

**PROJECT INFORMATION DOCUMENT (PID)**  
**APPRAISAL STAGE**

Report No.: AB7515

<b>Project Name</b>	LK: Dam Safety WRP - Addl Fin.
<b>Region</b>	SOUTH ASIA
<b>Country</b>	Sri Lanka
<b>Sector</b>	General water, sanitation and flood protection sector (100%)
<b>Project ID</b>	P148595
<b>Parent Project ID</b>	P093132
<b>Borrower(s)</b>	DEMOCRATIC SOCIALIST REPUBLIC OF SRI LAN
<b>Implementing Agency</b>	Ministry of Irrigation and Water Resources Management
<b>Environment Category</b>	[ ] A [X] B [ ] C [ ] FI [ ] TBD (to be determined)
<b>Date PID Prepared</b>	March 10, 2014
<b>Date of Appraisal Authorization</b>	February 18, 2014
<b>Date of Board Approval</b>	April 22, 2014

### 1. Country and Sector Background

Sri Lanka has seen dramatic changes in recent years. A 26-year conflict ended in May 2009, and resettlement of internally displaced people is largely complete. The country is now in a position to boost economic growth and achieve equitable and sustainable human development. The Government's aims – articulated in the National Development Policy Framework Vision, Mahinda Chintana 2011-16 – are to preserve Sri Lanka's cultural values and traditions while developing a knowledge-based economy and supporting better living standards.

Sri Lanka is recently experiencing strong growth rates. The economy is worth US\$64 billion (2012 IMF estimate) and per capita Gross Domestic Product (GDP) is US\$7,900 (PPP), which puts the country ahead of other countries in the South Asian region. The main economic sectors of the country are tourism, tea export, apparel, textile, rice production and other agricultural products. In addition to these economic sectors, overseas employment contributes highly in foreign exchange. Remittances from the nearly 2 million Sri Lankans living abroad in 2012 accounted for US\$5 billion, equivalent to 8 percent of the country's GDP.

Growth in Sri Lanka has been inclusive, with poverty rates declining dramatically to 9 percent in 2010 from 22 percent in 2002, while inequality in per capita consumption expenditure has declined. Sri Lanka notably outperforms the South Asia average on progress towards meeting the Millennium Development Goals with 15 of the 22 Millennium Development Goal indicators expected to be achieved. Given that Sri Lanka has managed to bring down the poverty rate to below 10 percent, the authorities are focused on tackling pockets of poverty in the country.

The Government of Sri Lanka (GoSL) in its long-term development strategy recognizes irrigation and water resource management as national priorities considering their rising importance for the agrarian economy and sustainable livelihood development, access to quality drinking water, electricity generation, biodiversity, etc. Dams have important functions for this, also considering recent severe flood and drought events, and thus have to be structurally safe and

able to operate effectively. The dam network in Sri Lanka comprises over 350 large and medium dams. Many of these dams are aging and have various structural deficiencies and shortcomings in operation and monitoring facilities. In order to ensure that dams can be brought back to fully operational capacity and to reduce their potential public safety hazards, the high- and some medium-risk dams (based on risk assessment) will require urgent attention. Under the original project 32 high-risk dams are being improved through a variety of remedial measures. Under the AF, government seeks to address the dam safety issues at an additional 30 dams.

## 2. Objectives

The project development objectives are to: (i) establish long-term sustainable arrangements for operation and maintenance (O&M) of large dams; and (ii) improve water resources planning.

## 3. Rationale for Bank Involvement

Considering the urgent need to provide funds to complete ongoing activities, the fact that the proposed scale-up activities under the AF are not different from the original main activities, and the satisfactory implementation set-up and arrangements, AF would be the quickest and logical way to complete the original project and scale-up successful project activities.

The proposed AF will be consistent with the Country Partnership Strategy (CPS) FY13/16, which is being revised through a CPS Progress Report to be delivered in FY14. It will link to two of the three original CPS focus areas, namely: (i) facilitating sustained private and public investment; and (ii) improving living standards and social inclusion. The draft progress report proposes strengthening Sri Lanka's resilience to natural disasters and climate change as a priority for the country's development agenda. The proposed AF will contribute to this as well through improvements at dams to be able to manage varying inflows more efficiently and through better water resources planning and management.

## 4. Description

*Component 1 - Dam Safety and Operational Efficiency Improvement.* Through remedial measures to be financed from the AF, this component will complete the works at about 14 dams and finance some small supporting and other activities mostly related to the dam remedial works (e.g. consultant services). To complete the original scope about US\$25 million will be needed. There are several reasons for the cost overrun: (i) during project preparation and appraisal, not all dams were inspected and investigated in detail and a number of assumptions were made to estimate the total project costs; (ii) the scope of work at most dams is larger than estimated at appraisal in April 2007, as the required works have increased over time, which is very common for rehabilitation projects as only during detailed surveys and investigations the actual costs can be accurately determined; and (iii) the construction costs have increased more than the 11 percent allocation for price contingencies that was estimated at appraisal.

The AF will also address the safety issues at about 30 additional dams over and above the 32 that are included in the original project. This will include up to nine dams in the Eastern Province and 3 dams in the Northern Province, areas of the country that could not be part of the project

area under the original project. The proposed dams are mostly managed by ID (14) and MASL (10). The CEB has proposed one dam, while the three dams in the North come under the Northern Provincial Council. Two dams that are under the Kandy Municipal Council were originally planned to be rehabilitated under the proposed Bank-funded Strategic Cities Development Project. However, it was agreed that the Dam Safety and Water Resources Planning Project is much better equipped to take up work on dams, as it has the technical capacity and procedures in place and adheres to the Operational Policy on Safety of Dams. Therefore these two dams will also be included under the AF, to be implemented by the ID, for which US\$3 million has been allocated. The AF will also fund the inspection and repair, including painting, of gates at few of the original dams that was not included under the original project. This will as much as possible be carried out by the implementing agencies to build capacity within the ID and MASL to inspect gates and properly maintain them.

The component will support the rehabilitation of Minipe Trans-basin Canal that conveys water from the Mahaweli dams' cascade (part of the 32 original dams) to Ulhitiya Dam (included in AF). This rehabilitation project was designed under the original project. It will also finance maintenance equipment and tools, similar to the provision made under the original project, and vehicles for additional districts and dams. EAPs and O&M manuals will be prepared for the dams.

*Component 2 - Hydro-Meteorological Information System Improvement.* The AF will finance around 20 additional hydro-meteorological stations, including some in the Eastern and Northern Provinces. The work on ground water monitoring and analysis in seven pilot areas by the staff of the Water Resources Board has been innovative and new in the country. More monitoring work needs to be done to understand trends and make conclusions on such aspects as for example ground water quality and saline water intrusion. Therefore the AF will support the expansion of the seven monitoring networks, the continuing monitoring of a number of ground water parameters at 280 points in these seven expanded areas, and development of one additional ground water pilot area.

*Component 3 - Multi-sector Water Resources Planning.* The AF will support the preparation of feasibility studies for key developments identified in the three plans that were prepared under the original component 3. It will also support the improvement to ID training center at Galgamuwa and MASL training center at Kotmale so that the training program on various aspects of dam safety and water resources planning and management for staff of the ID and MASL, and other water management agencies can be carried out in-house.

*Component 4. Project Management, Monitoring and Evaluation.* This component will support project management and coordination and monitoring and evaluation. The PMU that is managing and coordinating the original project will also manage the AF. It will also support training for PMU staff and staff of the implementing agencies.

## 5. Financing

Source:	(">\$m.)
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BORROWER/RECIPIENT

International Development Association (IDA)

83

## 6. Implementation

The inclusion of additional dams will follow the established approaches and procedures as described in the project implementation manual. Under the AF, there will be little use of consultants, with the implementing agencies taking the lead in investigations and designs. This will allow the substantial capacity building done under the original project to be put in practice. The Dam Safety Review Panel that was established under the original project and comprises six multi-disciplinary specialists will continue to function under the AF.

The PMU is well established and is managing the original project in a satisfactory manner. The fiduciary and safeguard performance has been continuously getting ‘Satisfactory’ ratings over the past few years. This PMU will remain in overall charge for project management and coordination. It will be strengthened as needed with additional staff.

The ID and MASL are directly implementing their parts of the project, with responsibility also for procurement and financial management. The Northern Provincial Council will not be a direct implementing agency that will receive project funds direct. It will be treated similar to CEB, National Water Supply and Drainage Board, and WRB, with the PMU processing the procurement and making direct payments to contractors and suppliers.

## 7. Sustainability

The remedial measures at the 32 dams and the 30 newly added dams will improve their safety and performance and ease the management of the dams. Draft operation and maintenance manuals for all 32 project dams have been prepared and seven manuals have already been completed and are in use. Emergency action plans (EAP) for eight dams have been completed. The proposed institutional arrangements for a National Dam Safety Program, including the establishment of a Dam Safety Secretariat, were approved by government and the project will support the setting up of the Secretariat during 2014. Finally, the budget for O&M of both ID and MASL have more than doubled between 2008 and 2013, which shows the importance government places on improved O&M of dams and irrigation schemes. All these activities and actions are contributing to the establishment of long-term sustainable arrangements for O&M of large dams.

## 8. Lessons Learned from Past Operations in the Country/Sector

Cooperation among different stakeholders is crucial for ensuring the sustainability of the project. Different government ministries have varying and often conflicting objectives in terms of management of water resources. It is important that the interests of the each stakeholder is noted and the design and operational requirements be drawn to minimize negative effects on any stakeholder or group. This has been achieved under the original project and established procedures will be followed under the AF.

Data related to flood and drought should be readily available and easily accessible to all key stakeholders. A centralized database system of flood and drought hazards and exposures should be setup so that stakeholders can easily use it to understand the risks to their interests.

## 9. Safeguard Policies (including public consultation)

Safeguard policies triggered:

Environmental Assessment (OP/BP 4.01)	[X]Yes [ ] No
Natural Habitats (OP/BP 4.04)	[X]Yes [ ] No
Forests (OP/BP 4.36)	[ ]Yes [X] No
Pest Management (OP 4.09)	[ ]Yes [X] No
Physical Cultural Resources (OP/BP 4.11)	[X]Yes [ ] No
Indigenous Peoples (OP/BP 4.10)	[ ]Yes [X] No
Involuntary Resettlement (OP/BP 4.12)	[X]Yes [ ] No
Safety of Dams (OP/BP 4.37)	[X]Yes [ ] No
Projects on International Waterways (OP/BP 7.50)	[ ]Yes [X] No
Projects in Disputed Areas (OP/BP 7.60)	[ ]Yes [X] No

The Environmental Assessment and Management Framework (EAMF) stipulates all the required procedures and tools to ensure safeguard compliance in project related interventions at all the identified sites. Dam-specific Environmental Assessment (EA) reports have been prepared under the original project. The EAs describe the project impact area, the project alternatives, where possible, the baseline environmental conditions, the project impacts, mitigation, benefit enhancement and safeguard measures, an environmental management plan (EMP), its monitoring arrangements, and the cost of EMP implementation.

Under the AF it has been identified that the project will finance the rehabilitation of three existing tanks that are located within the designated boundaries of National Parks, namely the Ulhitiya Rathkinda Tank and Henanigala Wewa Tank within the boundaries of the Maduru Oya National Park and the Udawalawe Reservoir within the Udawalawe National Park. However, no major impacts are envisioned to these sensitive habitats by project interventions as these are existing dams and project interventions will be limited to rehabilitation work. The original project has worked at five sites close to or within designated conservation areas and has successfully ensured no environmental impacts occurred during to project interventions. There has been close coordination with the Department of Wildlife Conservation and Forest Department and the project has sufficient experience in environmentally sound implementation within Natural Habitats. The rehabilitation of tanks within designated conservation areas has also benefited the resident fauna population by ensuring that their water source is preserved. Considering that under the AF work within such sensitive environments will continue and to further ensure that environmental impacts are minimal and managed stringently, OP 4.04 on Natural Habitats has now been triggered. The terms of references for the preparation of dam-specific EAs have been revised to include aspects concerning environmental management within sensitive environments during project interventions. As needed, training will be provided to the staff of the implementing agencies and the PMU to enhance and refresh their knowledge/skills on the Bank's Safeguard Policies, EAMF, and national policies, laws, and environmental management tools applicable to dam safety and irrigation. Such training will include lessons learnt during implementation of the original project.

## 10. List of Factual Technical Documents

Project Appraisal Document (original project)

Environmental Assessment and Management Framework

Environmental Assessment and Environmental Management Plan (sample for original dams)

Brief inspection and investigation reports for dams under AF

## 11. Contact point

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