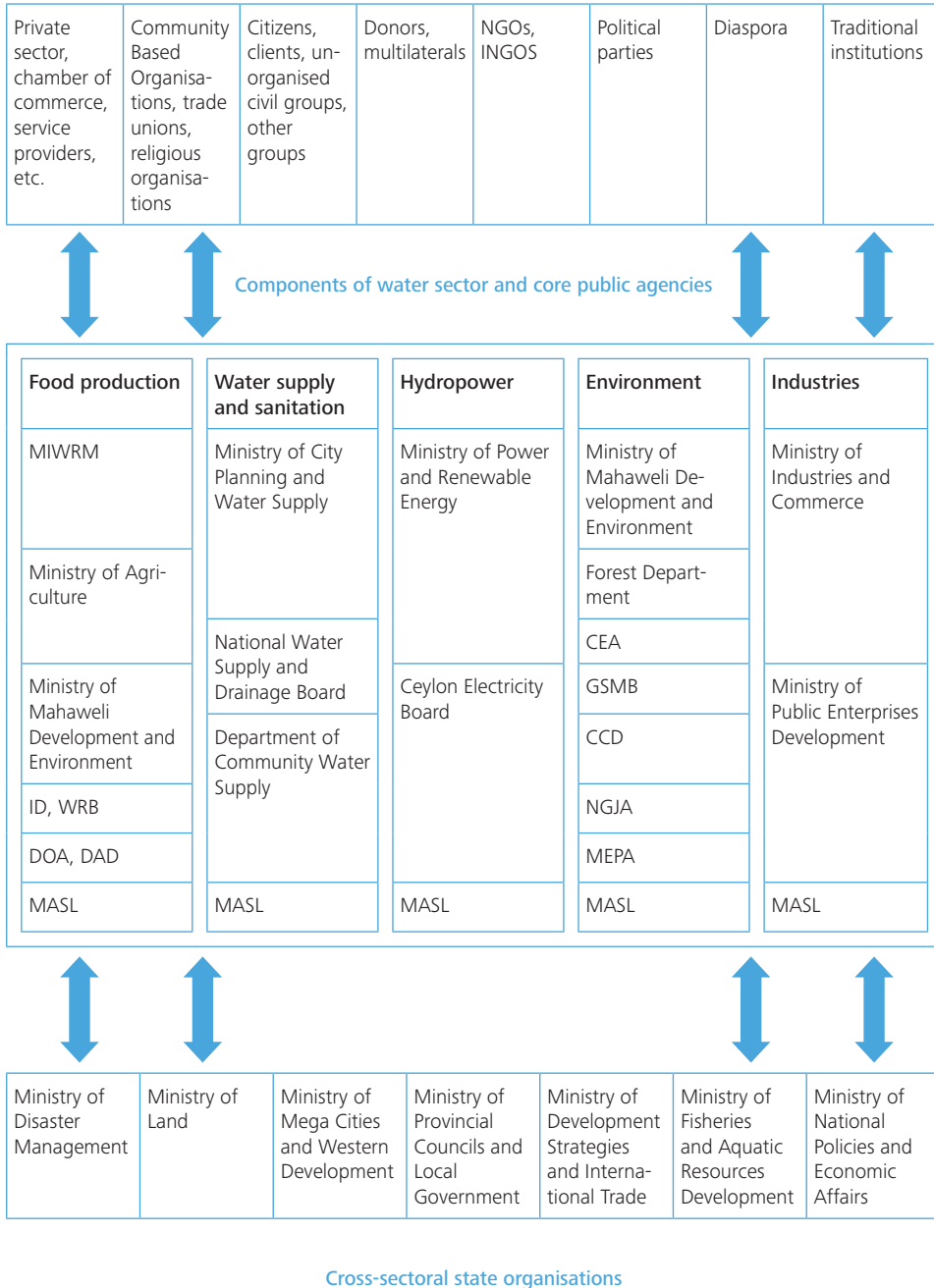
The prevailing sectoral water demand could be affected by climate change, especially in terms of rainfall variability, increase in atmospheric temperature and other climatic factors resulting in water scarcity, an increase in irrigation demand, a deficit in soil moisture and an increase in incidences of floods and droughts (Manawadu and Fernando, 2008; Eriyagama et al., 2010; Premalal, 2009; Punyawardane, 2011). It has been projected that climate change is likely to impact more the dry zone where intensive agricultural areas are already experiencing water stress. The expected changes may lead to an increase in the *maha* (wet) season irrigation water requirement for paddy between 13 % to 23 % by 2050 (Shanthi de Silva et al., 2007).

3.3. Water institutions

One of the objectives of this study is to define the scope and boundaries of the sector. This is important because sectors are not discrete entities. There are a range of actors and institutions, for instance national and provincial. Figure 2 presents a schematic representation of Sri Lanka's water sector. The figure unveils a broad spectrum of institutions that are associated with the sector. The institutional framework that makes up the water sector can be divided into government agencies dealing mainly with: (a) food production; (b) water supply and sanitation; (c) hydropower; and (d) environmental management. In addition, there are several NGOs that are involved with the water sector. While some ministries, agencies and NGOs function almost exclusively within a particular subsector, many have cross-cutting functions.

Plate 16 — Beneficiary of EU-funded dam for paddy irrigation implemented by Oxfam GB.
(Source Jaime Royo-Olvid, EU Delegation 2015)



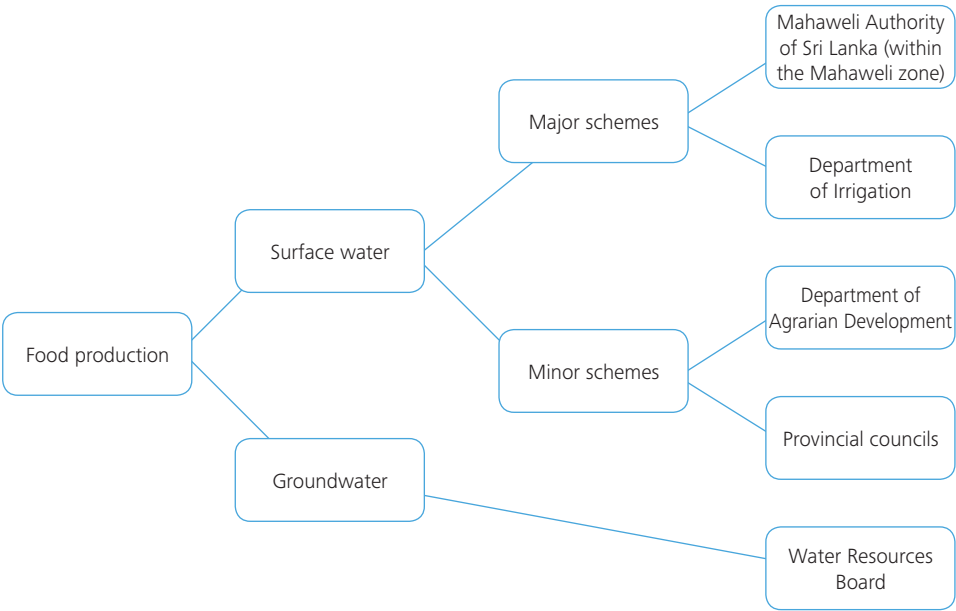
Figure 2 — Schematic representation of Sri Lanka's water sector

Notes: CD = Coast Conservation Department; DOA = Department of Agriculture; DAD = Department of Agrarian Development; GSMB = Geological Survey and Mine Bureau; ID = Irrigation Department; MASL = Mahaweli Authority of Sri Lanka; MEPA = Marine Environment Protection Authority; NGJA = National Gem and Jewellery Authority; WRB = Water Resources Board.

3.3.1. Food production

Food production is an important aim of irrigation and water resources development in Sri Lanka. Figure 3 shows a simplified institutional landscape for irrigation. In reality, the governmental irrigation institutional landscape is more complex. The Ministry of Irrigation and Water Management and the ID, Ministry of Mahaweli Development and Environment and its family of institutions are the key organisations responsible for irrigation development policy and the management of all major and medium irrigation schemes. Minor schemes come under the provincial councils. Owing to inadequate technical capacity in most provincial irrigation departments, the Agrarian Development Department continues to manage the minor schemes. There is no single agency responsible for groundwater development and use. The WRB is conducting hydrological investigations and policy-oriented research pertaining to groundwater ⁽³⁰⁾.

Figure 3 — Subsector layout — Food production



⁽³⁰⁾ <http://www.wrb.gov.lk/web/>

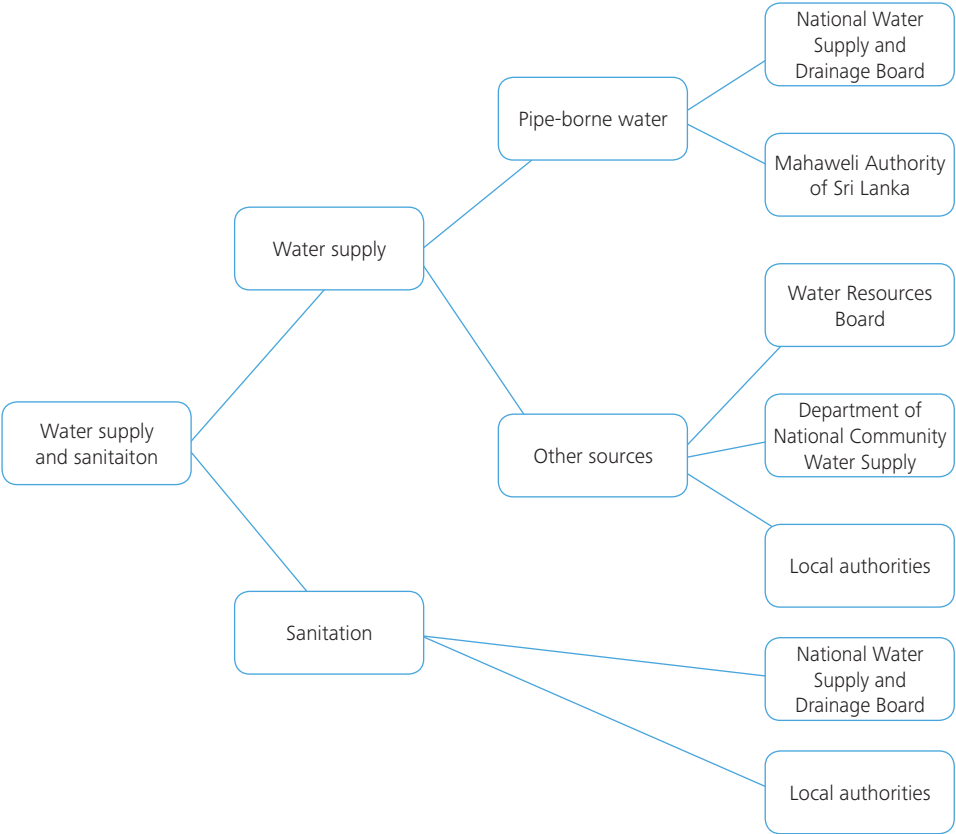
3.3.2. Water supply and sanitation

The water supply and sanitation subsector comprises investment by several donors, especially the World Bank, the ADB, the JICA, the AFD and the EU. Figure 4 depicts a schematic representation of the subsector. This includes the provision of pipe-borne water as well as other sources of water extraction together with the provision of sanitation facilities. It is also an area targeted by many organisations for the construction of water supply and sanitation systems, domestic wells and rainwater-harvesting schemes. The current concern over the drinking water quality in certain regions of Sri Lanka, where CKDu is prevailing, has reinforced the urgency to provide access to clean water. (See the chronic kidney disease of unknown aetiology Box 3).

Plate 17 — Field-to-field irrigation in rice paddies
(Source: David Molden, IWMI CommsResources)



Figure 4 — Subsector layout — Water supply and sanitation



3.3.3. The chronic kidney disease of unknown aetiology

Box 3 — CKDu — A new challenge in the water sector

The emergence of a CKDu was identified in Sri Lanka in the early nineties primarily in the dry zone, especially in the North Central Province, the North Western Province and parts of Uva, North and Eastern Provinces (see Figure 5). The incidence of the CKDu has increased steadily during the last two decades and has emerged to be a major public health issue with serious consequences on the society, economy and environment. There are no reliable statistics of the number of persons affected by the disease. According to the Presidential Task Force on CKDu, by 2014 there were about 40 000 registered CKD and CKDu patients in the country (Figure 3). It is now estimated to be about 70 000 cases in the known high-risk areas, <http://www.presidentialtaskforce.gov.lk/en/kidney.html>).

Given its unknown origin, several research studies have been completed to identify the CKDu risk factors. Unfortunately, most of these investigations have looked narrowly at one variable or potential risk factor, have had small sample sizes or have used imprecise methods, and so far more questions than answers have arisen. A common observation has been that CKDu results from interplay of multiple agents, including environmental factors, diet and nutritional practices, and genetics. Although no single environmental factor or toxin has been identified so far, it is likely that drinking water (high levels of calcium and fluoride in the water, especially in groundwater) and dehydration due to inadequate drinking of water in the affected areas are among the causative factors associated with the prevalence of the disease (Presidential Task Force on CKDu, 2015). There is a need for a comprehensive initiative to assess the water attributes of groundwater, focusing both on shallow and deep wells, as the groundwater is the major source of drinking water in the disease-prevalent area.

The primary objective of the task force on CKDu established by the president is to manage the disease and prevent its spreading by a coordinated programme involving the respective authorities and ensuring that the awareness, preventive and welfare measures are in place for the benefit of the affected community. Under this programme, initiatives have been taken to increase the facilities for screening and early detection of the disease, to strengthen the curative institutions for management of the disease (primary healthcare, nephrologists visiting centres and dialysis facilities in the hospitals), to introduce CKDu surveillance and patient registries in high-risk areas and to provide financial assistance to the patients. Plans have been formulated to ensure the provision of clean water to the affected areas.

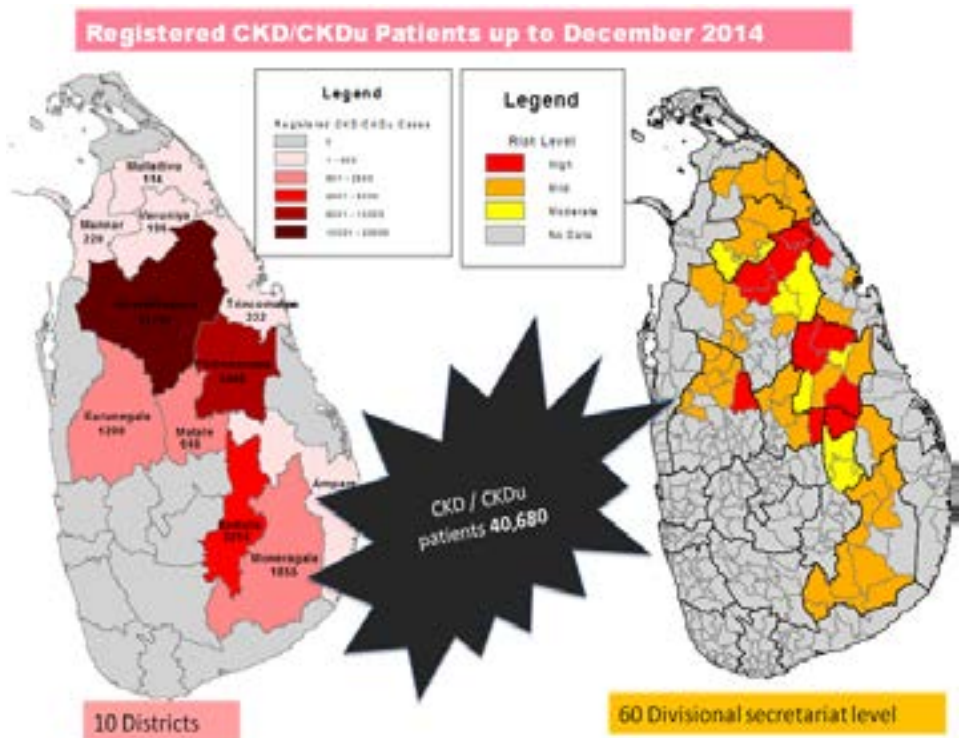
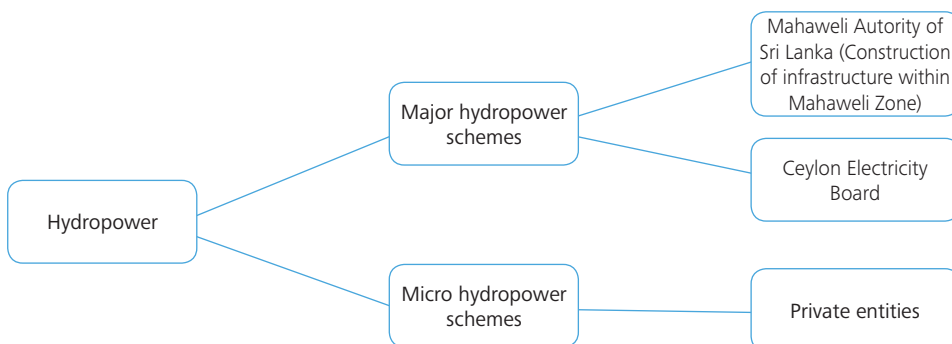


Figure 5 — Distribution of the prevalence of CKD/CKDu in 2014
(Source: Presidential Task Force, <http://www.presidentialtaskforce.gov.lk/en/kidney.html>)

3.3.4. Hydropower

This subsector is considered to be a non-consumptive user of water, as the water that is utilised for power generation is afterwards released back into the system. Hydropower generation in Sri Lanka is largely by state institutions with small schemes run by private individuals. All aspects of generation and transmission are regulated by the Public Utilities Commission of Sri Lanka. This is another sector for which significant development support is obtained. The ADB and the JICA are two major lenders for the development of generation and transmission infrastructures. The subsector map is depicted in Figure 6.

Plate 18 — Subsector layout — Hydropower

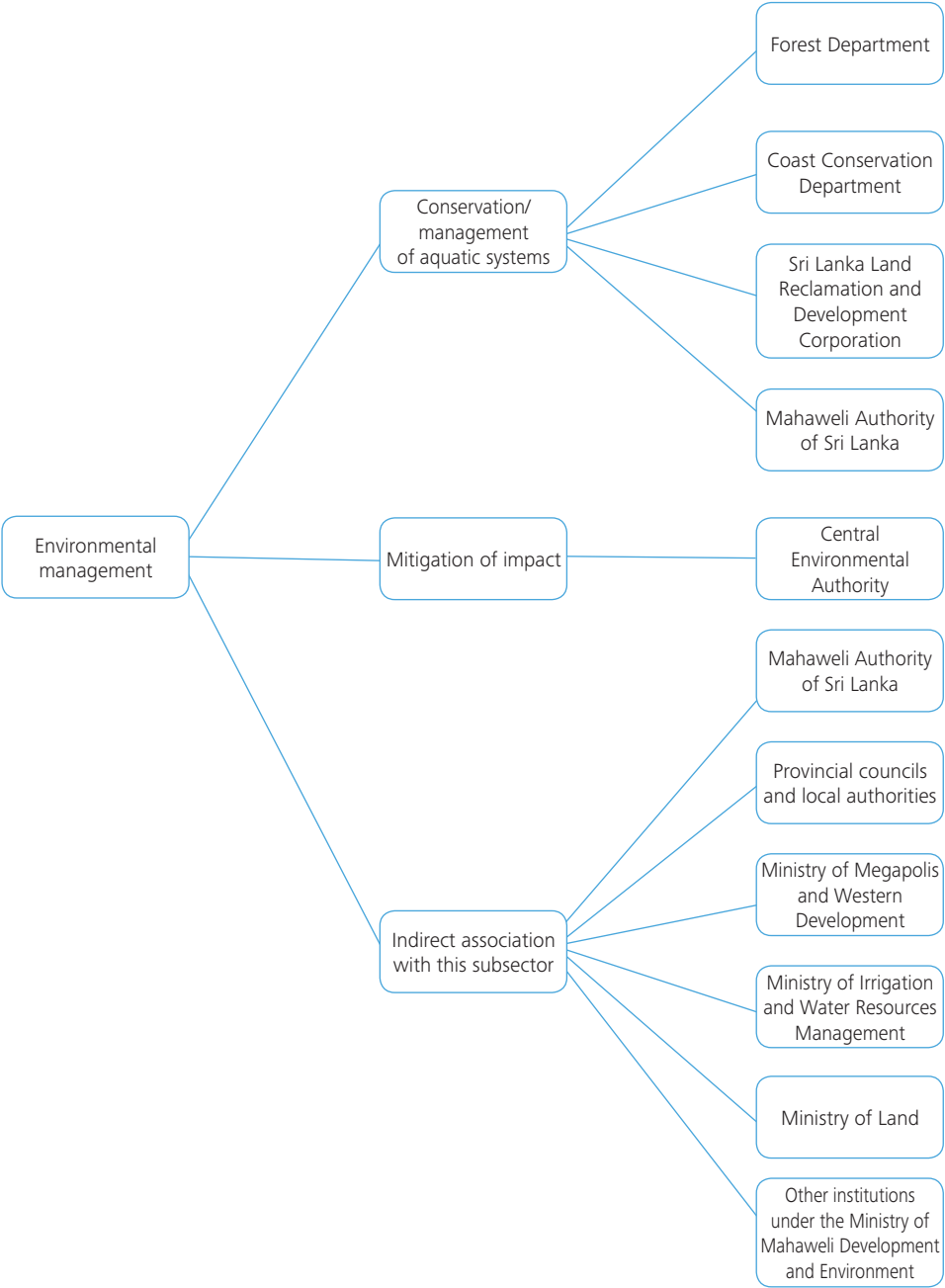
3.3.5. Environmental management

This includes government agencies involved in the conservation of aquatic ecosystems (including the conservation of areas which hold them), those that mitigate the impact of developmental activities on water resources and agencies who play a more distant role in both services. Regarding NGO involvement, the International Union for the Conservation of Nature (IUCN) plays a significant role in aquatic ecosystems and biodiversity conservation. A more recent private sector initiative is the business and biodiversity platform, which is a knowledge platform jointly organised by the IUCN, the Ceylon Chamber of Commerce and Dilmah Conservation. The objective of this initiative is to set up a place where businesses can come together to share experiences and best practices, learn from their peers and voice their needs and concerns to strengthen the link between the business sector and biodiversity conservation ⁽³¹⁾.

The Global Water Partnership (and the Sri Lanka Water Partnership) works towards the advancement of the integrated water resources management (IWRM) strategies, for which environmental management (mitigation of pollution, watershed protection, wetland management and reducing unregulated rivers and mining) are major focus areas. The subsector map is depicted in Figure 7.

⁽³¹⁾ See <http://www.business-biodiversity.eu/>

Figure 6 — Subsector layout — Environmental management



3.4. Legal framework of the water sector

During the colonial period, British rulers introduced various acts related to the management of land and water resources from time to time relating to agriculture and water. The Irrigation Ordinance No 32 was enacted in 1856 by the British to legalise the customary water rights of the people and to set the conditions for water extraction for cultivation (Ratnayake, 2014).

Currently, there are over 50 acts of parliament concerning the water sector, including water supply, water quality, drainage, irrigation and environmental conservation. Annexes 2 and 3 list some of the key national and provincial levels of water-related legislations. These laws have been enacted over time to meet specific needs, often with inadequate consideration of existing legislations and future needs. Laws are administered by numerous agencies with a wide range of responsibilities. Common features of water resource management policy in Sri Lanka are a confusion of policies with overlapping responsibilities and duplication of activities, conflicting jurisdictions and inaction. Sri Lanka's laws from colonial times never reflected any urgency for conservation as there was a general perception of water abundance in the country, though in realistic terms, there is not enough water for all purposes (Nanayakkara, 2010).

With its historical and long-standing focus on irrigated agriculture (using over 80 % of developed water resources), Sri Lanka has resulted in very strongly irrigation-based institutions. These power domains were reinforced by political imperatives that for very logical reasons at the time provided for free infrastructure support and services in irrigation (Ratanayake, 2015). A mutually dependent nexus developed between politicians seeking political rent from such investment and services to promote their own visibility and at the same time enable agencies to feel secure, despite the management and operational inefficiencies and failures (Ratnayake, 2015). The provision of free water and services held benefits for both agency staff and politicians.

The **ID**, established in 1900, is responsible for managing major irrigation and inter-provincial schemes. It is also responsible for administering the Irrigation Ordinance. MASL is in charge of managing water resources under its purview, as specified in the MASL Act No 23 of 1979 (the Mahaweli River Basin as well as several other hydrologically connected basins and special areas). The MASL act provides power to apply a holistic perspective and a comprehensive approach to resource-based social and economic development, including irrigation and water management, land development and settlement, agricultural development, post-settlement activities, watershed management and environmental conservation.

Since independence in 1948, agrarian laws pertaining to the operation and maintenance of minor irrigation have been changed at least five times and, consequently, responsibility of minor irrigation has also changed from one institution to the other. With these government interventions, farmers believed that the government owns the irrigation system and were responsible for ensuring operation and maintenance. As a result, many tanks have been abandoned and tanks in working condition have also operated at varying levels of efficiency. However, various new strategies have been used since the late 1980s to solicit farmer participation and to reintroduce traditional water management practices.

The **NWSDB** Act No 2 of 1974 and its subsequent amendments empower the NWSDB to provide safe water supply to domestic, commercial and industrial premises and to provide a safe sewerage system. The **Ceylon Electricity Board** Act No 20 of 2009 and its amendment provide rights to the Ceylon Electricity Board to use water for electricity generation.

The **WRB** was established under the Water Resources Board Act No 29 of 1964 with the broad mandate of advising various aspects of water resource management to the relevant subject minister and, more importantly, to play a coordinating role of various line agencies. However, the functions of the board are limited to the development of groundwater resources.

The **CEA** was formed under the National Environmental Act No 47 of 1980 with the mandate of protecting and managing the environment. The authority was given wider regulatory powers for pollution control (including water) by the amended Acts No 56 of 1988 and No 53 of 2000. The major problem with the current institutional arrangements for water quality management is uncoordinated efforts of the agencies handling the management of water quantity and quality. Lack of coordination between land-use activities (controlling deforestation, the application of excessive fertiliser and chemicals, accumulation of excessive animal wastes, etc.) and water management is also an issue, even though the CEA has been active in controlling industrial pollution through various monitoring activities of industries after the licenses awarded are considered to be inadequate (Climate Change Secretariat, 2010).

Water Pollution Control ⁽³²⁾: water quality in Sri Lanka is arguably an even more serious problem than water shortage is. In rural areas, where less than half the population has access to purified water, agricultural runoff is the dominant pollution source, while in urban areas human and industrial waste is left largely untreated, contaminating both surface water and underground water supplies. This crisis of water quality has contributed to

⁽³²⁾ This section is largely a reproduction of the document entitled *Judges and environmental law: a handbook for the Sri Lankan judiciary*, edited by Mario Gomes with a judicial editorial panel comprising three judges of the Supreme Court and one from the Court of Appeal, The Environmental Foundation, 2009.

a serious environmental health crisis. Chronic kidney disease, thought to be contaminated groundwater, is now widespread and is a major concern that has attracted the attention of the authorities at the highest political level. Legislation to control water pollution is inadequate. The State Lands Ordinance (as amended) recognises that the right to the use, flow, management and control of the water in any public lake or stream is vested in the state. In the exercise of such a right, the state may enter any land and take measures for the conservation and supply of such water for its more equal distribution, beneficial use and protection from pollution.

The **National Environmental Act** provisions on 'environmental protection', 'environmental quality' and the 'approval of projects', as described above, are all relevant for the prevention of water pollution. In terms of Section 270 of the Penal Code, it is an offence to voluntarily corrupt or foul the water of any public spring or reservoir so as to render it less fit for the purpose for which it is ordinarily used. The National Environmental Act mandates that, subject to the provisions pertaining to the 'environmental protection license', the discharge or emission of waste into inland waters in contravention of prescribed standards is an offence. The provisions of the law also contain a general prohibition on the pollution of inland waterways. There is no provision in the law that directly regulates the pollution of groundwater. However, the primary sources of pollution of groundwater are through the pollution of soil (i.e. through leachate ⁽³³⁾ that results from the accumulation of garbage) and through the pollution of surface water bodies which are connected to groundwater. Both of these sources of pollution can be regulated through other means including those in the National Environmental Act, the Penal Code and the Code of Criminal Procedure Act.

The **Mines and Minerals Act** (No 33 of 1992) empowers an owner or occupier of any land or a licensee authorised in terms of the act to produce and consume mineral water in or from such land for his or her personal use.

The **WRB** established in terms of the Water Resources Board Act is given the mandate of advising the minister regarding the preparation of plans for the conservation, utilisation, control and development of groundwater.

⁽³³⁾ The liquid produced from the decomposition of waste.

3.5. Development finance institutions and bilateral donor agencies involved with the water sector

Several multilateral and other international development finance organisations are active in Sri Lanka. The main organisations are summarised below.

(a) Asian Development Bank

The ADB has been associated with Sri Lanka since the 1960s. The present strategy of the bank (2012-2016) is on infrastructure development and increasing the private sector's extent of participation in the economy, improving its access to education and developing it. The current involvement of the ADB in the water sector of Sri Lanka is in two broad areas: irrigation and safe water supply. A major project funded by the ADB is the Mahaweli water security investment programme. When completed, this project will improve agricultural production and sustained economic growth in the North Central, North Western and Eastern Provinces ⁽³⁴⁾.

Among the project activities related to the provision of safe water supply are the dry zone water supply and sanitation project, the greater Colombo water and wastewater management improvement investment programme, the construction of a sewerage treatment plant and the construction of a ground reservoir to provide pipe-borne water for the people in the Vavuniya District. A project to reduce non-revenue water in the Colombo metro area is also in the pipeline. In total, USD 458 million has been allocated (including co-financing) for both target areas, which accounts for 56 % of the total investment for 2015-2016. Beyond 2016, the interest of the bank's focus is on agriculture, natural resources and rural development under the focal area of infrastructure development.

Further details: <http://www.adb.org/countries/sri-lanka/contacts>

(b) World Bank

The World Bank has been working with Sri Lanka for around 60 years. The current country partnership strategy (2012-2016) includes strategies to facilitate sustained public and private investment, to contribute towards structural changes of the economy and to improve quality of life and social inclusion. Projects of the World Bank associated with the water sector mainly fall within the third category. This includes supporting projects that increase the quality of services of urban infrastructure, including water supply and sanitation and a project on water supply and sanitation in areas affected by the civil war. Beyond this period, the bank is also looking to add a fourth area of focus, that of providing assistance towards developing resilience to climate change and natural disasters. The World Bank has allocated nearly USD 760 million in the period 2012-2016 under different forms of financing for projects related to the water sector (some have a component related to the water sector). The dam safety and water resources planning project and the climate resilience improvement project are two ongoing World Bank-funded projects.

Further details: <http://www.worldbank.org/en/country/srilanka>

⁽³⁴⁾ The Ministry of Mahaweli Development and Environment's *Progress report 2015 and action plan 2016*.

(c) European Union

The European Commission has shared a formal relationship with the government of Sri Lanka since 1975. Areas of cooperation include aspects of trade, development and advances in the business sector, advancing the quality of life of poorer communities and promoting sustainable management of natural resources. The EU's programmes are currently being carried out across a range of sectors, regions and cities. The water and natural resources sector includes programmes on increasing the environmental performance of the export sector and the hotels/hospitality industry of Sri Lanka by minimising pollution in water and soil and developing the drainage system in the flood-prone Kalmunai Municipality. Until 2013 the EU included projects of humanitarian and development assistance for war-affected communities in the north and east of Sri Lanka and adjacent border villages by providing access to transport, telecommunications, electricity, water supply and owner-driven housing. Enhancement of food and nutrition security of communities in target areas through the promotion of inclusive sustainable agricultural practices and integrated water management approaches.

Further details: http://eeas.europa.eu/delegations/sri-lanka/area/contacts_en

Plate 19 — Map of storm drainage infrastructure funded by the EU and implemented by the UNOPS in Mannar (Source: Jaime Royo-Olvid, EU Delegation 2013).



(d) United States Agency for International Development

USAID has been associated with Sri Lanka since 1956 and mainly contributes towards improving the quality of life of many communities as well as providing support during natural and man-made disasters. In 2014, funds for development in Sri Lanka amounted to USD 2 million.

Further details: <https://www.usaid.gov/sri-lanka>

(e) Japan International Cooperation Agency

The government of Japan, through the JICA, has been associated with Sri Lanka since 1954 and has been working in areas associated with economic development, support for communities in conflict-affected areas in the north and east, poverty reduction and disaster and climate change management. Financial assistance for projects in the water sector includes both loans and grants (major projects are usually financed by official development-assistance loans), projects related to water supply, wastewater management and water-quality monitoring. In addition, a master plan for cascade system development plan for the dry northern zones is in the pipeline. The master plan targets the improvement of livelihoods of the people in dry zone rural areas by the rehabilitation of the cascade system in the North Central Province and the Northern Province. The JICA Sri Lanka office will closely work with the Ministry of Mahaweli Development and Environment for successful implementation. The Japan Bank for International Cooperation (currently operating as a merged entity with JICA) is one of the biggest sources of financing for the development of hydropower production and distribution.

Further details: <http://www.jica.go.jp/srilanka/english/>

(f) Agence Française de Développement

The AFD has had a more recent association with Sri Lanka than the other agencies described above, beginning operations in 2005. The initial focus of the agency was to contribute to relief and reconstruction following the 2004 Indian Ocean tsunami. Since then, the scope of the agency has expanded to promote economic growth through social inclusiveness and green growth. Projects covering water supply and sanitation, pollution control and climate change are the focus areas. Regarding the water sector, major projects for which lending from AFD has been obtained are urban water supply that aims to reduce water production cost from Ambatale by upgrading the pumping station, development of wastewater collection and treatment system and capacity building in Negombo, Peliyagoda, Kelaniya and Galle. Another aim of providing support is to develop the infrastructure for mini-hydropower systems.

Further details: <http://www.afd.fr/home/pays-d-intervention-afd/asie/pays-intervention-asie/srilanka>

3.6. Non-governmental organisations involved with the water sector

NGOs operating in Sri Lanka include both local and international organisations generally working in three main areas: (i) environmental conservation and sustainable use of water and water-related resources; (ii) disaster preparedness and relief (mainly in relation to flooding); and (iii) the provision of facilities within the water sector, including drinking water, health and sanitation and irrigation facilities. This section describes these organisations in more detail.

(a) Global Water Partnership South Asia/Sri Lanka

The Global Water Partnership was founded by the World Bank, the United Nations development programme and the Swedish International Development Cooperation Agency. The focus of the group is to promote the concept of IWRM. The partnership functions under this group and is associated with its member countries through country water partnerships. The Sri Lanka Water Partnership (Lanka Jalani) is one such organisation that promotes IWRM and related aspects at national and local levels, including through joint programmes with the private sector.

Further details: <http://www.gwp.org/>, <http://lankajalani.org/>

(b) Lanka Rainwater Harvesting Forum

The forum was founded by a group of interested people representing governmental and non-governmental stakeholders including the NWSDB, the Agrarian Research and Training Institute and the Open University. It currently works as a non-governmental non-profit organisation for the promotion of rainwater harvesting usage for domestic and domestic-level agriculture use, promotion of rainwater harvesting for groundwater recharge and research and development into more efficient techniques.

Further details: http://lankarainwater.org/wp/?page_id=112

(c) Care Sri Lanka

Care Sri Lanka is a United Kingdom-based charity that works in Sri Lanka in association with the Lanka Fellowship of Churches. Areas covered under their work include provision of housing facilities, support of vulnerable people, and health, nutrition and educational improvement. Care Sri Lanka's programme in the country involves flood relief for those affected, construction of wells and sanitation facilities.

Further details: <http://www.care-srilanka.org/>

(d) Plan Sri Lanka

Plan International works towards protecting the rights of children including the thematic area of water, sanitation and hygiene, aiming to promote access to clean water and sanitation facilities. However, in Sri Lanka, focus areas include targeting under-nourishment among children, ensuring access to basic education and reducing the incidences of violence among children. Therefore, there is little overlap with the water sector. Plan Sri Lanka is an organisation that has its headquarters in the United States.

Further details: <https://plan-international.org/sri-lanka>

(e) Seva Lanka Foundation

Seva Lanka Foundation is an NGO that works with rural communities to enable them to address their own developmental needs. Two organisations are part of this larger umbrella organisation — Seva Finance and Seva Economic Development Company. Seva Lanka Foundation's work on rural development includes working with communities to construct water-related infrastructure such as irrigation facilities, rainwater-harvesting systems, drinking water facilities and water-purification systems.

Further details: <http://www.sevalanka.org>

(f) World Vision

World Vision is an international religious (Christian) development organisation headquartered in the United States. The organisation works on different themes including health, education, economic development and disaster relief with a special focus on children. One of the themes covered by the organisation is improving access to clean water. In Sri Lanka this includes increasing awareness of issues related to sanitation and the construction of rainwater-harvesting ponds.

Further details: <http://www.wvi.org/srilanka>

(g) International Union for the Conservation of Nature Sri Lanka

The IUCN is an organisation that works towards nature conservation through both research and action. The IUCN Sri Lanka is the country office of this international network and functions in collaboration with several local governmental and non-governmental entities.

Many of the programmes conducted by the IUCN strongly overlap with the water sector, especially regarding biodiversity conservation and the management of water-related natural resources. These include research and conservation action targeted at certain aquatic species, habitat conservation (e.g. mangroves, lagoons and watersheds), mitigating the environmental impact of certain development activities and advancing ecological approaches in the agriculture sector.

Further details: <http://www.iucn.org/regions/asia/contact/offices>

(h) **Malteser International**

This is an international organisation with headquarters in the United States and Germany. The organisation works in programmes that aim to provide assistance during disaster, poverty relief and improvement in health and nutrition and in water, sanitation and hygiene.

In Sri Lanka, this organisation's areas of focus are reflected in projects that provide flood relief, water supply and sanitation for impoverished communities and those affected by natural disasters and the provision of rainwater-harvesting systems.

Further details: <https://orderofmaltarelief.org/contact/>

(i) **Helvetas Sri Lanka**

Helvetas is an international development organisation headquartered in Switzerland. This organisation conducts development activities focusing on five themes: water and infrastructure; rural economy; environment and climate change; skills development and education; peace and governance.

In Sri Lanka, the organisation works mainly on reconciliation and the advancement of human rights. Activities that fall under the water sector include the provision of water supply systems to impoverished communities.

Further details: <https://srilanka.helvetas.org/en/contact/>

Plate 20 — Water well built by NGO ZOA International with funding from the European Commission Humanitarian Office (ECHO) in Koralaipattu, Batticaloa District
(Source: Jaime Royo-Olid, EU Delegation 2012).



4. Water policy reforms

Sri Lanka does not have a comprehensive national water policy despite the several attempts at policy reforms during the last five decades, largely due to the lack of political will. Ad hoc policies based on sectoral needs, such as drinking water, and on non-controversial issues, such as rainwater harvesting, have been set in place. Thus, the main operational framework for water sector operations remains within the ambit of subsector laws and regulations (Ratnayake, 2014).

Historically and legally, the institutions and laws relating to land administration have as a prerogative that determined the use and control of water resources (Ratnayake, 2014). A rights regime that is land based has been the basis of water administration. Policy statements are also often made in official documents such as the public investment programmes, the annual national budget speech and the president's address to parliament. After independence, Sri Lanka's approach to water resources management (WRM) was mainly focused on reducing water scarcity in the dry zone areas through the supply augmentation viz; new construction, trans-basin diversion and rehabilitation of the existing irrigation schemes. Management decisions were made on an ad hoc basis grounded on the priorities set by each government, which were largely rooted in political expediencies. Water resources planning and management are often not based on the hydrological management unit (river basin), causing inefficient and inequitable use of water.

The World Bank in the 1970s and USAID in the 1980s provided funding for policy development aimed at improving the productivity of irrigated agriculture. These projects promoted FOs and charging for irrigation. However, many of these attempts could not move beyond the pilot stages. Another pilot project funded by USAID, implemented in the Gal-Oya scheme during the period of 1979-1986, has made significant progress in soliciting farmer participation towards the management of irrigation systems. In 1988, the government accepted the policy of participatory management, including beneficiary involvement at all stages of decision-making and management of irrigation schemes.

In the 1990s, USAID supported a project called the irrigation management policy support activity. The project reviewed irrigation management issues, which came up with the recommendations for the establishment of FOs or for the strengthening of existing FOs leading to irrigation management turnover and bureaucratic reorientation. The support activity also highlighted the fragmentation of policies and the necessity of a master plan for water sector development and formation of an apex body for WRM. The recommendation was seen as a shift of international interventions in the water sector from hardware development to software development.

Based on the support activity recommendations, the government requested ADB to develop a WRM master plan in 1992. This had led to the preparation of the comprehensive WRM plan, mainly focused on the assessment of institutional capacity, on the development of overarching policy, on the drafting of legislation, on the formation of an apex body for water governance and on the establishment of data and an information system for better decision-making. The policy proposed the creation of three parallel organisations, the National Water Resources Authority, the Water Resources Council and the Water Resources Tribunal. The new water policy and institutional arrangement formulated was approved by the cabinet of ministers in 2000, but a new water resources act was not passed into law by the parliament. The government abandoned the policy process in 2001 due to the renewed adverse campaign against the policy. In 2002, the opposition party formed government and new initiatives were launched through a task force established by the prime minister. The task force came up with drastic reform recommendations such as the downsizing the ID and MASL, the privatisation of the WRB, the transfer of a policy advisory function to the proposed National Water Resources Authority, the transfer of all tertiary irrigation systems to FOs and the creation of five regional water authorities for decentralising water management. The process took place with no consultation with stakeholders and key organisations, despite the past bad experience of such efforts. However, premature dissolving of parliament by the executive president in 2004 resulted in this effort being abandoned again. The new government elected in 2004 with the support of the Marxist party initiated an entirely new effort of formulating water policy using only the local inputs, and was primarily based on promoting traditional approaches and practices, completely disregarding the earlier comprehensive WRM process. Since there was continued disagreement and resistance to the proposed changes, the ADB suspended policy interventions under Loan No 1 757 of the WRM project in 2004.

The policy document prepared by the ADB-funded comprehensive WRM project was very comprehensive and forward-looking (Samad, 2005), but there were many aspects which constrained the adoption of this policy (Ariyabandu, 2010). The policy failed to articulate and understand the societal needs, traditional practices, water values and politicised nature of water in the country. The new concepts and terminology used by the policy were not properly communicated to the public and the policy documents were seldom produced in local languages. It was alleged that, contrary to official claims, public consultation about the water policy was grossly inadequate. Sections of the press, non-governmental groups, religious bodies and some FOs argued that the process was top-down and the government was somewhat secretive about the proposed changes. Opponents of the reform have generally distorted the situation by using sensitive issues such as water rights, water privatisation and donor imposition; there were also genuine concerns about the form and operation of the water rights system. Unfortunately, the reform proponents could not clarify the matter with a blueprint of a proposed water rights system or show how this would protect the poor and avoid misuse by economically wealthy groups, including multinational corporations (Samad, 2005).

The **Water Services Reform bill** was published in the government gazette and submitted to the parliament in 2003 to regulate the water services in drinking water supply through empowering the Public Utilities Commission of Sri Lanka. However, this act could not get approved without the concurrence of the provincial councils, as water is one of the subjects devolved to them. Amendments were then proposed to the existing NWSDB act to enable it to provide more powers to the Public Utilities Commission, which was not successful either due to the objections raised by the trade unions. In 2010, ADB assistance was obtained to strengthen the internal monitoring and regulatory system of the NWSDB, and the establishment of an independent regulator cell within the NWSDB has been proposed.

The water sector policy and various other policy attempts have not materialised. However, there has been a consensus and varying levels of commitment among stakeholders for policy-related issues: e.g. WRM, beneficiary participation in WRM, cost recovery, irrigation management turnover, river basin management, IWRM, pollution control and conservation of water and water sources. Sectoral policies have also been developed for watershed management, wetland, forestry, land use, rainwater harvesting and sand mining. National environmental policy and national environmental action plans address the conservation of water resources, the management of irrigation water, the regulation of groundwater, the reduction of wastage from irrigation and water supply schemes, the reduction of water pollution and the restoration of polluted water bodies. The government has also prepared a national policy on climate change to enable an environment to formulate adaptation strategies and make arrangements for preparedness to deal with climate change and the resultant water scarcity/abundance conditions. The **national physical planning policy and plan (2011-2030)** address 'water resources development' including the protection of catchments, water resources and tanks (National Physical Planning Department, 2012). The policy specifies certain principles and strategies to achieve these objectives.

From an overall perspective, the institutional impact of the water sector reforms that have been ongoing since the 1980s is only marginal except for some notable changes in irrigation institutions, especially the creation of user organisations at the grassroots level and some minor changes at the national level. Water institutions in Sri Lanka remain static. They seem focused on new and rehabilitation projects rather than on improving management. Although the reform proposal drafted in the early 2000s could not be fully implemented, the situation is not that bleak when taking into consideration the long process of institutional evolution and change. The reform agenda has already entered the political process. Although there is opposition on a few contentious aspects, there is a widespread convergence about the need for a comprehensive reform to align the institutional arrangement for water with emerging economic and resource realities. User participation, decentralisation and basin focus are now firmly rooted in both policies and programmes.

At present, the MIWRM and the Ministry of City Planning and Water Supply are in the process of formulating water sector policies. The requirement of a coordinating arrangement, a mechanism for allocating water between and within sectors during water scarcities and cost recovery aspects has been met in the context of changing socioeconomic and resource-scarcity conditions. The WRB is planning to introduce some legal instruments to monitor, control and regulate groundwater extraction in the country. It is important to recognise that improved performance management of existing institutions should be an important element of reform, including improving their governance structure and reducing political influence in the management of the organisation.

Lessons from experience suggest that although the irrigation management reforms were implemented with considerable political ease, water sector reforms could not even go to the stage of political articulation, suggesting the importance of public education and political liaison both before and during the reform process.

Plate 21 — Urban pond in Mannar being used for personal hygiene by local residents
(Source: Jaime Royo-Olvid, EU Delegation 2013).



5. Priorities in public investment in the water sector

In the absence of formal water policy, this study takes the national budget as a proxy to ascertain the government's priorities in the water sector (i.e. allocated amounts being considered proportional to the importance attached).

There is a growing consensus in literature on public expenditure management that government budgeting is a political rather than a simply technocratic process (Norton and Elson, 2002). Smith and Lynch (cited in Michael Oyakojo, 2015) observe that 'The politician sees the budget process as a political event conducted in the political arena for political advantage'. As a political tool, the budget is value ridden, signaling the government's ideological commitment, political priorities and policy platform expressed in financial terms (Rasheed Draman, undated). This section examines the budget allocation to the various line ministries associated with the water sector. Figure 8 gives the trend in the budget allocations for 2014-2016 to the various water sector ministries. Details are given in Annex 4. Figure 9 gives the allocation for 2016.

Annex 5 shows the allocations of the provincial council budgets for the various water subsectors. Some caution is needed when interpreting the budget data. The figures given are allocations to each ministry for all expenditures and not solely for water-related investments but for other programmes as well ⁽³⁵⁾.

Given time constraints and the difficulty of obtaining water-specific budget data, we take the allocation as a reasonable proxy for funding of the water sector. The data indicated that the largest budget allocation during the period 2013-2016 has been to the Ministry of Mahaweli (the ministry is currently linked with the Ministry of Environment). The Mahaweli project has traditionally dominated government's public investment programme as it is a key multi-sectoral water project that contributes to the national economy in various ways: agriculture, hydropower, inland fishery and rural development. This year, nearly 29 % of the budget allocated to the water sector has gone to the Ministries of Mahaweli and of Environment. The dominant position of the Mahaweli project, both politically and in terms of the country's economy, is evidenced not only by the highest share funding it receives, but also by the fact that the cabinet portfolio for the Mahaweli project has customarily been with a politically powerful minister, someone close to the Head of State or, as at present, with the president himself. The following sections highlight government budget allocations for the various water-related ministries for 2016. The sections that follow highlight some key aspects of the budget allocation to the respective water sector ministries for the fiscal year 2016.

⁽³⁵⁾ For example, the allocation to the budget of the Ministry of Agriculture includes funds allocated to the DAD to finance investments in minor irrigation systems as well as fertiliser subsidy, seed production, etc.

Figure 7 — Trend in budget allocations to water-related ministries for 2014-2016

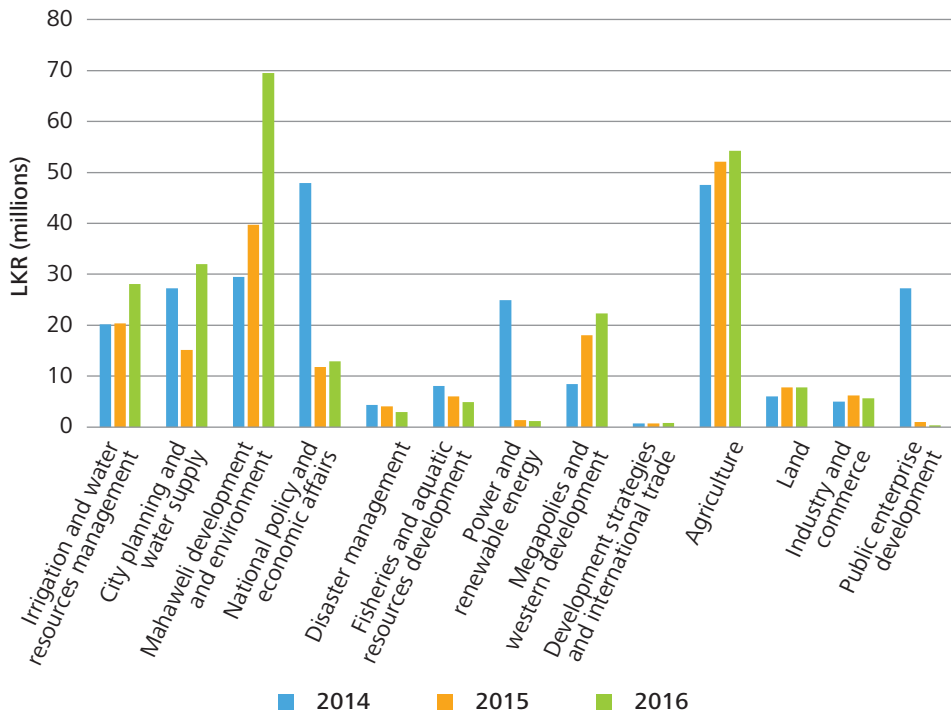
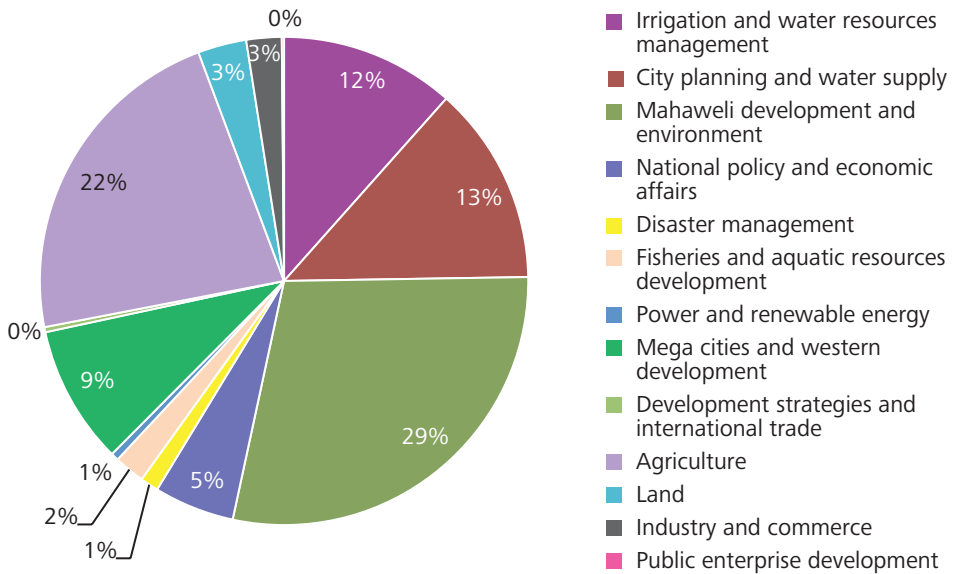


Figure 8 — Proportion of budget allocations to water-related ministries for 2016



5.1. National budget allocation for water sector ministries for 2016

5.1.1. Ministry of Irrigation and Water Resources Management

The provisional national budget allocation for the fiscal year 2016: LKR 28.1 billion.

The provisional budget allocation for 2016 to the MIWRM has seen an increase of 38 % over the budget for 2015.

In 2016, almost 44 % of the allocation was set aside for development activities by the MIWRM. The financing comes from a mix from both domestic (59 %) and foreign (41 %) sources. The greater proportion of this is accounted for by the interprovincial irrigation programme. The resources allocated to this development activity have doubled when compared with the value for 2015. Examples of larger projects under this category include the construction of infrastructure related to reservoirs (Talpitigala and Lower Uma Oya reservoirs), diversion schemes (Gin-Nilwala diversion project), climate resilience improvement, groundwater monitoring and rehabilitation of major and minor irrigation schemes.

The ID (which is responsible for other major and minor irrigation schemes) accounts for 55 % of the planned expenditure for 2016. The development activities of this department make up almost 95 % of this budget and consist of the maintenance and construction of other major and minor irrigation schemes. The WRB receives a much smaller allocation. The allocation for development activities related to irrigation and the high proportional allocation to the ID indicate that among the ministry's functions, irrigation receives the highest priority.

5.1.2. Ministry of Mahaweli Development and Environment

Total budget allocation for 2016: LKR 69 billion.

This accounts for 29 % of the resources allocated to the ministries associated with the water sector. This proportional allocation in 2014 was 11 % and in 2015 was 22 %, indicating an increase in the high priority given to activities related to Mahaweli development and environment. When compared to the amount for 2015, there has been an increase of 75 % in the budget attributed to the ministry. Around 93 % of its activities for 2016 are accounted for by development activities. Of this, a greater proportion (90 %) is channelled towards development activities related to the Mahaweli development programme (MDP). An increase by 51 % of the funds allocated to the MASL when compared to the national budget for 2015 results in an increase in the total budget allocated to the ministry. The financing for Mahaweli development is through a mix of both domestic and foreign sources (mainly loans) at a ratio of 65:35. Most of the loans are from governments of foreign countries, including China, Kuwait, Iran and Saudi, while a smaller proportion comes from the World Bank and the ADB. Around 1.5 % of the budget for development activity is channelled towards environmental conservation (under the CEA). Most financing for environmental conservation (70 %)

comes from foreign sources, of which grants make up a large proportion. Issues currently addressed through these development activities include solid waste management, water quality monitoring of major waterbodies and invasive species management. The Forest Department and the Department of Coast Conservation are each apportioned roughly 3 % of the budget.

Regarding future development, the corporate strategy by the MASL for 2014-2018 outlines four specific areas of focus. This includes the development of the resources of the basin for socioeconomic development, environmental conservation of these resources, productive and efficient use of the resources of the basin and improvement of the living standards of those affected by the development plan. Of these different focus areas, the first and third are given the highest allocation of resources, as they are associated with large-scale infrastructure development. Moragahakanda and Kalu Ganga reservoir projects, the water resources development investment programme, the Kalinganuware–Angamadilla–Minneriya pumping complex and the Uma Oya diversion project at present account for 90 % of the total allocation of the authority. The planned Mahaweli water security investment programme funded by the ADB will be the largest irrigation investment programme in 28 years. The investment programme will accelerate the economic activities of Sri Lanka's northern dry zone region by transferring surplus water of the Mahaweli river basin for irrigation, drinking and commercial purposes. It will develop bulk water conveyance and storage infrastructure planned under the North Central Province canal programme, which is a high priority development programme of the government that will support completion of the MDP, started in 1970. While the ministry consists of several institutions with different roles, most of its activities are associated with the development of the Mahaweli Basin. A large proportion of funds are being channelled towards irrigation infrastructure development, hydropower generation, better water management and improvement of agricultural productivity in the Mahaweli and Walawe river basins to enhance the living standards of the Mahaweli farming community.

Under its environment mandate, the national action plan was developed under the Haritha Lanka programme covering 10 broad thrust areas, namely: clean air everywhere; saving the fauna, flora and ecosystems; meeting the challenges of climate change; wise use of coastal belt and the sea around; responsible use of the land resources; doing away with the dumps; water for all and always; green cities for health and prosperity; greening the industries; and knowledge for right choices. This action plan is a product of the concerted efforts of all relevant ministries that actively participated in its development. The action plan includes short-term, medium-term and long-term targets spanning from 2009 to 2016, with 82 strategies and 375 actions that are comprehensive, achievable and measurable. The plan is implemented by 36 ministries and 70 governmental and non-governmental institutions. Furthermore, an accelerated environmental conservation programme named Punarudaya has been prepared to create a better environmental management in the country, which will be implemented during 2016-2018 (Ministry of Mahaweli Development and Environment, 2015).

5.1.3. Ministry of Agriculture

Total budget allocation for 2016: LKR 54 billion.

The Ministry of Agriculture accounts for 22 % of the total budget allocations of the ministries associated with the water sector. The more significant proportion of the budget is taken up for the ministry's activities and for the development activities (73 %) conducted by the ministry. Most of these development activities do not have a direct bearing on the water sector. Of the financial resources allocated to the ministry, roughly 16 % is allocated to the DAD, while 11 % is allocated to the Department of Agriculture. In turn, the former allocates 15 % of its budget for the development of minor irrigation schemes.

5.1.4. Ministry of National Policy and Economic Affairs

Total budget allocation for 2016: LKR 13 billion.

This percentage accounts for 5 % of the total budget allocations for ministries in the water sector, but it is not evident how much of this can be attributed to the Public Utilities Commission of Sri Lanka. However, when considering that a total of 20 institutions, including four departments and the Central Bank of Sri Lanka, function under the ministry, it can be concluded that the allocation to the commission would not account for a significant proportion of the total budget of the ministry.

5.1.5. Ministry of Power and Renewable Energy

Total budget allocation for 2016: LKR 1.2 billion.

This allocation accounts for 1 % of the total budget allocated to the ministries involved with the water sector. This small share can be attributed to the fact that, beginning from 2015, the investment by the government in this sector has been reduced, mainly because of the Ceylon Electricity Board functioning as a financially autonomous body through its own earnings and investments. This is not accounted for in the national budget estimates. Therefore, the allocation of financial resources to the ministry dropped almost 94 % in 2015, with a further decrease of 13 % for 2016. Around 75 % of the ministry's activities are spent on development activities.

The development activities associated with the generation and transmission of electricity by the Ceylon Electricity Board are financed by foreign sources (mostly loans by the JICA and the ADB in 2014). Financing for the distribution of electricity is from a variety of foreign sources (loans by the ADB as well as from foreign governments) and local sources

(80:20). According to the long-term expansion plan of the Ceylon Electricity Board, future expansion of infrastructure related to electricity generation will be largely associated with fossil fuel-based generation. It is estimated that a future increase from the roughly 50 % of hydropower capacity currently developed will pose challenges because of the associated social and environmental costs.

Committed hydropower projects into the future include 35 MW Broadlands (Laxapana Complex; 2017; 85 % financed through lending from China), 120 MW Uma Oya (Mahaweli Complex; 2017; 85 % financed through lending from Iran) and 31 MW Morogolla (Mahaweli Complex; 2020; financed through lending from the ADB), with a few smaller (< 20 MW) projects also being proposed.

5.1.6. Ministry of City Planning and Water Supply

Total budget allocation for 2016: LKR 32 billion.

This amount makes up 13 % of the total resources allocated to ministries in the water sector. As in the case of the Ceylon Electricity Board, investment in the NWSDB's activities has considerably lessened since 2015. The NWSDB now carries out the larger proportion of its activities through its own earnings. As an example of this, investment through the ministry in large-scale water supply and sanitation schemes carried out by the Water Board dropped by 55 % from the LKR 21 billion spent on it in 2014. There is a further drop by 88 % on the allocation in 2016.

The total budget of the ministry, which dropped by almost 44 % in 2015, has increased again in 2016 to almost the amount that was allocated to it in 2014. This increase is taken up by provisions for capital transfers to public institutions, i.e. the NWSDB. Development activities by the ministry include programmes on water sector community facilitation consisting of projects related to rainwater harvesting, prevention of pollution of catchment areas and projects on water supply and sanitation. Development activities carried out by the board (much of it budgeted separately) include large-scale water supply and sanitation schemes (supply to other cities as well as improvements to the scheme in Colombo), sewerage schemes (for Kandy as well as for the greater Colombo area) and emerging small townships water supply schemes. All are financed by foreign sources (mostly through loans), except for the third programme to which the ministry still makes a provision for 50 % of the cost in the budget for 2016. Major sources of financing include the World Bank and the ADB, while other sources consist of foreign governmental funding. The Department of Community Water Supply is allocated a small proportion (0.5 %) of the total budget to the ministry.

5.1.7. Ministry of Disaster Management

Total budget allocation for 2016: LKR 2.9 billion.

The financial resources allocated to the ministry account for 1 % of the total for all the ministries associated with the water sector. The 2015 allocation has dropped by 6 % with a further 28 % drop proposed in the provisional budget for 2016. Development activities account for 76 % of the ministry's budget. The Department of Meteorology accounts for 11 % of the total resources allocated to the ministry in 2016.

5.1.8. Ministry of Fisheries and Aquatic Resources Development

Total budget allocation for 2016: LKR 4.9 billion.

This allocation makes up 2 % of the financial resources allocated to the ministries in the water sector. A steady decline in the allocation to the ministry is seen, with a drop by 25 % in the 2015 budget and a further drop by 19 % in the national budget for 2016. Around 41 % of the budget is attributed to the Department of Fisheries and Aquatic Resources, and 54 % to development activities (including allocations to the other institutions under the ministry).

5.1.9. Ministry of Lands

Total budget allocation for 2016: LKR 7.8 billion.

The ministry's share of the total budget to the ministries working in association with the water sector is 3 %. There is no marked difference in the allocation from 2015. Nearly 5 % of the total budget to the ministry is channelled towards each of the departments.

5.1.10. Ministry of Megapolis and Western Development

Total budget allocation for 2016: LKR 22.3 billion.

This percentage accounts for 9 % of the total resources allocated to the ministries. This allocation jumped by 114 % in the year 2015, with a further increase by 24 % in 2016. Around 98 % of the funding is for the ministry's development activities, including allocations to the institutions under the ministries and to their activities. Domestic funds and foreign funds (mostly loans — primarily from the World Bank) contribute in almost equal proportions to this. Development of urban infrastructure is the predominant development activity under the ministry. Of this, the capital expenditure for the Urban Development Authority and the Sri Lanka Land Reclamation and Development Corporation is 7 % each of the budget for development activities.

With regard to the water sector, a significant proportion of development activities is diverted towards flood protection — both the World Bank-funded greater Colombo flood protection and environment development project and the metro Colombo urban development project (of which a component is flood and drainage management) together account for around 46 %.

5.1.11. Ministry of Development Strategies and International Trade

Total budget allocation: LKR 0.8 billion.

This accounts for less than 1 % of the total resources provisioned for the ministries associated with the water sector.

5.1.12. Ministry of Industry and Commerce

Total budget allocation: LKR 5.7 billion.

This accounts for 2 % of the allocations to all the ministries in the water sector.

5.1.13. Ministry of Public Enterprises Development

Total budget allocation: LKR 0.36 billion.

This accounts for less than 1 % of the total allocation to the ministries involved in the water sector.

5.1.14. Ministry of Provincial Councils and Local Government and institutions at provincial/subnational levels

Total budget allocation: LKR 237.9 billion.

A large share of the investible resources is allocated to the provincial councils for water-related investments. The budget allocated to this ministry is close in value to the total allocation of all other ministries functioning in the water sector (LKR 236.7 billion). A large proportion (70 %) of this is used for contributions to the activities of the provincial councils. This budget includes provisions for development activities (30 %), many related to irrigation, water supply and wastewater management projects financed by a mix of local and foreign funding (18:82). Development activities (under the category of 'regional and livelihood development') related to major water sector-related projects include the greater Colombo wastewater management project, the Iranamadu irrigation development project and the Northern Province Jaffna Kilinochchi water supply and sanitation project (total cost of LKR 7.8 billion, partly financed by the ADB and the International Federation for Agriculture Development). In the provincial budget, irrigation gets the highest priority when taking into consideration the different areas of the water sector (other areas include inland fisheries, improving drinking water and sanitation facilities to schools and community water supply). Among the different provincial councils, the Northern Province allocated the highest proportion (75 %) of its budget for irrigation, including the Iranamadu development project, which is an integral part of the holistic arrangement to transfer water to provide drinking water to Jaffna and to rehabilitate the downstream irrigation infrastructure that is in disrepair due to the lack of maintenance and destruction over the last three decades. It is complementary to the ADB/AFD-financed Jaffna and Kilinochchi water supply and sanitation project.

The Western Province (consisting of the city of Colombo) is focused on the development of wastewater management schemes, with three projects including the greater Colombo wastewater management project (the development project in the water sector with the highest allocation) being budgeted in 2016. The provincial councils should not only have access to funding resources but should also have the capacity to assess needs, prepare programmes of action and implement, monitor and evaluate them in due time. A major intervention in this respect would be to look at the current structure and capacity dimensions of the public service at provincial levels and provide leadership training to implement specialised action programmes formulated in accordance with each provincial council's development priorities.

Plate 22 — Drive through dam structure in Kandalama, Central Province
(Source: Jaime Royo Olid, EU Delegation 2015)



6. Understanding the political economy of Sri Lanka's water sector

At present, public sector agencies carry the responsibility of planning, funding (including mobilising donor financing) and operating activities in the water sector. This is likely to continue in the near future. Different agencies associated with the water sector have differing responsibilities and, depending on their mandated roles and functions, are accorded varying levels of priority by national political leaders. This section qualitatively assesses the political priority attached to various water sector entities based on some modified criteria adopted by Shiffman (2009) for determining political priority for safe motherhood in India (see Box 4). Based on the criteria, water sector agencies are classified into high, moderate and low political priority sectors. These are highlighted below. It must be emphasised that the classification of the various public agencies based on political priority is in relation to their roles and influence in the present political and institutional context in shaping water sector priorities. They do not, however, relate to their major mandated role, which could be recognised as politically important. We recognise that the assessment of a political priority of water sector institutions presented here is subjective. Substantially more research, with a more refined method and intense data collection comparing varying political support levels, will be necessary to establish which factors are most and least influential in shaping political priority of water sector institutions. The attempt made in this study is a modest start.

6.1. High political priority sectors

High political priority sectors include: (i) irrigation (the MIWRM, the MASL and the DAD); (ii) domestic water supply and sanitation (the NWSDB); (iii) hydropower production (the Ceylon Electricity Board); and (iv) environmental management (the CEA). Other stakeholders include the MASL for irrigation, hydropower and environmental management, provincial councils and municipal councils for water supply and sanitation, environmental conservation and irrigation. Among the agencies with high political priority, the MASL is the most conspicuous. The MASL enjoys a high level of legislative powers to carry out certain activities such as raising finances, appropriating additional land for its activities and settling communities in these lands, as well as for socioeconomic and environmental management within the area it oversees. It also enjoys the high proportion of the national budget allocated to the Mahaweli Ministry.

Given the national importance of the MDP in various spheres (i.e. food production, hydropower, employment, population resettlement and regional development), it has received high political patronage since its inception in the mid-1970s. The cabinet portfolio for Mahaweli development has traditionally been vested with senior ministers,

usually to a person 'close' to the Head of Government (president/prime minister). The increased importance given to the MDP by the current regime is made evident by the fact that the cabinet portfolio for the Mahaweli development is vested directly with the President of Sri Lanka.

The environmental impacts of water resources development have been in the focus since the 1980s but have received little attention until the environmental impact assessment was made mandatory for donor financing. During consultations, some key stakeholders observed that the impact assessment has become merely procedural, partly because of the limited capacity in the CEA for the assessment itself, a dearth of competent consultants, and partly due to lack of data. Given the growing importance of development projects for the assessment, further strengthening of the CEA's capacity to carry it out merits urgent attention.

The shifting of the authority from the MIWRM to a separate Ministry of Mahaweli Development and Environment could be a move to facilitate consolidation of decision-making powers of the MASL and the other departments within the ministry (e.g. the Forest Department) on issues related to land, water resources and environmental management within the Mahaweli Basin. However, the joint functioning that ensues can also lead to some ambiguity about decisions taken and implemented by the authority and the ministry, especially on issues related to the types of land appropriated for development and the selection of communities for any resettlement programme.

Plate 23 — Flooded sports field named after minister of industry Rishad Bathiudeen in Mannar
(Source: Jaime Royo-Olud, EU Delegation 2014)



Box 4 — Determining the political priority of water sector agencies

Determining political priority is based on a modified version of the criteria propped by Shiffman and Smith (2007) for generating political priority for global health initiatives. Political priority refers to the degree to which political leaders consider an issue to be worthy of sustained attention and back it up with the provision of financial, human and technical resources. That is when:

- (1) national political leaders publicly and privately express sustained concern for the issue;
- (2) there is strong leadership through the presence of senior ministers and public officials capable of effective public portrayals of sector issues and are champion for the cause;
- (3) the government, through an authoritative decision-making process, enacts policies that offer widely embraced strategies to address the problem;
- (4) the government allocates and releases public budgets commensurate with the importance attached to the sector;
- (5) there is support by the creation of strong institutions;
- (6) donor interest is attracted.

The assessment was based on interviews with individuals in government, with civil society and with donors involved with the water sector; see Annex 1. In addition, we collected information from various documents: budget allocations proceedings of parliamentary debates, pronouncements by political authorities reported in the media, government policy documents, donor reports and published research. Interview transcripts and relevant supporting documents can assess, in broad qualitative terms, the level of political priority and determine the factors behind the political attention. For the limited purpose of this study, the focus was on national rather than provincial-level political priorities as it would be difficult in one study to cover the diversity of provincial-level experiences.

Water supply and sanitation and hydropower development are two major subsectors that receive high proportions of funding (mainly in the form of lending) from donor agencies and from foreign governments, primarily for infrastructure development for the provision of these water supply and sanitation services.

Several projects related to hydropower development are currently underway. However, further expansion of this subsector in the long run appears to be limited, as economically viable good sites have already been/are being developed and the social and environmental costs would be too high to justify the investment.

6.2. Moderate political priority sectors

This would include agencies whose activities have an impact on the water sector but are not involved in regulating this impact, which support/influence the core subsectors listed above and whose activities overlap with the water sector but are not significant players in the sector.

- Agencies that oversee activities that have a significant (environmental) impact: the Ministry of Agriculture, the Ministry of Industry and Commerce, the Ministry of Public Enterprises Development, the Board of Investments, the Ministry of Plantations and the National Planning Department.
- Agencies that act as supporting/influencing entities: the Department of Community Water, the Department of Forest Conservation, the Coast Conservation Department, the Public Utilities Commission of Sri Lanka, the Sri Lanka Land Reclamation and Development Corporation, the Urban Development Authority, urban councils and Pradeshiya Sabhas (see footnote 13, p. 7) and the Department of Land Use Policy Planning.
- Agencies with activities that overlap with the sector but are not significant players: the Ministry of Disaster Management and the Ministry of Fisheries and Aquatic Resources, and the agencies under them.

6.3. Low political priority sectors

Low political priority sectors include agencies that presently have comparatively lower levels of influence in terms of the criteria adopted, such as those in the Ministry of Megapolis and Western Development and in the Ministry of Land. Apart from this, the Ministry of Development Strategies and International Trade can also be described as less influential in the water sector. The WRB was established under the Water Resources Board Act. Its mandate is to advise the minister on the preparation of plans for the conservation, utilisation, control and development of groundwater. Although its perceived role is critical, particularly with the growing importance of groundwater due to funding constraints and inadequate capacity, the WRB has turned out to be a rather weak organisation in the water sector.

Regarding the budgetary allocation for these subsectors, the fund allocated to the Ministry of Power and Renewable Energy has dropped. This is because the Ceylon Electricity Board is considered an independent body and is therefore accounted for separately. This also extends to the NWSDB. The separate accounting of these entities signals a decreased financial support by the government and a move to establish them as autonomous bodies that are self-sufficient or that make a profit.

6.4. Duplication and overlapping of functions

There are some 40 agencies dealing with water. The proliferation of institutions and the fragmentation of responsibilities are outcomes of responses to ad hoc political and sectoral needs rather than reflective of genuine systematic attempts at improving water governance. Water sector agencies are more focused on their own subsector development programme, with little effort to establish effective mechanisms to coordinate the functions spread across various entities both within and outside the sectors. There are inter-ministerial bodies (e.g. the Central Coordination Committee on Irrigation Management and the Steering Committee on Water Supply and Sanitation) to facilitate coordination in specific segments of the water sector. However, they are neither effective in ensuring administrative cohesion nor mandated for sector-wide coordination, allocation and management of water resources. Within such an organisational setting, there are signs of adverse consequences for sectoral functioning and performance that potentially presents a significant barrier to sustained economic growth. For instance, within the Mahaweli zone, the MASL is in charge of fulfilling different aspects of the roles that the Ministry of Agriculture, the MIWRM and the Ceylon Electricity Board fulfil elsewhere.

It is also the case with irrigation, environmental management and water supply and sanitation, which are also part of the mandate of the provincial councils but are areas in which the central government plays an active role. The level of coordination that exists between the centre and the provincial government is unclear.

Other instances of overlapping can be observed in the environmental management. The CEA, the MIWRM and local authorities (municipal councils, urban councils, Pradeshiya Sabhas) are, on paper, in charge of regulating the pollution of waterbodies. It appears that the CEA is the more dominant entity in charge of this function. However, it is not clear if the local authorities still play a role within their areas of administration or how much of this overlaps with the role of the authority.

Similarly, the Ministry of Land includes, among its policies, the national policy of protection, conservation and conservation of water sources, their catchments and reservations in Sri Lanka. While the Ministry of Land is supported by a strong legislative framework, its actual involvement in the water sector is not clear. The protected area network in Sri Lanka, within which many of such areas occur, comes under the supervision and management of the Forest Department (largely in charge of forests in the wet zone of Sri Lanka) and the Department of Wildlife Conservation (in charge of forests in the dry zone). Furthermore, the MASL is responsible for watershed management and for the conservation of watershed resources of the Mahaweli Basin, further adding to a case of multiple authorities performing the same function in a given land area.

Another issue faced by the water sector of Sri Lanka is the fragmentation and the duplication of functions among the different agencies and ministries working in the sector. An example of this is the water supply and sanitation subsector. The NWSDB and the local authorities are each responsible for the provision of these services in addition to involvement of the provincial councils. Provision of pipe-borne water to the city of Colombo and to a few other urban areas is the responsibility of the NWSDB, while water supply to other areas is largely under the purview of the local government authorities. The Colombo Municipal Council is in charge of maintaining the sewerage system of the city, while this service is provided elsewhere by the NWSDB. In addition, the Ministry of Provincial Councils and Local Governments is in charge of several projects related to this sector, in many cases with assistance from international donors.

The fragmentation of functions is very evident in the irrigation subsector. The MIWRM oversees the construction and management of major and medium-scale irrigation schemes, while the management of minor irrigation schemes comes under the supervision of the DAD, which in turn is under the Ministry of Agriculture.

A narrow sectoral focus is seen by many of the institutions operating within the water sector. The Ministry of Industry and Commerce and the Ministry of Public Enterprises Development both regulate industries that are heavy users of water and generators of water pollution. However, the environmental impact of these industries is not one of the areas regulated by these ministries, which is instead left to the CEA. The same issue is seen in the agriculture sector, where the environmental impact of fertiliser use, which is a significant cause of water pollution, is not regulated by the Ministry of Agriculture (there is some degree of control on pesticide usage through legislation). An effective system of coordination to overcome this is therefore required, the absence of which is an issue that should be resolved urgently.

Plate 24 — Solid waste in urban pond in Mannar, Northern Province.
(Source: Jaime Royo-Olud, EU Delegation 2013)



7. Conclusions and recommendations for EU support and interventions

Sri Lanka has made significant achievements in its water sector, especially regarding water supply and sanitation, such as meeting the corresponding targets of the millennium development goals. However, many challenges remain requiring financial, social and organisational development policies that fit the country's political and economic context. Our analysis has shown that at the political level the elected representatives, political parties, members of provincial councils and NGOs all have influential roles in the water sector. At the organisational level, we find multiple government agencies also play critical roles in the sector but with varying levels of interest and influence and, often, with diverse incentives. This study revealed that, at present, the actors and agencies with substantial influence in the water sector are few. The Ministry of Mahaweli and Environment in the water sector is the dominant player with the largest value of public investments in activities related to the Mahaweli project and the environment, bolstered by the fact that it is headed by the president — the highest political authority in the country. Under the present government, the MDP and its related projects have regained high political patronage and have renewed donor interest.

Except for the MASL, policy planning has, in general, not taken adequate account of potential synergies across the multiple water subsectors, which would improve the outcomes of investment projects; as a result, the budget required to support coordination between subsectoral action plans has not been allocated.

At present, there is a high level of volatility and unpredictability in the political environment. It is largely fuelled by conflicts within a coalition government comprising of ideologically different political parties that are more focused on strengthening their relative position in government. This trend is likely to continue, at least until the proposed constitutional reforms are enacted. As the provisions of the proposed constitution are only speculations, it is difficult to foresee the future political scenario. The bureaucracy has over the years experienced an erosion of its autonomy and effectiveness as implementers of development programmes. It is high in the developing world, but not absent in the developed world. The politicisation of administration is a universal social process. In Sri Lanka, with the passage of time, the ministers and governments recognised political influencing as an essential component of administration. Politicisation has come to stay. It may increase rather than weaken, with legal and institutional reinforcements and the socio-political environment's demands for politicised interventions and societal resilience — including the media (Fernando, 2013) ⁽³⁶⁾. Those whom we interviewed stated that the president's secretariat, the Ministry of Mahaweli and Environment, the Official Committee on

⁽³⁶⁾ For a review of politicisation in the public service in Sri Lanka, see Fernando, A., 'Politicisation of public service', *Colombo Telegraph*, 15 December 2013 (<https://www.colombotelegraph.com/index.php/politicization-of-public-service/>).

Economic Management ⁽³⁷⁾ and the Cabinet Committee on Economic Management ⁽³⁸⁾ are reckoned to be the centres of power and change agents that can influence policy and planned interventions in the water sector. Linking with them could enable the EU and others to support efforts to transform the sector.

7.1. Recommendations for EU support and interventions

Investment in water resources development has been a major plank of government policy in Sri Lanka since its independence. It is an area that has attracted substantial donor support, including from the EU, for areas such as irrigation development, domestic water supply schemes, hydropower and improving sanitation. Nonetheless, many challenges remain. The floods and droughts that have occurred in recent years are not one-off events. The causes are numerous and complex, such as misaligned incentives, population growth, urbanisation and climate change. Water challenges cannot be solved in just a few years. Thus, water is likely to remain an important investment theme for the government, international development agencies and financial institutions in the coming decades.

The EU's current development programme in Sri Lanka is guided by the EU's multiannual indicative programme 2014-2020 for Sri Lanka. The programme is closely related to the public investment strategy of 2014-2016 of the previous government as set out in its policy document entitled *Mahinda Chintana — Vision for the future*. With the change of government, the Mahinda Chintana is considered to be no longer valid, although the present government is yet to articulate a well-defined development agenda. The EU is in the process of reviewing its programme to align its programme to the current government's priorities. At present, the only source of guidance is the prime minister's five-point economic policy statement delivered to parliament on 5 September 2015 ⁽³⁹⁾. The policy statement does not make any specific reference to the water sector except to indicate a commitment to 'strengthen and build the rural infrastructure facilities from village roads, village fairs'. The policy statement further states that 'we need to [...] encourage our small- and large-scale farmers and entrepreneurs to participate in the global economy'. The government has proposed to establish large-scale agricultural enterprises in which farmers can participate. In addition, there are development activities of specific ministries. For example, the Mahaweli Ministry's national programme for food production 2016-2018 ⁽⁴⁰⁾; the presidential secretariat's efforts to promote organic farming under its programme on a toxin-free nation, which is one of the priority activities of the president; or the 'Safe water for all' and 'Sustainable sanitation' programmes of the Ministry of City Planning and Water Supply.

⁽³⁷⁾ The Official Committee on Economic Management was appointed by the prime minister to make suitable recommendations on matters relating to economic management to the Cabinet Committee on Economic Management. The committee consists of the public officials representing major institutions involved in providing policy directions to the entire economy in the country (see <https://www.parliament.lk>).

⁽³⁸⁾ The Cabinet Subcommittee on Economic Management is under the chairmanship of the Prime Minister Ranil Wickremesinghe and comprised of the relevant ministers to make recommendations to the cabinet regarding the proposals on overall economic development of the country (<http://www.cabinetoffice.gov.lk/cab/index.php>).

⁽³⁹⁾ See the economic policy statement made by the prime minister (<http://www.news.lk/fetures/item/10674->).

⁽⁴⁰⁾ National programme on food production 2016-2018, implementation plan, MASL.

Pending the articulation of the government's development plan, the EU may, in the short term, wish to align itself with some of the ongoing programmes of the government, in addition to the activities it is currently financing.

Priority investment opportunities in the short term include the following.

(a) Planning for commercialisation of agriculture

This is one of the priority areas expounded in the prime minister's policy statement (see Section 2.2.2). The World Bank has articulated a proposal for an agriculture sector modernisation project (World Bank, 2016). It is understood that the EU is planning to support the Component 2 — Subcomponents 2.2 and 2.3 of the proposed project, which entails setting up modern technology parks (Subcomponent 2.2) and upgrading and rehabilitating existing small tanks and irrigation systems in the selected priority project areas (World Bank, 2016, p. 8).

The EU may consider investment in a project that would: (i) provide science-based guidelines for the rehabilitation of small tank cascades; (ii) propose effective water management practices to enhance agricultural productivity in the tank-upland systems, especially the conjunctive use of surface and groundwater; (iii) carry out value chain analyses to guide high-impact initiatives focused on improving land and water productivity, entrepreneurship and agribusiness; (iv) support and facilitate value-chain stakeholders to pilot identified business plans; (v) test appropriate low-cost micro-irrigation techniques for the upland areas to enhance the productivity of scarce water resources and upscale successful systems; (vi) test and implement appropriate management practices for the conjunctive management of surface and groundwater in the tank command; and (vii) explore the scope for crop diversification into high-value crops and opportunities for integrated crop–livestock farming systems and organic farming in the small tank schemes to enhance both land and water productivity in the village irrigation systems and also to ensure household food security.

Potential partners are the Ministry of Primary Industries, the Ministry of Agriculture and associated departments, and five participating provincial councils: Northern, Eastern, Central, North-Central and Uva and the relevant provincial agencies.

(b) Development of groundwater resources for irrigation in the Northern and Eastern Provinces

Since the end of the civil unrest in 2009, there are now opportunities to develop regional and local groundwater systems for supplementary irrigation so that the livelihoods of resettled people in the north and east can be enhanced. However, hard rock aquifers, typical of the area, means that groundwater resources are generally found in localised pockets. Thus, agro-wells must be sited carefully. Furthermore, the coastal sand aquifers in the north-western region must also be managed with care, as these coastal aquifers have a limited holding capacity. Over-pumping will lead to seawater intrusion. Thus, development programmes in the former conflict zones must ensure that any groundwater schemes are not quick-fix solutions. The long-term consequences must be considered. Feasibility studies are required to identify areas best suited for this type of development and some work on sustainable yields of various groundwater systems is also needed. Given the seasonal monsoon climate of the north and east, using artificial recharge to replenish aquifers in the wet season (based on technologies developed in India) is also a possible means of making groundwater resources more sustainable.

Potential implementing partners could be the WRB and the relevant provincial irrigation departments.

(c) Groundwater endowment map

The WRB needs to improve: (i) the mapping and database of the use of groundwater resources; and (ii) the monitoring of groundwater quality and water table fluctuations to better understand the location of overuse and underuse of groundwater resources. The development of groundwater endowment maps is essential to enable sustainable utilisation of ground water resources and the effective implementation of future groundwater management policy. Such mapping will be significant for the promotion of community governance of the resource.

The EU may wish to support this programme of work as a low-risk and high-return investment in the water sector.

The WRB, which is currently engaged with the activity, could be the implementing partner.

(d) Capacity building

Provincial councils have limited technical and financial capacity to adequately undertake the devolved functions of WRM for which they are responsible. A programme of human resource development, through a programme of on-the-job-training by consultants, would create a cadre of water professionals in the provincial councils. The consultants would enable the provincial councils to undertake critical activities including the preparation of statutes, while providing on-the-job training to staff.

The EU may wish to support a human resource development programme in selected provinces to accelerate development in the water sector.

In the medium to long term, the EU could consider investing in some of the water sector projects that are in the pipeline, for example two potential investments that are in a fairly advanced stage of planning and are priority projects of the Ministry of Irrigation and Water Management.

(e) Mundeni Aru River Basin development plan

The Mundeni Aru River Basin is considered a mostly underutilised water resource in the southeast region of Sri Lanka. The basin is in the Amapara and Batticaloa districts in the Eastern province, flowing between Maduru Oya and Gal Oya, with three tributaries: Rambukkan Oya, Galodai Oya and Maha Oya. This is an undeveloped rural basin with a catchment area of 1 280 km². The proposed project will improve the productivity of 3 950 ha currently cultivated and will develop new lands of 5 870 ha by provision of two proposed multipurpose reservoirs adjacent to Galodai and Mahaoya with associated irrigation facilities. This project will amalgamate Kithulwewa to Rugam tank, will generate hydropower (3.3 GW/h) and will provide safe drinking water to 44 Grama Niladhari divisions in the Batticaloa District. The reservoir storage will reduce the effects of floods frequently experienced in the province.

(f) Lower Malwatu Oya reservoir project

The proposed lower Malwathu Oya reservoir project is close to Thantirimale at the Anuradhapura-Mannar District boundary. The dam of the proposed reservoir would be about 3 500 m in length with the reservoir capacity of 229 MCM (185 000 acre-feet) and approximately 7 000 ha of submerged area. The project will solve water shortages in the Mannar District and the hydropower units to be installed at the dam will contribute to energy supply in the region. The main tanks in Mannar, namely the Giant tank, Agathimuruppu tank and the Viyadikulam tank, will receive augmentation flows enabling year-round supplies from the scheme.

These projects involve large capital investments. The EU could explore co-financing opportunities in consultation with the Government of Sri Lanka and the ID.

Plate 25 — Sluice gates of the Giants Tank in Mannar, which will be included in the proposed Malwatu Oya development project
(Source: K. A. U. S. Imbulana)



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Annex 1: List of key persons consulted

No	Institution	Name	Designation
1	Asian Development Bank	Dr. Palitha Bandara	Senior Project Officer – Natural Resources Management
2	Agence Française de Développement	Mr Gregory Villeneuve	Country Representative
3		Mr Davin Bekok	Project Officer
4		Jaime Royo-Olid	Programme Manager
5	European Union Delegation to Sri Lanka and the Maldives	Mr Chandana Hewawasam	Programme Manager
6	Department of National Community Water Supply	Eng. M.I.A. Lathiff	Director-General
7		Mr Mubarak Faleel	Director
8		Mr P.M.S. Jayathilaka	Assistant Director/Irrigation and Land
9	Department of National Planning	Mr R. Wickramarathna	Assistant Director/Agriculture
10		Mr Naga Narendran	Director
11		Mr P. Paskaran	FO Chairman
12	Iranamadu irrigation scheme, Kilinochchi	Mr V. Nadarajah	FO Chairman
13		Eng. S.S.L. Weerasinghe	Director-General of Irrigation
14		Eng. M.Y. Abdul Majeed	Former Director-General of Irrigation
15	Irrigation Department	Mr Takuya Manabe	Representative
16		Mr M.G. Hemachandra	Project Specialist
17		Ms. Eriko Nakanishi	Project Formulation Advisor
18	Ministry of City Planning and Water Supply	Mr Muinudeen Haniffa	Additional Secretary
19		Eng. R.M.W. Rathnayake,	Secretary
20		Eng. S. M. L. K. De Alwis	Additional Secretary
21	Ministry of Irrigation and Water Resources Management	Eng. D.D. Ariyaratne,	Additional Secretary
22		Eng. (Mrs) P.A.A.P.K. Pannala	Director of Irrigation Projects
23		Mr U.R. Seneviratna	Secretary
24	Ministry of Mahaweli Development and Environment	Eng. N.A. Sisira Kumara	Additional Secretary (Technical)

No	Institution	Name	Designation
25	Ministry of National Policy Planning and Economic Affairs	Mr R. Paskaralinkam	Advisor to the Hon. Prime Minister
26	North East Provincial Council	Mr S. Rangaraja	Former Chief Secretary
27		Mr A. Pathinathan	Chief Secretary
28		Eng. V. Premakumar	Provincial Director of Irrigation
29	Provincial Department of Irrigation, Northern Province	Mr B.A.N. Jayalath	Provincial Deputy Director of Irrigation
30		Eng. N. Suthakaran	Provincial Deputy Director of Irrigation
31		Eng. T. Rajagopu	Senior Irrigation Engineer
32		Eng. S. Paraneetharan	Irrigation Engineer
33	Provincial Ministry of Agriculture and Irrigation of North Central Province	Mr A.G. Nandalal	Additional Secretary
34		Mr Patrik Diranjan	Secretary
35	Water Resources Board	Mr R.S. Wijesekara	General Manager
36		Mr G.R.R. Karunarathne	Deputy General Manager (Research and Development)

Annex 2: Summary of water-related legislation and relevant agencies at central level

No	Ministry	Relevant department/agency	Relevant acts
01	Ministry of Irrigation and Water Resources Management	Irrigation Department Water Resources Board Irrigation Management Division (under the Irrigation Department)	Irrigation Ordinance No 22 of 1946 Water Resources Board Act No 29 of 1964
02	Ministry of City Planning and Water Supply	National Water Supply and Drainage Board Department of National Community Water Supply	National Water Supply and Drainage Board Act No 2 of 1974
03	Ministry of Mahaweli Development and Environment	Mahaweli Authority of Sri Lanka Department of Forest Conservation Central Environmental Authority Geological Survey and Mine Bureau Coast Conservation and Coastal Resources Management Department National Gem and Jewellery Authority Marine Environment Protection Authority	Mahaweli Authority of Sri Lanka Act No 23 of 1979 Forest Ordinance of 1907 National Environmental Act No 47 of 1980 Mines and Mineral Act No 33 of 1992 Coast Conservation Act No 57 of 1981 National Gem and Jewellery Authority Act No 50 of 1993 Marine Pollution Prevention Act No 35 of 2008 Mahaweli Development Board Act No 14 of 1970
04	Ministry of National Policy and Economic Affairs	Public Utilities Commission of Sri Lanka	Public Utilities Commission of Sri Lanka Act No 35 of 2002
05	Ministry of Disaster Management	Disaster Management Centre Department of Meteorology National Building Research Organisation	Sri Lanka Disaster Management Act No 13 of 2005
06	Ministry of Fisheries and Aquatic Resources Development	National Aquatic Research Agency National Aquaculture Development Agency Department of Fisheries and Aquatic Resources	Fisheries Ordinance (1940) Pearl Fisheries Ordinance (1925) National Aquatic Research Agency Act No 54 of 1981 National Aquatic Resource Research and Development Agency Act No 54 of 1981

Annex 3: List of water-related legislations and relevant agencies at provincial level

No	Subnational organisation	Relevant department/agency	Relevant acts
01	Provincial council	Chief Ministers' Office and functions related to water, agriculture and land	13th amendment of the constitution Provincial Council Act No 42 of 1987
02	Provincial Ministry of Agriculture	Provincial Department of Agriculture	
03	Provincial Ministry of Irrigation/Land	Provincial Department of Irrigation	
04	Provincial Ministry of Local Government	Municipal councils (23)	Wells and Pits Ordinance (1864) C. M. C. Water Works Ordinance (1907) Municipal Councils Ordinance
		Urban councils (41)	Urban Councils Ordinance
		Pradeshiya Sabha (271)	Pradeshiya Sabhas Act No 15 of 1987

Annex 4: Water sector budget allocations for ministries and selected departments 2014-2016

Ministry	2014 LKR '000	2015 LKR '000	2016 LKR '000
Ministry of Irrigation and Water Resources Management	20 208 994	20 341 308	28 078 325
Irrigation Department	12 847 006	13 196 623	15 583 780
Ministry of Agriculture	47 507 215	52 095 751	54 201 212
Department of Agrarian Development	6,437 839	6 626 550	8 583 400
Ministry of Mahaweli Development and Environment	29 515 117	39 682 971	69 495 807
Department of Forests	1 632 595	2 046 335	2 042 100
Department of Coast Conservation	1 427 919	2 114 600	2 042 610
Ministry of National Policy and Economic Affairs	47 908 506	11 836 454	12 922 350
Ministry of Power and Renewable Energy	24 928 079	1 420 037	1 237 400
Ministry of City Planning and Water Supply	27 249 286	15 152 630	31 978 006
Ministry of Disaster Management	4 342 025	4 065 090	2 933 750
Department of Meteorology	279 445	603 180	324 000
Ministry of Fisheries and Aquatic Resources Development	8 069 079	6 081 145	4 933 045
Department of Fisheries and Aquatic Resources	5 586 037	2 201 660	2 036 625
Ministry of Land	6 036 112	7 793 294	7 800 774
Ministry of Megapolis and Western Development	8 433 176	18 032 375	22 275 150
Ministry of Development Strategies and International Trade	714 502	775 605	814 555
Ministry of Industry and Commerce	5 049 018	6 242 954	5 675 180
Ministry of Public Enterprise Development	27 294 056	1 027 544	361 230
Ministry of Provincial Councils and Local Government	228 810 218	285 857 926	237 934 642

Source: Ministry of Finance, Government of Sri Lanka, budget estimates 2016.
<http://www.treasury.gov.lk/web/guest/budget-estimates-2016>
 (USD 1.0 = LKR 144.06, EUR 1 = LKR 160.89, August 2016)

Annex 5: Budget allocations for water subsectors in the provincial budgets 2016

Province	Irrigation LKR '000	Improving drinking water and sanitation facilities (to schools) LKR '000	Inland fisheries LKR '000	Community water supply LKR '000
Western	25 000	110 000	6 000	30 000
Central	35 000	150 000	7 000	50 000
Southern	43 000	67 000	10 000	40 000
Northern	1 305 000	97 000	19 000	50 000
N. Western	70 000	110 000	20 000	45 000
N. Central	110 000	85 000	18 000	40 000
Uva	52 000	70 000	13 000	35 000
Sabaragamuwa	35 000	110 000	6 000	35 000
Eastern	60 000	115 000	21 000	55 000
Total	1 735 000	904 000	120 000	380 000

Source: Ministry of Finance, Government of Sri Lanka, budget estimates 2016.
<http://www.treasury.gov.lk/web/guest/budget-estimates-2016>
 (USD 1.0 = LKR 144.06, EUR 1 = LKR 160.89, August 2016)



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