



The World Bank

Sri Lanka Integrated Watershed and Water Resources Management Project (P166865)

Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 05-Mar-2020 | Report No: PIDISDSA28899



BASIC INFORMATION

A. Basic Project Data

Country Sri Lanka	Project ID P166865	Project Name Sri Lanka Integrated Watershed and Water Resources Management Project	Parent Project ID (if any)
Region SOUTH ASIA	Estimated Appraisal Date 12-Sep-2019	Estimated Board Date 26-May-2020	Practice Area (Lead) Water
Financing Instrument Investment Project Financing	Borrower(s) Democratic Socialist Republic of Sri Lanka	Implementing Agency Ministry of Mahaweli, Agriculture, Irrigation & Rural Development	

Proposed Development Objective(s)

The Project Development Objective (PDO) is to improve watershed and water resources planning and enhance functionality of water resources infrastructure.

Components

Component 1: Watershed and Water Resources Planning

Component 2: Infrastructure Improvements

Component 3: Contingent Emergency Response

Component 4: Project Management

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	75.40
Total Financing	75.40
of which IBRD/IDA	69.90
Financing Gap	0.00

DETAILS

World Bank Group Financing



International Development Association (IDA)	69.90
IDA Credit	69.90

Non-World Bank Group Financing

Counterpart Funding	5.50
Borrower/Recipient	5.50

Environmental Assessment Category

B-Partial Assessment

Decision

The review did authorize the team to appraise and negotiate



B. Introduction and Context

Country Context

1. **Sri Lanka has shown steady growth over the last decade although key macroeconomic challenges persist.** Sri Lanka is an upper-middle-income country with a GDP per capita of USD 4,102 (2018) and a total population of 21.7 million people. Following 30 years of civil war that ended in 2009, Sri Lanka's economy grew at an average 5.6 percent during the period of 2010–2018, reflecting a peace dividend and a determined policy thrust towards reconstruction although growth slowed down in the last few years. Social indicators rank among the highest in South Asia and compare favorably with those in middle-income countries. Economic growth has translated into shared prosperity with the national poverty headcount ratio declining from 15.3 percent in 2006/07 to 4.1 percent in 2016. Extreme poverty is rare and concentrated in some geographical pockets; however, a relatively large share of the population subsists on slightly more than the poverty line. Low fiscal revenues combined with largely non-discretionary expenditure in salary bill, transfers, and interest payments have constrained critical development spending on health, education and social protection, which is low compared to peer countries. Macroeconomic vulnerabilities remain high due to weak fiscal buffers, high indebtedness and large refinancing needs. Reviving growth is a key priority in the new administration's policy agenda, with the objective of raising growth to 6.5 percent in the medium-term.

2. **The Global Climate Risk Index ranks Sri Lanka as the second-most climate change affected country in the world.¹** While all areas will be affected with average temperatures increasing by 1.0°C–1.5°C, the northern and northwestern provinces are most likely to experience average temperature increases and more variable precipitation by 2050². Climate change projections suggest the dry zones will become drier and the wet zone in the southwest of the country will become wetter. More specifically, rainfall is projected to increase by 48 percent for the southwest monsoon by 2050, which affects the wetter southern part of the country, while the northeast monsoon, which occurs in the drier northern region, is predicted to decrease by 27–29 percent³. Increasingly, variable rainfall with more intense events will tend to be more erosive, contributing to reduction of soil carbon in the catchment while reducing reservoir capacity through sedimentation. The impacts of climate change are already evident—more frequent occurrence of droughts, floods, and landslides. Losses from floods in 2016 and 2017 in the Western Province, the most populated and economically developed region and the heart of the wet zone, totaled an estimated US\$1.5 billion. The frequency of occurrence and scale of flooding in several river basins have been increasing in recent years. Water availability is becoming more variable and uncertain due to climate change. Catchment erosion has also severely affected the capacity of reservoirs.

Sectoral and Institutional Context

3. **Continued investments in infrastructure for irrigated agriculture, hydroelectric power, and domestic and industrial water supply have helped drive a rural transformation in Sri Lanka and supported the growth of the Colombo megalopolis and other regional population and commercial centers.** Land under irrigation has grown exponentially from a mere 18,000 ha at independence in 1948 to about 750,000 ha today. Investments in irrigation infrastructure have helped Sri Lanka achieve near self-sufficiency in rice production, and an expansion of non-rice crops for the domestic and export markets has begun. Historically, the Government's continued investments in the resettlement of landless people

¹ The Global Climate Risk Index 2019: <https://www.germanwatch.org/en/16046>.

² Mani et al. 2018

³ WHO (World Health Organization). 2015. *Review of Climate Change and Health Activities in Sri Lanka*, page 4



from the wet zone to restored irrigation schemes in the dry zone mitigated the rural-urban migration to some extent and provided agriculture-based rural employment to rural populations. Hydropower development which has reached about 1,382 MW during this period (including private hydropower) helped the country through the energy crisis of the 1980s. Investments in water supply infrastructure have greatly increased access to safe drinking water, which has reached 86 percent of the population. These investments have raised rural incomes, reduced poverty, and promoted commerce.

4. The water sector in Sri Lanka is facing major challenges. The economy is becoming more diversified with rising water demands both in terms of quantity and quality not only for food production and portable water but increasingly for industries, fisheries, tourism, and maintenance of environmental services. At the same time, existing dams and irrigation facilities are aging and require significant investments in rehabilitation so as to improve their safety, reliability and efficiency. Most of the best low-cost sites with unused land for storage, conveyance, and irrigation have already been developed. Pollution and sand mining of rivers and water bodies are increasing, and the limited groundwater resource is increasingly being tapped for irrigation, drinking, and industrial uses with inadequate regulation, monitoring, and long-term planning. Critical watersheds are degrading, causing reduced crop yields, downstream sedimentation, and low river base flows. In addition, pollution control of major water bodies and rivers, surface and groundwater quality management, watershed management (WSM), river management, and environmental flow management in the river basins are virtually nonexistent. Similarly, there is need for meaningful engagement of citizens, both women and men, in the process of planning and managing the country's watershed and water resources for better access to water services. The poor management of water resources raises serious concerns.

5. Government needs both assistance and investments to achieve the degree of sector transformations needed to sustain its water resources. There is recognition among the water sector's leadership and principal stakeholders that to be successful, the country's past infrastructure-driven approach to water exploitation must quickly transition to an Integrated Water Resources Management (IWRM) approach. Such an approach must address all the key interconnected issues such as water prioritization among sectors, watershed planning, groundwater exploitation, surface water capture and use, increase in reliability through investment and rehabilitation, adaptation for climate variability, and establishment of a modern institutional and legal framework.

6. Recent projects funded by the World Bank and other development agencies have placed emphasis on infrastructure investments, but IWRM policy issues are also necessary. The World Bank has been engaged in the sector for more than two decades, starting with the Mahaweli Restructuring and Rehabilitation Project (MRRP, P034212, 1998–2004), followed by the Dam Safety and Water Resources Planning Project (P093132 and Additional Finance P148595 from 2008 to 2018). The Ministry of Mahaweli, Agriculture, Irrigation and Rural Development, erstwhile Ministry of Mahaweli Development and Environment (MMDE) and the erstwhile Ministry of Irrigation, Water Resources, and Disaster Management (MIWRDM), including its Water Resources Board (WRB), have recognized the importance of establishing appropriate policies and institutional arrangements to complement the investment program. Yet these institutions have not fully transitioned from their infrastructure-centered traditions and therefore, they neither have the capacity and experience required for designing and executing a modern sustainable watershed and water resources management (WRM) regime nor do they have the financing required to jump-start and sustain this new approach.

7. This project will assist the Government to achieve important policy and institutional objectives and support critical investments. First, the project will seek to preserve, restore, and better manage watersheds. Second, it will support the Government in standardizing the institutional framework for dam planning, safe management, and operation. The project will combine planning support and investments such as on WSM, dam safety inspection practices



and dam portfolio risk assessments, and irrigation rehabilitation, through approaches designed with extensive stakeholder consultation.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The Project Development Objective (PDO) is to improve watershed and water resources planning and enhance functionality of water resources infrastructure.

Key Results

- Watershed Management plan developed for Upper Mahaweli Watershed
- Number of dams at risk (Number)
- Area provided with new/improved irrigation or drainage services (CRI, Hectare [ha])

D. Project Description

8. The project design includes the following four components:

Component 1: Watershed and Water Resources Planning (US\$13.7 million of which US\$8.7 million IDA concessional and US\$ 5 million Government funds)

9. This component seeks to help plan and restore the Upper Mahaweli Watershed. Phase I (Year 1–3, mainly Subcomponent 1.1) of the WSM activities will focus on planning, which will be followed by a phase II (Year 3–6, mainly Subcomponent 1.2) which will be for restoration and related infrastructure investments. This component will also support lead WRM agencies the Mahaweli Authority of Sri Lanka (MASL), and the WRB on overall water resources planning and management.

Subcomponent 1.1: Watershed management planning (US\$1 million IDA concessional)

10. The subcomponent will help to develop watershed management plan for the upper Mahaweli watershed through a consultative approach, with activities to be implemented at mini-watershed levels. The plan will be based on an evidence-based diagnostic assessment of land use focusing on forests, active erosion, sediment generation, and agricultural practices; better managed and restored watersheds will protect against further environmental degradation (caused by erosion and sedimentation); optimize streamflow for the various water uses; and reduce the incidence and impacts of extreme weather events. These will in turn make the residents of the targeted watersheds more resilient to climate-related floods and landslides. Improved WSM planning will help ensure soil and vegetation that sequester CO₂ will be better protected. The subcomponent seeks to increase women's voices in WSM committees and leadership to ensure that the needs, priorities, and knowledge of both women and men are considered in the WSM plans.

Subcomponent 1.2: Watershed restoration (US\$5 million Government funds)

11. This subcomponent will be confined to the Upper Mahaweli Watershed with the intention of demonstrating a scaled approach for future replication in adjacent watersheds. The subcomponent will finance the works, goods, and services required to implement prioritized on- and off-farm WSM activities in the WSM plans to restore the hydrological and ecological functioning of watersheds and enhance the sustainability of existing land uses. This subcomponent has estimated net emissions of -268,370 tCO₂eq through reforestation, increase in water flows and reduction in sedimentation, and sustainable landscape management and erosion prevention.



12. Implementing the WSM component in the Mahaweli Ganga basin also enables the important link between the upper WSM approach with the operation and management of the downstream water development system. The entire basin serves 141,000 ha of irrigation and generates 875 MW of hydropower, and its sustainability and vitality depend directly on the health and resilience of the upstream watershed.

Subcomponent 1.3: Multi-sector water resources planning (US\$7.7 million IDA concessional)

13. This component will support the water agencies in Sri Lanka to shift toward an integrated water management approach with the participation of key stakeholders. As IWRM offers various tools to optimize access to water and protect the environment (facilitating the restoration of basins), it is central to enhancing communities' adaptive capacity to climate change, particularly floods and droughts. Moreover, involving key stakeholders will also facilitate water conservation efforts.

(a) Strengthening the Bulk water Allocation Expansion and enhancement of existing bulk water allocation model of Water Management Secretariat in MASL: Under this subcomponent (i) Improving the existing reservoir simulation model by adding advance modelling tools such as Inflow forecasting facilities, short term reservoir simulator with technical assistance to cover all the river basins managed under WMS. (ii) Improving Data utilization on system management via Enhancing real-time monitoring on downstream water management nodes to decrease system response time and synchronizing overall operations into a central monitoring center(iii) Expansion of existing HMIS network by establishing 120 HMIS stations in order to obtain the real time hydrometric data for forecasting and planning for irrigation Department & MASL, will be carried out.

(b) Groundwater management: This subcomponent will support WRB in the development of knowledge-based integrated groundwater management basin plans in eight pilot basins. It will finance (a) aquifer investigation including exploratory, observation, and pump-test wells and mapping and productivity assessment of aquifers; (b) development of groundwater management tools, guidelines, and regulations; (c) preparation of a groundwater management plan; (d) establishment of provincial groundwater management centers (PGWMCs) that will have the role and functions to monitor, manage, and protect the aquifers and their dependent ecosystems within the basins; and (e) capacity building of the WRB and the provincial centers including expanding their centralized and provincial information management systems to accommodate real-time groundwater monitoring and its full integration with databases in the national water data center supported under this component.

(c) Support for policy and institutional arrangements for dam safety: This subcomponent will also support the continuation of the program started under the DSWRPP for the establishment of long-term arrangements for the safety of dams. The project will play a leading role in facilitating a process to support the Government in instituting dam safety policies and developing guidelines for dam safety monitoring and inspection.

Component 2: Infrastructure Improvements (US\$59.2 million, of which US\$ 32.5 million IDA concessional and US\$26.7 million IDA transitional)

14. The aim of this component is to enhance the efficiency, safety, and durability of hydraulic assets and support the institutional arrangements for ensuring proper management and oversight. More reliable and durable water infrastructure, combined with more efficient irrigation systems, will not only increase water supply and decrease demand for water but also reduce the risk and impacts of floods and droughts. All these factors will enhance the resilience of beneficiaries, especially farmers, to these extreme weather events.



15. The subcomponent will undertake

- (a) Canal rehabilitation and dam safety remedial works, which could not be funded by the previous Dam Safety and Water Resources Planning Project (DSWRPP, P093132). The works involve dams and irrigation structures to be rehabilitated by the ID, Eastern Provincial Council (EPC), Mahaweli Authority of Sri Lanka (MASL), and Northern Provincial Council (NPC) and preparing and updating their operation and maintenance (O&M) manuals. Altogether 55 subprojects have been proposed for rehabilitation;
- (b) Emergency Preparedness Plans (EPPs) for select high risk dams;
- (c) Support to farmer organizations (FOs) to carry out the O&M of the rehabilitated canal systems;

Component 3: Contingent Emergency Response (US\$0.0 million)

16. This contingent emergency response component will allow for rapid reallocation of project proceeds in the event of a natural or man-made disaster or crisis that has caused or is likely to imminently cause a major adverse economic and/or social impact. To trigger this component, the Government of Sri Lanka (GoSL) would need to declare an emergency or a state of a disaster or provide a statement of fact justifying the request for the activation of the use of emergency funding. Funds can be reallocated to this subcomponent following a joint decision by the GoSL and the World Bank. This subcomponent will finance expenses on a positive list of goods, works, services, and emergency operation costs required for emergency recovery, as detailed in the Project Implementation Manual (PIM), prepared for the project.

Component 4: Project Management (US\$2.5 million, of which US\$2 million IDA concessional and US\$ 0.5 million from Government funds)

17. This component will support project management, coordination, and M&E through the Project Management Unit (PMU) established in the MMAIRD. The PMU will be supported to ensure the quality of overall project management while ensuring smooth coordination of activity implementation by various implementing agencies. This component will finance (a) the consultancy and operating costs of the PMU and of implementing agencies, including for fiduciary and safeguard aspects; (b) the M&E of project activities at baseline, midterm, and end of project, including geotagging of the assets created; (c) stakeholder outreach for awareness on the project; and (d) support for training of PMU staff and staff of the implementing agencies. Government contribution of US\$0.5 million will cover salary costs of government staff on a parallel basis.

E. Implementation

Institutional and Implementation Arrangements

18. **The project will be managed by a PMU embedded in the MMAIRD, with part of the staff in the PMU drawn from government agencies.** The approach to PMU draws from experience from the Dam Safety project in which many key staff were drawn from implementing agencies themselves which strengthened client ownership and institutional capacity. The PMU will be responsible for ensuring that (a) all project activities are planned, financed, and implemented according to the annual work plan and budget; it shall no later than two months after furnishing each annual work plan and budget, finalize and adopt, and thereafter ensure that the Project is carried out in accordance with, such plan and budget as agreed in writing with the Bank; (b) project implementation is in accordance with the PIM, to be adopted by the Client within three months of effectiveness of project; (c) project procurement and financial management (FM) activities are carried out on time according to the World Bank's Procurement Regulations, the project fiduciary manuals of the PIM, and the Procurement Plan (PP); and (d) social and environmental safeguards applicable to the project are fully complied with. The PMU is also responsible for monitoring project activities, preparing the quarterly and annual project



progress reports, and ensuring that all reports (including financial reports) are submitted to the World Bank on time. The overall project oversight will be the responsibility of the National Project Steering Committee (NPSC), established in the MMAIRD and chaired by its secretary within three months after the project gets effective.

F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

Component 1 would be implemented in the Upper Mahaweli Watershed area. Currently, the precise locations of specific interventions under component 1 are not known and will be known only on completion of the watershed management plans and the relevant technical assessments. Dam and irrigation canal rehabilitation under component 2 will have an island wide coverage.

G. Environmental and Social Safeguards Specialists on the Team

Nadeera Rajapakse, Environmental Specialist

Bandita Sijapati, Social Specialist

Shanek Mario Fernando, Social Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	This policy is applicable because the project will support the rehabilitation of existing dam headworks and irrigation canals across the island as well as undertake water and soil conservation measures aimed at enhancing watershed functions in one of the most critical watersheds in the country. These activities would lead to earth and civil works with mostly short-term and mitigatable onsite and offsite impacts. As sub-projects that will be supported by the project are not fully known with details, an Environmental and Social Assessment and Management Framework (ESMF) has been prepared, cleared and publicly disclosed locally and in the Bank external website since March 2019. The ESMF has been applied to two year 1 investment packages under sub-component 2.1, accordingly detailed



		ESSRs & ESMPs have been completed and publicly disclosed. All investments will be environmentally and socially screened and assessments completed as per the guidelines set out in the ESMF.
Performance Standards for Private Sector Activities OP/BP 4.03	No	There will not be any activities that involves financing of private sector proposed at this stage of the project preparation.
Natural Habitats OP/BP 4.04	Yes	Many of the country's water management infrastructure is located either within or in close proximity to significant natural habitats or designated areas of ecological importance. Excepting material burrowing, none of the dam rehabilitation and watershed conservation activities are expected to cause any significant impacts on natural habitats. As sub-project sites are not fully known with details at this stage, there remains an uncertainty of project locations, their proximity to natural habitats and how they can be impacted. Therefore, this policy is triggered as a precautionary measure. The ESMF carries necessary guidance on avoidance/mitigation measures to address such potential impacts through the EA process.
Forests OP/BP 4.36	Yes	None of the watershed management and dam rehabilitation activities under components 1 and 2 are expected to have any significant impacts on forest areas, as these are either existing infrastructure and/or inhabited areas. However, extraction of raw materials such as gravel and earth needed for these infrastructure projects could have limited impacts on forest areas. Watershed management activities envisaged under the project is expected to bring positive impacts to the upper watershed areas through reforestation and conversion of pinus plantations to natural broad leaf forests. Therefore, this policy is applicable. The ESMF includes appropriate screening processes and necessary guidelines on avoidance/mitigation measures to address potential impacts and to ensure positive impacts are well documented.
Pest Management OP 4.09	No	The potential infrastructure projects under the program do not include purchase of pesticides or pesticide application. Therefore, this policy is not applicable. However, as a precautionary measure, these types of activities will be identified in the



		negative list with appropriate screening as part of the ESMF.
Physical Cultural Resources OP/BP 4.11	Yes	The potential infrastructure projects under the program may be located in close proximity to designated physical cultural resources and cultural heritage sites as the countries historic cascading earthen tank system itself are sites of national cultural significance. The ESMF will include appropriate screening as part of the physical cultural resource screening and necessary guidelines on avoidance/mitigation measures to address potential impacts. It will also include appropriate screening as part of the EA process and chance-find procedures.
Indigenous Peoples OP/BP 4.10	No	There are no conclusive evidence pointing to indigenous people living within the potential project area who will be adversely affected by the project activities.
Involuntary Resettlement OP/BP 4.12	Yes	Depending on the location, scale and nature of the investments, especially under Component 2 (rehabilitation of dams and irrigation infrastructure), activities supported under may require acquisition of additional land. Requirements for land are however expected to be minimal, if any, since civil works supported under the project will mostly comprise rehabilitation works limited to the existing footprints of dams and canals. There is nevertheless the risk of adverse impacts on the livelihoods of farmers and fishing communities as a result of reduction or stoppage of water flows into reservoirs and irrigation canals while conducting detailed technical investigations and rehabilitation works; and loss of crops, structures and other assets in cases where there is encroachment into the RoW of irrigation canals, spill talk canals, access roads, etc.
		Since the precise nature of all the sub-projects as well as the extent of land requirements are unknown at this stage, a separate Resettlement Policy Framework (RPF) has been prepared alongside the ESMF. Among others, the RPF also includes guidelines for the preparation and implementation of Livelihood Support Assistance (LSA) plans to aid the farming, fishing and other such communities, affected by water flow interruptions. The preparation of the LSA plans will be participatory



		(and gender-inclusive) and will be discussed and agreed with the project-affected people before implementation.
Safety of Dams OP/BP 4.37	Yes	This policy is triggered because the project will directly support the rehabilitation of existing dam infrastructure which are classified as medium to large (the program will not finance physical interventions that involve the construction of water bodies with embankments more than 15 meters high) and/or rehabilitate water infrastructure that are depended upon the storage and operation of upstream medium/ large dams which is typical for Sri Lanka's cascading tank and irrigation infrastructure. Therefore, due diligence measures with regard to the Safety of Dams have been included in the ESMF.
Projects on International Waterways OP/BP 7.50	No	The policy is not applicable because the project does not include potential infrastructure projects located in or have impacts on international waterways
Projects in Disputed Areas OP/BP 7.60	No	The policy is not applicable because there are no disputed areas in Sri Lanka.

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

Environment

Under component 1, the project would support activities aimed at restoring one of the most critical (and degraded) watersheds in the central mountain area of Sri Lanka. Demands of a rapidly expanding population exerting high pressure on the country's natural resources has resulted in serious land degradation manifested in high rates of soil erosion, sedimentation, soil fertility decline, crop yield reduction, landslides etc. While specific pilot project interventions will be selected through a detail watershed planning process during project implementation, they are likely to include numerous soil and water conservation measures such as reforestation, on-farm and off-farm soil erosion control, drainage and sedimentation improvement etc all of which are expected to generate environmental benefits in the long-run. Any adverse environmental impacts relating to potential investments aimed at curtailing watershed degradation and enhancing the land's hydrological/ecological functions are likely to be associated with land preparation, earth works and construction of small scale infrastructure which will be localized, short-term and manageable.

Component 1 would also support groundwater management which mostly consists of capacity building and developing necessary technical and institutional tools for improved groundwater manageent in the long term.These



activities are expected to generate exceedingly positive environmental outcomes in the long-term.

Component 2 would support physical investments to rehabilitate high-risk dam infrastructure similar to what has been carried out under the recently completed Dam Safety and Water Resources Management Project (DWSRPP) as well as rehabilitation of irrigation canals. The type of environmental impacts and risks associated with the type of dam infrastructure rehabilitation are well documented through DSWRPP which include mainly impacts relating to material sourcing (such as sand, gravel, earth and rocks needed for dam rehabilitation work) which can be mitigated with sound construction planning and management. Impacts relating to rehabilitation of irrigation canals would typically include impairment of water quality, restrictions on community use of water, material sourcing, dust, noise and disposal of excavated material etc. All these impacts are anticipated to be short-term and localized and mitigatable with good construction planning.

Social

The project is expected to have positive benefits, especially through on-farm and off-farm soil and water conservation activities, improvements in functionality of water resources, reduced risk of dam failure, and access to improved irrigation facilities. All in all, approximately 110,000 families living within the proposed Upper Mahaweli Watershed will benefit through both on-farm and off-farm soil and water conservation activities; 538,000 families from the interventions made to rehabilitate dams and irrigation infrastructure, especially in the form of reduced risk of dam failure as well as access to improved irrigation facilities; and measures to promote the participation of youth and women in key project interventions will help ensure that they benefit from project results.

However, interventions under Components 1 and 2 (e.g., rehabilitation and management of the proposed watersheds, the introduction of agro-forestry, dam safety remedial works, etc), are likely to trigger some adverse social impacts. While land acquisition and physical displacement of people is not envisaged, it is likely that while carrying out detailed technical investigations and remedial works under Component 2, water flows into reservoirs and irrigation canals might have to be reduced or stopped for prolonged periods, leading to disruptions in irrigation releases and drinking water supplies to rural and urban water supplies. Likewise, there is likely to be some encroachment into the RoW of irrigation canals, spill talk canals, access roads, etc. Project interventions thus could lead to loss of structures, crops, trees, etc., as well as have an impact on the livelihoods of fishermen and farmer communities living and cultivating within the project area.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:
The watershed management activities supported by the project will be part of a larger Upper Mahaweli Watershed Management Plan, implementation of which will be facilitated by necessary sectoral policy, planning and institutional reforms. This plan will be a long-term commitment undertaken by the government to address a critical issue in the country's main watershed that feeds its main rivers, as such potential long-terms impacts from unanticipated developments are not envisaged as a major risk. Watershed management programs will have multiple social benefits in terms improved livelihood opportunities and enhanced asset base (livestock and agriculture) that will essentially improve their quality of life.

The rehabilitation of dams and irrigation infrastructure component of the project essentially aims at addressing the urgently needed remedial work to improve dam safety in some of the tanks/reservoirs considered to be of high to medium risk and irrigation efficiency of selected distribution networks. Apart from the urgent repairs supported by the project, it is possible that the GOSL could undertake other interventions in the future as part of a continuous effort to



improve/maintain dam safety and irrigation efficiency. However, since it is not possible to define what those activities would constitute of (if undertaken at some point in future), it is not possible to assess any resultant cumulative environmental and social impacts. For large development programs, EIAs/IEEs will be mandatory in accordance with the National Environmental Act and associated regulations, hence the impacts will be addressed through the EIA/IEE studies in the future. The EAs will take activities funded under this project into account, therefore, cumulative impacts, if any, will be addressed at that stage.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts. Component 1 and 2 are addressing critical needs of the country's water sector. The degradation of the Upper Mahaweli watershed has contributed to reduced water flows and storage capacities in several strategic reservoirs serving multiple development purposes. Soil erosion, reduced soil fertility, sedimentation of the country's main reservoirs trigger multiple downstream impacts and hence need urgent addressing. Component 1 also aims to improve the capacity to plan water resources in the country, which is essential especially in the face of ever increasing demand for water and anticipated climate change impacts. The dam and irrigation infrastructure rehabilitation component is primarily focused on reducing water induced hazards to the public by improving dam safety of some of the high risk tanks/reservoirs in the country and improving efficiency of irrigation water through minimizing water losses. Therefore, the proposed interventions are essential and critical, and alternative options do not apply because the reservoirs/dams are already constructed and the project is financing interventions for rehabilitation in order to increase the operational efficiency of these infrastructure.

However, different alternatives for rehabilitation will be considered during the engineering design stage and the most sustainable option will be selected. Technical alternatives will be explored to the fullest extent so as to avoid stoppage of irrigation water flows and the adverse impacts thereof. In addition, to the extent possible, construction will be carried out during the dry season to avoid the need to lower the water levels or disrupt water issuance during the irrigation seasons and hence minimize livelihood impacts.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The demand-responsive approach adopted under this project means that the participating communities and sub-projects are yet to be fully identified. As such, the Ministry of Mahaweli, Agriculture, Irrigation & Rural Development (MMAIRD) has prepared an Environment & Social Management Framework (ESMF) and Resettlement Policy Framework (RPF). The ESMF identifies environmental and social concerns that require attention during the design and implementation stages of sub-projects and recommends a process for the early identification and mitigation of potential impacts in all categories of sub-projects. The ESMF has been applied to two irrigation schemes which will be taken under year 1 investments (Mahalindawewa dam rehabilitation and Walawe right bank irrigation canal rehabilitation). According to findings of the environmental and social screening, no serious or irreversible issues are expected from these sub-projects and is deemed to require ESMPs only. Application of the ESMF for several other dam remedial package and irrigation canal rehabilitation package have already commenced and is expected to be completed before the project is effective.

Similarly, the RPF prepared under the Project identifies, social issues typically associated with impacts relating to 'involuntary resettlement' in the rehabilitation of watersheds and existing dams and suggest ways and means of addressing such issues in a site-specific manner. The RPF includes relevant legislation and regulations existing in Sri Lanka that govern the preparation and implementation of Resettlement Action Plans (RAPs). In addition, the RPF also includes provisions for the preparation and implementation of Livelihood Support Assistance (LSA) plans to aid the



farming, fishing and other such communities affected by water flow interruptions. The preparation of the LSA Plans will benefit from the experience of the erstwhile DSWRPP. The planning and preparation of the LSAs will be participatory (and gender-inclusive) and will be discussed and agreed with the project-affected people before implementation. The project will ensure appropriate documentations of these engagements with the stakeholders and feedback from the consultations will be used to inform the design and implementation of the project as well as the LSA Plans, where relevant. As described in the ESMF and the RPF, a robust mechanism for grievance redress will be established, and the procedures for the uptake of complaints and the resolution of the same, will be detailed in the Operational Manual (OM). Institutional arrangements for the implementation of the RAPs/ESMPs for each watershed and dam rehabilitation have also been described in the ESMF and RPF.

The project will be executed by the MMAIRD under which the PMU will be established. The key implementing partners Mahaweli Authority of Sri Lanka, the Irrigation Department and the Forest Department have ample experience in conducting environmental and social assessments through the recently concluded DSWRRP and other on-going engagements with the world bank on the irrigation and forestry sectors. As such key personnel in the implementing agencies are well aware of environmental and social safeguards requirements as a significant number of officials have already been trained under the recently concluded and on-going engagements with the bank.

The main responsibility for ensuring compliance with environmental safeguards requirements will be borne by the PMU which will be supported by safeguards staff who are suitably qualified and experienced. Technical capacity to undertake environmental and social screening, and preparing site-specific ESMPs, will be developed within the PMU and its provincial and district implementing arms. In the event EA/EIAs/SIAs are warranted, including preparation of LSA plans and RAPs, the PMU will recruit consultants with the required expertise. Review and clearance of sub-project level environmental and social screening and EAs will be undertaken by the PMU and in the case of Cat A and Cat B sensitive type of sub-projects, concurrence of the World Bank will be required.

The GOSL has past experience in managing environmental and social safeguard risks in large scale development work funded by international donor agencies. The Central Environmental Authority, the country's premier environmental regulatory agency, has almost three decades of experience in environmental management and monitoring of development projects. However, the CEA is unlikely to be closely involved with the project given that most of the sub-projects will not fall into the prescribed category of projects. The NWSDB has implemented several WB and ADB funded projects in the sector and hence is familiar with safeguard requirements. Having said that, the project will need to build its own technical capacity to support safeguard management in its sub-projects.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The project stakeholders are governmental officers and residents in the watershed, community organizations, women's groups, farmers/ fishery associations, watershed management committees, and tea plantation companies. These stakeholders will be engaged by the project through existing channels and schemes. Regular consultation will take place. The Operations Manual (OM) of Component 1 lays out a framework and process of how the consultation should take place. The OM will implement the recommendations in ESMF and RPF in designing the Stakeholders Engagement Plan (SEP). Efforts will be taken to ensure that women, elderly people and other vulnerable groups are included as stakeholders of the project and meaningful consultations are periodically held with them to identify any unanticipated adverse social impacts. If needed, women-only meetings will be arranged to ensure their participations. Learning from the experience of the earlier project (the Dam Safety and Water Resources Planning Project), the PMU will empower the local communities to mobilize them for livelihood activities and participatory monitoring of project activities, beyond setting up a grievance redress mechanism for the project level. Quarterly meetings with



community members will be conducted to reflect feedbacks from local communities. In addition to the above, environmental and social screening will include additional consultations on specific safeguard issues and all safeguard instruments will be publicly disclosed via the project's website and the Bank's external website.

B. Disclosure Requirements**Environmental Assessment/Audit/Management Plan/Other**

Date of receipt by the Bank	Date of submission for disclosure	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
22-Feb-2019	28-Mar-2019	

"In country" Disclosure

Sri Lanka
15-Mar-2019

Comments

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank	Date of submission for disclosure
14-Mar-2019	28-Mar-2019

"In country" Disclosure

Sri Lanka
14-Mar-2019

Comments

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)**OP/BP/GP 4.01 - Environment Assessment**

Does the project require a stand-alone EA (including EMP) report?

Yes

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?

Yes

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?

Yes

**OP/BP 4.04 - Natural Habitats**

Would the project result in any significant conversion or degradation of critical natural habitats?

No

If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?

NA

OP/BP 4.11 - Physical Cultural Resources

Does the EA include adequate measures related to cultural property?

Yes

Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?

Yes

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?

Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Yes

OP/BP 4.36 - Forests

Has the sector-wide analysis of policy and institutional issues and constraints been carried out?

NA

Does the project design include satisfactory measures to overcome these constraints?

NA

Does the project finance commercial harvesting, and if so, does it include provisions for certification system?

NA

OP/BP 4.37 - Safety of Dams

Have dam safety plans been prepared?

Yes

Have the TORs as well as composition for the independent Panel of Experts (POE) been reviewed and approved by the Bank?

Yes

Has an Emergency Preparedness Plan (EPP) been prepared and arrangements been made for public awareness and training?

No

**The World Bank Policy on Disclosure of Information**

Have relevant safeguard policies documents been sent to the World Bank for disclosure?

Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes

All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Yes

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

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APPROVAL

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