

**COMBINED PROJECT INFORMATION DOCUMENTS / INTEGRATED
SAFEGUARDS DATA SHEET (PID/ISDS)
ADDITIONAL FINANCING**

Report No.: PIDISDSA16027

Date Prepared/Updated: 18-Jan-2016

I. BASIC INFORMATION

A. Basic Project Data

Country:	Sri Lanka	Project ID:	P157392
		Parent Project ID (if any):	P146314
Project Name:	Climate Resilience Improvement Project Additional Financing (P157392)		
Parent Project Name:	Improving Climate Resilience (P146314)		
Region:	SOUTH ASIA		
Estimated Appraisal Date:	04-Jan-2016	Estimated Board Date:	30-Mar-2016
Practice Area (Lead):	Social, Urban, Rural and Resilience Global Practice	Lending Instrument:	Investment Project Financing
Sector(s):	Flood protection (35%), General public administration sector (25%), Rural and Inter-Urban Roads and Highways (20%), General water, s anitation and flood protection sector (20%)		
Theme(s):	Natural disaster management (100%)		
Borrower(s):	Ministry of Finance		
Implementing Agency:	Ministry of Irrigation and Water Resources Management		
Financing (in USD Million)			
Financing Source			Amount
BORROWER/RECIPIENT			0.00
International Development Association (IDA)			42.00
Total Project Cost			42.00
Environmental Category:	B - Partial Assessment		
Appraisal Review Decision (from Decision Note):	The review did authorize the team to appraise and negotiate		
Other Decision:			
Is this a	No		

Repeater project?	
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B. Introduction and Context

Country Context

Sri Lanka is a lower middle-income country with a total population of 20.7 million people. Following 30 years of civil war that ended in 2009, Sri Lanka's economy grew at an average 6.7 percent during 2010-2014, reflecting a peace dividend and a determined policy thrust towards reconstruction and growth. Sri Lanka's economy is also transitioning from a previously predominantly rural-based economy towards a more urbanized economy oriented around manufacturing and services. In 2014, the service sector accounted for 63.1 percent of GDP, followed by manufacturing (28.9 percent), and agriculture (8.0 percent). Per capita Gross Domestic Product (GDP) reached USD 3,811 in 2014. The Government envisions promoting a globally competitive, export-led economy with an emphasis on inclusion.

Sri Lanka has made significant progress in its socio-economic and human development. Social indicators rank among the highest in South Asia and compare favorably with those in middle-income countries. The economic growth has translated into shared prosperity with national poverty headcount ratio declining from 15.3 percent in 2006/07 to 6.7 percent in 2012/13. Much of the poverty reduction was driven by the reduction in rural poverty. Extreme poverty is rare and concentrated in some geographical pockets; however, a relatively large share of the population subsists on little more than the extreme poverty line. The country has comfortably surpassed most of the MDG targets set for 2015 and was ranked 73rd in Human Development Index in 2014.

The country's fiscal landscape is challenging. In 2014, a widened primary deficit and a slowdown in growth increased the fiscal deficit and the public debt to 5.7 percent and 71.8 percent respectively, as a share of GDP. This trend marks a slight reversal of the fiscal consolidation path observed in the post-conflict period. The fiscal budget for 2016 presented to the parliament projects a deficit around 6.0 of GDP for the years 2015 and 2016. The country's tax revenue remains one of the lowest in the world, leaving little room for counter-cyclical fiscal policy. Slower GDP growth, continuation of significantly lower revenues and the depreciation of currency could elevate the pressures on public debt to GDP ratio.

Sectoral and institutional Context

Climate-related hazards are a significant threat to economic and social development in Sri Lanka. Extreme variability of rainfall is the defining feature of Sri Lanka's climate. Climate projections indicate an increasing rainfall trend in the wet zone and a decreasing rainfall trend in the dry zone, meaning that the risks associated with water-related climate variability are likely to intensify and worsen.

A World Bank study published in June 2013 on the regional impacts of extreme climate events highlights how a 4-degree centigrade increase in temperature would adversely affect the South Asia Region. The major impact of climate change in the region is expected to be extremes of water scarcity and excess. Climate change is expected to increase inter-annual and intra-seasonal variability of monsoons and the number of dry days and droughts, with adverse consequences for human lives. Other negative impacts include a decrease in ground water resources, crop yield and energy security, and a reduction in agricultural production, the combined effects of unstable water

supply, sea-level rise, and rising temperatures. The negative effects will not be limited to rural areas; dense urban areas are expected to be vulnerable to heat extremes, flooding, and vector borne disease. Many of these climate risks and impacts that pose potential threats to populations in the region can be linked back to changes to the water cycle.

The region is highly vulnerable even at warming of less than 2-degree centigrade given the significant areas affected by droughts and flooding at present temperatures. In addition, the projected risks to crop yields and water resources, and sea-level rise reaching 70 cm by the 2070s, are likely to affect large populations.

In Sri Lanka, projected increases in variability of, and long-term decreases in, river flow are expected to increase competition for water across different sectors. For example, the uncertainty in precipitation in the central highlands of Sri Lanka may affect water use in the Mahaweli Scheme, which provides 29 percent of national power generation and 23 percent of irrigation water. Going forward, this uncertainty is expected to pose a major challenge for the design and operation of hydropower plants and irrigation schemes.

Recent disasters have caused major economic and social impacts, which are driving the Government's interest to build resilience to climate-related risks. The annual fiscal loss is significant, estimated to be in excess of US\$ 380 million. Flooding is endemic, affecting many parts of the country in most years. Since 2000, the average number of people affected by floods is more than 375,000 per year. Floods have cumulatively affected more than 9.0 million people, while droughts have affected more than 5 million people during the period from 2000 - 2014. Floods of 2003, 2006, 2008, 2010, 2011, 2012 and 2014, and the droughts of 2001, 2004 and 2012 have all caused widespread impact. Generally, the total impact of these events tends to be under-estimated, as indirect losses or impacts on economic flows are not taken in to account in the available figures, for example. Experience in post-disaster assessments in other disaster-affected countries demonstrates that indirect impacts for floods can often exceed direct impacts observed.

A number of factors exacerbate the impact of extreme rainfall events. These include: (i) upstream land use changes increasing runoff; (ii) lack of coordination on spill gate opening at upstream reservoirs; (iii) insufficient outflow capacity at lagoon mouths to discharge flood water to the sea; (iv) encroachment into waterways and flood plains by construction and illegal settlements; (v) blocked canals and streams, due to, among other things, insufficient maintenance, dumping of solid waste, natural siltation; and (vi) damage to storm water systems and insufficient drainage capacity in urban, semi urban and rural areas.

Upland areas of the country are particularly vulnerable to landslides often triggered by extreme rainfall events. A database on recorded landslide events, maintained by the National Building Research Organization (NBRO), highlights that the most vulnerable districts include Badulla, Kandy, Matale, Nuwara Eliya, Kegalle and Ratnapura. For example, a major landslide occurred in November 2006 destroying local businesses and interrupting road traffic for weeks near the city of Kandy, on a key route between the city and the capital, Colombo. This event triggered an investment of over Sri Lankan Rupee (LKR) 100 million by the Sri Lankan government to mitigate the risk of further landslides at this site. Landslides that occurred in January 2007 impacted more than 17,000 people in Kandy and Nuwara Eliya districts and destroyed more than 1,500 houses. Hundreds of people were air rescued from the vulnerable slopes. In some areas, it took more than two years to resettle people in safe lands.

Public infrastructure is particularly vulnerable to landslide risk. For example, Sri Lanka's road network has been rapidly expanding, but without due attention to landslide risk. Unstable slopes have led to road damage, which in turn lead to detours, increasing the cost of transportation. The problem has also left vulnerable communities marooned for several days a year, impacting emergency response. Moreover, low lying bridges have also created similar problems; hindering connectivity, increasing cost of transportation, and exacerbating upstream flooding. A priority for the Government is to ensure that key transport connections are not compromised by landslide events, such as that which occurred in Kandy in 2006. These include those linking the metropolitan centers of Colombo and Kandy to the rest of the country.

Despite the evident risks, there is a lack of clarity on specific current and future levels of disaster risk that the country faces. The country lacks a comprehensive and nationally owned disaster risk assessment. As a result of rainfall variability, floods, drought and landslides are the key threat to many communities. Floods are a natural and necessary feature of river systems with variable seasonal flows, but excessive flows often cause extensive damage. Lack of well-developed flood management infrastructure means that flooding events are recurring. Compounding this is a lack of coordination across upstream management of dams, and downstream management of irrigation and flood risk. Effective flood risk management requires a comprehensive, basin-wide approach, with due consideration to the upstream effects and downstream impacts.

Sri Lanka has invested significantly in strengthening country's preparedness and response capacity since the Tsunami in 2004. This was the game-changing moment for the country in improving the management of disaster risks, due to the excessive loss of life and evident lack of preparedness. Since Tsunami, the Government of Sri Lanka (GoSL) has made considerable efforts to reduce vulnerability to adverse natural events, including: (i) establishing the legal and institutional mechanisms for disaster risk management; (ii) strengthening the country's disaster monitoring and early warning systems; (iii) emergency preparedness and planning; (iv) increasing awareness and capacity of sub-national officials and schools; and (v) introducing and enforcing Disaster Risk Management (DRM) aspects into land-use and development planning.

Despite this significant progress, large-scale, systematic investment in risk understanding and mitigation across sectors is not yet in place. The GoSL is making efforts to integrate DRM into its investment plans. A five year Comprehensive Disaster Management Program was developed by the Ministry of Disaster Management and approved by the Cabinet in 2014. The plan is currently under implementation. This will set a framework for scaling up investment in risk mitigation, which will include a significant budget line for flood mitigation works. The investments planned under this Climate Resilience Improvement Project (CRIP) provide a critical first investment drive under this Plan, through improving physical resilience to hydro-meteorological events and a first wave of 'no-regret' mitigation investments. In so doing, the project will provide an experiential foundation on which the country can develop a longer term investment plan to build disaster resilience.

C. Proposed Development Objective(s)

Original Project Development Objective(s) - Parent

The Project Development Objective (PDO) is to reduce the vulnerability of exposed people and assets to climate risk and to improve Government's capacity to respond effectively to disasters.

Key Results

The total direct beneficiaries of the project including the additional financing are estimated to be 500,000 spread out among 15 districts, including 29,000 school children in Kandy district who will be made safe through landslides mitigation investments in 18 schools. Approximately 48 percent of the beneficiaries will be women. The project will reduce the potential crop loss in an extent of 149,000 hectares, caused by extreme climatic events, while also benefitting approximately 1.2 million people ensuring transport connectivity during heavy rainy periods.

D. Project Description

The project will help Sri Lanka build a more climate-resilient economy. With rapid economic progress in recent times, the assets at risk to extreme hydrometeorological events have increased significantly. Investments in disaster and climate resilient infrastructure will ensure continued and sustainable growth. Given the current lack of understanding of the multi-sectoral impacts of climate change, flood/drought modeling and scenario analysis is required. Once completed, a large climate resilience investment program would be identified and financed through multiple funding sources. Key line ministries would be brought together in the assessment of risks or impacts on particular sectors and an investment road map would be developed.

While there is a lack of understanding of comprehensive climate and disaster risk, there are urgent climate risk mitigation investments required to ensure the short-term integrity of flood control and irrigation infrastructure, transport network and critical education facilities at risk. Given the impacts of floods and landslides of the north central, central and eastern provinces in recent years, urgent investment is required to implement the immediate risk mitigation activities.

The parent project CRIP (US\$ 110 million), approved by the Board in on April 22, 2014, has four main components:

Component 1: Development of basin investment plans (US\$13 million). The objective is to identify over US\$1 billion of investments in the form of basin investment plans. These investment plans will be informed by a robust understanding of climate risks. Government engineers and experts will be supported to carry out comprehensive flood and drought modeling and assessment of the underlying causes of flood and drought. These models will take into account climate risks such as expected extremes of water scarcity and excess, increase in inter-annual and intra-seasonal variability of monsoons, increase in duration of droughts, and depletion of ground water resources, which are all expected to adversely affect livelihoods and human lives in the near future.

Component 2: Increasing climate resilience of infrastructure (US\$90 million). The objective is to implement urgent climate risk mitigation investments that have been identified and prioritized by the GoSL. Investments will be made in the following areas: i) flood mitigation; ii) transport continuity; and iii) school protection, as detailed below.

Flood risk mitigation (US\$47 million): Investments will focus primarily, on rehabilitating infrastructure damaged by recent floods or particularly at risk to future floods. Approximately 60 percent of investments can begin immediately to reduce flood risk, while 40 percent of the investments will require detailed localized modeling to ensure interventions consider the inter-related flood risk of the project areas. These interventions have been determined based on

historical losses and field survey assessment by Irrigation Department (ID) and Mahaweli Authority of Sri Lanka (MASL). Such an approach is expected to ensure that mitigation interventions are sustainable and lead to resilient infrastructure. Investments will not involve construction of new infrastructure, but instead critical reinforcement to existing structures to withstand future floods. All rehabilitation works under this component are on canals and bunds downstream of dams. The interventions will improve carrying capacity of canals and reduce flooding due to overtopping of flood bunds.

Transport Continuity (US\$36 million): The transport investments aim to reduce direct loss to transport infrastructure, indirect economic losses due to detours, and increase the effectiveness of post disaster response. Rapid expansion of the road network development has led to greater road failures due to landslide, while low bridges constructed in flood plains continue to be flooded on a regular basis. To mitigate landslide risk, investments will focus on reinforcing road infrastructure on the Colombo – Ratnapura – Wellawaya – Batticaloa, Peradeniya - Chenkaladi, Kegalle - Karawanella, Kandy - Padiyatalawa, Gampola - Nawalapitiya, Tennekumbura - Ragala roads. A total of about 3kms of unstable, high risk road side slopes will be augmented to improve the corridor's resilience to landslides triggered by heavy rains. To mitigate the flood risk to low lying bridges, nine key vulnerable river crossings with a combined span of approximately 200 meters will also be strengthened. This will include raising and lengthening of bridges for sufficient water flow capacity in place of existing narrow bridges or causeways.

School protection (US\$7 million): Investments will be made to improve slope stability and drainage capacity of 18 schools that serve about 30,000 students and have been identified as highly vulnerable to landslides. Currently, given the high landslide risk, these schools close during heavy rainfall periods, for two to four weeks annually. Improvements to slope stability will promote education continuity, as schools will not need to close, and also will protect the residents of these hill slopes from potential landslides.

Component 3: Project implementation (US\$5 million). The project will be implemented through a PMU established under the Ministry of Irrigation and Water Resources Management (MIWRM). Four agencies are involved in implementing the project, ID, MASL, NBRO and the Road Development Authority (RDA). The objective of this component is to ensure the successful implementation of the activities carried out under the proposed project. Activities to be supported under this component include: i) implementation support in the areas of project management, M&E, procurement, FM, and environmental and social safeguards; ii) public awareness and communications support regarding project interventions and management of public expectations; iii) support to the IAs in construction, supervision, and compliance with environmental and social safeguards; iv) purchase of vehicles, office furniture, and information technology (IT) equipment for the PMU; v) operating costs of the PMU; and, vi) hiring of experts to reinforce the staffing of the PMU.

Component 4: Contingent emergency response (US\$2 million): These funds are available to help government respond to adverse natural event that causes disasters. The Government may request the Bank to re-allocate project funds from other components to partially cover emergency response and recovery costs.

The floods and landslides of December 2014 affected 22 out of the 25 districts in the country and nearly 1.2 million people, killing 39 people and damaging more than 25,000 houses. The direct

damages to public assets were estimated by the National Planning Department (NPD) in a rapid damage assessment to be US\$155 million, including an estimated damage to irrigation infrastructure of US\$65.4 million and an estimated damage to road infrastructure of US\$85 million. Provincial roads suffered the most damages, especially in Uva Province, amounting to US\$ 70.6 million.

The CRIP has been adopting a comprehensive approach to mitigating flood and landslides risk while taking into account the potential climate change impacts. The key risk mitigation designs under CRIP are reviewed by highly competent local and international experts, who help the government engineers to improve the designs ensuring that they are resilient to future extreme events. In light of this, the Government has requested US\$ 42 million in additional financing to CRIP to address the post 2014 flood and landslide damages.

The additional financing will scale up the component 2 of CRIP through additional investments under flood risk mitigation and transport continuity the sub components. The allocation of funds for the project components after additional financing is given below:

1. Development of Basin Investment Plans – US\$ 13.0 million
2. Increasing Climate Resilient Infrastructure – US\$ 130.0 million
(Flood Risk Mitigation - US\$ 74.0 million; Transport Continuity US\$ 49.0 million; School Protection US\$ 7.0 million)
3. Project Implementation – US\$ 7.0 million
4. Contingent Emergency Response – US\$ 2.0 million

Component Name

Comments (optional)

E. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project covers Eastern, Northern, Uva, Central, North Central, North Western, Southern and Western Provinces (15 districts) that gets impacts by floods and landslides. It will also focus on nine river basins: Mahaweli river, Kelani River, Kala Oya, Attanagalu Oya, Maha Oya, Deduru Oya, Gin Ganga, Nilwala ganga and Kirindi Oya. These areas will cover sites from central massif in the wet and intermediate zones, lowlands of wet, intermediate and dry zones and coastal plain.

F. Environmental and Social Safeguards Specialists

Mokshana Nerandika Wijeyeratne (GEN06)

Susrutha Pradeep Goonesekera (GSURR)

II. Implementation

Institutional and Implementation Arrangements

Parent Project

The Climate Resilience Improvement Project (CRIP) is implemented by the PMU established under the Ministry of Irrigation and Water Resources Management (MIWRM). The PMU staffed with a project director, civil engineers, a full-time fully accredited accountant, a procurement specialist, an environmental specialist, and a social development specialist. The PMU is responsible for all FM, M&E, and reporting aspects of the project, while other implementation responsibilities will be assigned to implementation units (PIUs) within various line departments, including Irrigation Department (ID), Mahaweli Authority of Sri Lanka (MASL), Road Development Authority (RDA), and National Building Research Organization (NBRO). These PIUs have sufficient technical capacity to design and implement the risk mitigation interventions under the project and the technical inputs of consultants will be obtained when necessary. The PMU will coordinate the PIUs involved in project implementation to ensure overall quality and timeliness of investments, and monitor the agencies' compliance with the project's environmental and social safeguards.

Changes under the Additional Financing

In order to implement the landslide mitigation interventions included under the AF, a new Project Implementing Unit (PIU), headed by a Deputy Project Director (DPD) will be added to the existing PMU structure. This PIU will function similar to the current PIU at the Road Development Authority (RDA), which executes similar landslide mitigation interventions on the National Roads. The responsibilities of this new PIU include; preparation of designs, procurement, construction supervision and payments.

III. Safeguard Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The project overall is environmentally beneficial since the development objectives of the project is to increase the understanding of flood risk and mitigate basin-level flood risks where ensuring asset management and public safety, reducing water induced hazards and enhance the effectiveness of infrastructure investments in the country. However, the rehabilitation work proposed will require environmental and social due diligence and the flood risk planning process to be in place thus this policy remains triggered.</p> <p>Within this context, an Environmental Management Framework (EMF) and Social Management Framework (SMF) has been prepared and is currently under implementation.</p> <p>Both these instruments will continue to be applicable to the project. The EMF and SMF outline the processes and serve as a guideline to undertake environmental assessments (EAs) and social assessments (SAs) and/or environmental management plans (EMPs) and resettlement action</p>

		<p>plans (RAPs) as required. Sub-project specific EAs, SAs, EMPs and/or RAPs will be undertaken for all activities.</p> <p>Safeguards process to be followed as per the OP/BP 10.00 will be also included as part of the framework for any contingent emergency response that may likely to be supported during the project implementation period.</p> <p>The proposed Strategic Environmental Assessments SEAs will be conducted to cover the basin investment plans that will be developed for future investments. This will be undertaken as a need beyond the current project's physical investments that will be managed through the EMF.</p>
Natural Habitats OP/BP 4.04	Yes	Many of the structures to be rehabilitated will be to some extent associated with natural habitats such as lagoons, rivers, mangrove habitats, etc. Thus this policy will remain triggered. The due diligence requirements have been covered under the EMF.
Forests OP/BP 4.36	No	No physical investments will take place in forested areas. Investments will be in human populated locations and will be made to existing infrastructure. All activities within forest areas have been included as part of the negative list in the EMF.
Pest Management OP 4.09	No	There are no planned activities that would require pest management or lead to the increased use of pesticides.
Physical Cultural Resources OP/BP 4.11	Yes	Given that the project areas consist of a number of historical sites and the nature and extent of impacts of proposed repair and rehabilitation is unknown at this point of time, it is possible that 'chance finds' at work sites is a likely impact that would have to be managed. Thus the policy remains triggered measures on the management of chance finds will be included as part of the mitigation measures defined in EMF OP/BP 4.01.
Indigenous Peoples OP/BP 4.10	No	There is no indigenous population in the project area.
Involuntary Resettlement OP/BP 4.12	Yes	Although the project does not envisage major acquisition of land (as most investments are confined to repairs and rehabilitation of existing structures), some interventions may require possible acquisition of land, e.g. landslide mitigation. Therefore, the policy will remain triggered.

		All activities to be identified for investment will follow the guidelines covered under the existing SMF.
Safety of Dams OP/BP 4.37	Yes	<p>Several flood risk mitigation interventions on irrigation and flood control infrastructure will rely upon the performance of the upstream dams and reservoirs which are the direct sources of water storage and supply to those infrastructure. Failure of these upstream dams could potentially cause damage to infrastructure improved for flood resilience under the project. Hence, the OP/BP4.37 on Dam Safety is triggered for the additional financing, as well as for the parent project retroactively.</p> <p>All the dams linked to the infrastructure that are financed under the project, have been included in the ongoing, Bank funded, Dam Safety and Water Resources Planning Project (DSWRPP) that will close in May 2018. Under the DSWRPP, comprehensive measures have been implemented to address the dam safety risks related to these dams. The safeguard instruments of the policy has been fulfilled for the project related dams satisfactory to the Bank under this operation.</p>
Projects on International Waterways OP/BP 7.50	No	Sri Lanka is an island country; hence issue of international waterways is not applicable.
Projects in Disputed Areas OP/BP 7.60	No	There are no disputed areas in Sri Lanka.

IV. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

<p>1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:</p>
<p>The investments into infrastructure upgrading and disaster-proofing proposed under the AF are similar to those already being financed under the parent project. The project continues to be classified as Environmental Category B and no potential large scale, significant and/or irreversible environmental impacts are envisaged with the investments under the parent project or the AF. However, the implementation experience to date reveals that several flood risk mitigation interventions on irrigation and flood control infrastructure will rely upon the performance of the upstream dams and reservoirs which are the direct source of water storage and supply to those facilities. Failure of these upstream dams could potentially cause damage to or failure of the infrastructure improved for flood resilience. Therefore, it has been decided to trigger OP/BP4.37 on Safety of Dams for the AF as well as for the parent project retroactively. The existing Environmental Management Framework (EMF) has been updated to reflect this change. The updated EMF and the Social Management Framework for the parent project will be fully</p>

applicable to the AF operation. Due diligence mechanisms identified in EMF will be followed once project sites are identified and the designs of the proposed interventions are known.

Environmental Assessment (OP 4.01) - The environmental impacts of the proposed rehabilitation and reinforcement work are not expected to be of a serious nature as the work does not involve the construction of new structures. However, some of the project activities such as construction work are likely to generate temporary environmental impacts that will require management. Other activities such as sourcing construction material can have significant and irreversible impacts if not properly managed. Therefore, the project is categorized as B.

From flood mitigation point of view, two categories of the affected area are relevant for the application of environmental safeguards. The first category includes rural areas which require physical rehabilitation mostly to minimize damage to agricultural fields. The second category includes urban areas which require protection from rehabilitation to minimize human life losses and damage to infrastructure and businesses. Remedial works proposed for flood and drought mitigation would include one or more of the following: (i) increase downstream conveyance by clearing canals; (ii) repair of flood bunds; and (iii) repair of diversion structures. For school landslide hazard mitigation, the works include: (i) slope stabilization and (ii) enhancing of the landslide warning system. For roads and bridges, the works include (i) slope stabilization and (ii) replacement of causeways and improvements to existing bridges.

Remedial works for flood mitigation such as flood bund rehabilitation may cause serious environmental issues off-site where resource extraction would take place. Some of the work involved in strengthening the bund slopes would require large amounts of sand, soil and rock to be extracted from one or more places and brought to the construction site. The borrow areas, if not properly identified and managed (subsequent to extraction) could have serious environmental repercussions. Selection of sites for resource extraction should be made after careful evaluation of resource availability within the areas concerned and in conformity with the Government regulations for designation of such sites. The project would not support the use of any borrow material taken from sites within protected areas and forest reserves under the Flora and Fauna Ordinance and Forest Ordinance of Sri Lanka.

The construction activities would result in removal of large quantities of topsoil and generation of concrete debris and other construction wastes, in addition to those generated from worker camps. The project should explore options for re-using material such as soil and for the careful disposal of other waste material. Any air and water pollution at the sites would be temporary and localized, provided that adequate precautions are taken to manage such issues. If downstream rehabilitation work requires a temporary diversion of the flow, there might be impacts on its aquatic life in the surrounding area. However, seasonal fluctuations in the water levels in the dry zone are a natural phenomenon to which aquatic life is adapted.

Investment in upgrading and/or rehabilitating downstream hydraulic structures under this project would not yield the anticipated long term benefits unless there is proper management of the watersheds in the catchment areas. Increased pressure on upland areas above dams is a common phenomenon caused by the resettlement of people from the inundated areas and by uncontrolled influx of people to the watershed. On site environmental deterioration as well as a decrease in water quality and an increase in sedimentation rates in the reservoir result from clearing forest land for agriculture, grazing pressures, use of agricultural chemicals and illegal timber felling for commercial purposes. These will require strategic level of assessment and coordination.

The other important issue that will likely to arise is due to new structures that will be built for landslide mitigation and stability of those structures. Care should be given to ensure such structures are not curtailing movement of ecologically important biodiversity and safety of such structures both during and after construction.

Natural habitats (OP 4.04) - As many of the structures to be rehabilitated will be some extent associated with natural habitats such as lagoons, rivers, mangrove habitats, marshes, etc. this policy is triggered. Care should be taken to ensure adequate conservation of critical biodiversity and to ensure the ecological functions of these areas are not negatively impacted.

Physical Cultural Resources (OP 4.11) - Certain structures in ancient irrigation structures such as sluices, could be of high archaeological significance. If they are replaced, old structures may need to be preserved as 'cultural property'. In addition, there are possibilities that rehabilitation work may be carried out close to cultural sites. Any activities that would likely to have significant impacts to physical cultural resources will not be financed by the project.

Social Safeguards

Due diligence mechanisms identified in the SMF will be followed once project sites are identified and the designs of the proposed interventions are known.

Involuntary Resettlement (OP 4.12) - Selection of sites for remedial works will be based on an assessment of the nature and extent of the risk to public safety. This risk analysis will consider the population, infrastructure and agricultural areas at risk in the event of a disaster.

Under Component 2, it is likely that irrigation flows might have to be stopped for prolonged periods to conduct detailed technical investigations and rehabilitation works. This could impact livelihoods of some downstream users adversely. The suspension of water could prevent farmers from growing paddy. Although the farmers would have to forego paddy cultivation, they could grow other field crops, such as maize, cowpea, green gram and ground nuts, using residual moisture and limited rainfall during the Yala season and under rain-fed condition in Maha (wet) season. However, rainfed farming of non-paddy crops would be an entirely new practice to some farmers, because it requires different crop husbandry practices and probably higher wage labor inputs. Thus, despite this potential alternative cropping possibility, it is felt that the livelihoods for the following users could be affected adversely: (i) farmers who live down stream and draw water for cultivating paddy; and (ii) landless laborers earning wages from agricultural operations in the command area. In addition, in a few cases, water supplies for domestic purposes (bathing, washing, and cooking) could also be affected.

Support to roads and bridges may also displace people who may be temporarily residing on road sides or closer to bridges and carry out their livelihood activities. In such cases, temporary sites should be provided for such people to continue their livelihoods.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

Once the Investment Plan has been developed for the 9 selected river basins, similar type of activities proposed under this project in much larger scale including new construction are anticipated in the future. As per the overall project design such investment on long-term will be

<p>beneficial both environmentally and socially, as the investment on climate resilience will reduce potential environmental risks, while ensuring protection for the lives and livelihoods of people.</p>
<p>3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.</p>
<p>Due to relatively fast preparation period and short implementation period of the project, the sites and interventions were specifically selected to avoid, to the greatest extent possible, any adverse impacts to the environment and people. Therefore, only rehabilitation of existing infrastructure was selected.</p>
<p>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.</p>
<p>The composite environmental clearance process in Sri Lanka, in principle, is consistent with World Bank environmental policies and public disclosure requirements. The exception being the screening criteria adopted in the process under the National Environmental Act and North Western Province Environmental Statute, where project thresholds are used to determine the type of clearance required and the content of public consultation. However, under Coast Conservation Act, the decision of the environmental requirements are done at the discretion of the Director General of Coast Conservation Department and do not require thresholds in many cases. All activities under the proposed project will be subjected to the environmental and social clearance process regardless of the project threshold, prior to disbursement of funds.</p> <p>An Environmental Management Framework (EMF) and Social Management Framework (SMF) have been prepared that provides the initial assessment of project activities and mitigation measures and would also serve as a template to guide the safeguards process during the project implementation. The EMF and SMF will primarily include an assessment of generic issues for policy and legislative requirements, environmental risks, mitigation measures and institutional arrangements for conducting environmental and social assessments, EMP and RAP implementation, monitoring and reporting. Consultations are expected to be conducted while undertaking site-specific assessments. Physical interventions will warrant EAs and/or EMPs as they would be associated with a number of potential environmental impacts, both on site and off site. The scope of the EA for each project site would vary, depending on the type of intervention planned and the site characteristics. The project would where necessary seek technical assistance from the Department of Archeology (DOA) and undertake an Archaeological Impact Assessment if historically significant structures are to be rehabilitated. Subsequently, the DOA would make an implementation action plan, as deemed appropriate. Chance finds would also be subject to inquiry and technical assistance from the DOA. The chance find procedures will be included in the EMF. All safeguards compliance requirements needed during construction will be included as part of the contract documents. As part of the Natural habitat policy requirements, the EAs/EMPs will ensure that the site is subjected to a review that will identify the significance of the key habitats against the national and global significant biodiversity.</p> <p>The investment plan that will be prepared after concluding drought and flood risk modeling will be a prerequisite to undergo strategic environmental assessment to help with the planning process. All physical activities financed under Component 2 of the project would be subjected to a subproject specific EA and SA, and the subsequent preparation of an EMP and RAP for each intervention. Although the GOSL's clearance procedure is adequate fairly reliable, as many of the investments do not fall within the regulations, IDA will still review all safeguard documents prepared for all relevant activities under the project and provide necessary concurrence for the approval of</p>

disbursements of funds.

Compliance with Safety of Dams (OP 4.37)

Since 2008 to date, the GoSL has been implementing a national dam safety assurance program with financial assistance from the World Bank through the Dam Safety and Water Resources Planning Project (DSWRPP). During the preparation of the DSWRPP, the GoSL employed international consultants and local experts to assess the safety risks of all major dams of the country. Based on this assessment, a total of thirty two (32) major dams identified with high and moderate safety risks were selected for intensive safety remedial interventions under the DSWRPP. The GoSL has added thirty (30) more dams to the program for safety improvement interventions with the additional financing approved in 2014. Under the DSWRPP, the GoSL has engaged international consultants and local experts acceptable to the Bank to: carry out full level dam safety inspections and geotechnical and hydrological studies; design safety assurance and remedial works; install dam safety monitoring instrumentation; supervise the execution of civil and electro-mechanical safety assurance works; and prepare detailed operation and maintenance manuals for the dams included in the project. In addition, the designs and execution of the civil and electro-mechanical works and instrumentation are being carried out under the guidance and supervision of an independent dam safety review panel with a Terms of Reference (ToR) approved by the Bank. This panel consists of technical professionals from related engineering disciplines and has been endorsed by the Bank. The records of the technical inspections and investigations, hydrological studies, detailed designs of dam safety remedial works, construction drawings, and O&M manuals are available with the concerned dam owner implementing agencies. Two of the three concerned dam owner agencies are also the implementing agencies of CRIP, which are the ID and the MASL.

All dams that are hydrologically connected with the flood risk mitigation investments of the parent project and the AF have been included in the DSWRPP and intensive measures have been taken under the DSWRPP to address the dam safety risks related with those dams. Given that there is an ongoing and effective dam safety program and that full-level inspections, dam safety assessments, and safety remedial measures have already been conducted and details are documented by the GoSL satisfactorily to the Bank, the provisions of OP/BP4.37 on Dam Safety has been complied with for all the relevant dams related to the AF and the parent project. Therefore, while OP 4.37 will be triggered, no specific safeguard action will be necessary both under the parent project and AF, as i) the related safeguard requirements have been fulfilled satisfactory to the Bank under the ongoing and effective dam safety assurance program; and ii) evidence of the dam safety action on those dams are documented in detail and are available with the ID and the MASL, which are two out of the three national dam owner agencies as well as the two implementing agencies responsible for the flood risk mitigation interventions under the parent project and the AF.

However, the PMU will examine the available documentation and compile the details of dam safety remedial interventions carried out under the DSWRPP for the dams related with the subprojects for record purposes. If additional measures are deemed necessary for any dam(s), the PMU will work closely with the DSWRPP to ensure that safety of those dams are addressed under the ongoing DSWRPP.

Status of Safeguards Implementation at AF Stage

A key challenge in terms of the implementation of the safeguards that the project faced was due to the changes within the Project Implementation Arrangements. As a result of the Presidential elections in 2014 and the subsequent general elections in 2015, the project implementation arrangements underwent some changes. The primary changes included, the establishment of a new

Project Management Unit (PMU), which was previously combined with the Bank financed Dam Safety and Water Resources Planning Project within the Ministry of Irrigation and Water Resources Management (MIWRM) and the recruitment of new staff. However, leadership of the PMU has remained unchanged and this has contributed to continued smooth project implementation. Safeguards implementation has continued adequately at the field level due to good capacity of the implementing agencies and the contractors mobilized thus far, Implementation and monitoring of activities as per the respective Environmental Management Plans (EMPs) for construction work under the project interventions, namely slope stabilization and canal improvement work, have ensued no major environmental issues, thus compliance has been satisfactory.

Further measures have been put in place to improve the capacity of the borrower to manage safeguard issues associated with additional lending activities and the project will also mobilize additional staff and build the capacity, systems and procedures based on the experience implementing Bank projects to meet the national standards and World Bank requirements. Additional capacity will also be put in place within the different implementing agencies who will be leading the technical aspects of the project, which are closely linked to decisions on safeguards. The Provincial Road Development Authority (PRDD) of the Uva province has experience implementing safeguards within the context of Bank funded projects as they were an implementation agency under the Provincial Road Project.

While the overall project area is known, the GoSL will finalize the list of investment and confirm the exact location of specific investments to be financed during implementation. The exact locations of the physical investments will not be known until the list is finalized, and also the detailed designs are completed. All relevant site specific safeguards instruments as per the EMF and/or SMF will be prepared once the locations are finalized and the designs are available. Given that the investments under the additional financing are similar to those of the parent project, the PMU and the PIUs have gained sufficient experience to prepare these specific instruments.

The proposed SEAs that are to be conducted to cover the basin investment plans under that will be developed for future investments, under Component 1, are expected to commence in the latter part of 2016. This will be undertaken as a need beyond the current project's physical investments that will be managed through the EMF.

Safeguards process to be followed as per the OP/BP 10.00 will be also included as part of the framework for any contingent emergency response that may likely to be supported during the project implementation period.

The EMF and the SMF of the parent project continue to be applicable up to the extended closing date of May 30, 2020, under the additional financing.

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

Key stakeholders of the flood and drought component of the project would be: (i) Users of water and residents in and around irrigation schemes selected. In rural areas, these would be farmers and farmer organizations and federations, laborers earning wage from agricultural operations, and households using water for domestic purposes; In urban areas, the main stakeholders would be residents of flood prone areas. Key stakeholders for the landslide mitigation component are the students, staff and the people in the vicinity of the schools. The stakeholders for the road and

bridge rehabilitation component are people with in 10km of the rehabilitated section, as well as the road users.

The project implementers include: (i) Managers or engineers at the operational level - chiefly, officers of the ID, MASL, RDA, NBRO, PRDD Uva; (ii) Administrators and regulators such as the offices of Divisional Secretary, Government Agents; (iii) Water resources decision makers, at the strategic level - Ministries of Irrigation and Water Management, Agriculture, Finance and Planning, Disaster Management Centre, and Wildlife Conservation, who formulate draft policies and programs and allocate resources; and (iv) policy makers, political functionaries, scientific and extension agencies who play a major role in promoting public safety and water resources development and planning. Systematic and extensive consultations with all the key stakeholders will be conducted as part of the social assessments and a framework for continuing consultations during implementation has also been proposed in the project.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	08-Jan-2016
Date of submission to InfoShop	11-Jan-2016
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	////
"In country" Disclosure	
Sri Lanka	08-Jan-2016
<i>Comments:</i>	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	07-Jan-2014
Date of submission to InfoShop	07-Jan-2014
"In country" Disclosure	
Sri Lanka	07-Jan-2014
<i>Comments:</i>	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment			
Does the project require a stand-alone EA (including EMP) report?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
OP/BP 4.04 - Natural Habitats			
Would the project result in any significant conversion or degradation of critical natural habitats?	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]	NA [<input type="checkbox"/>]
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?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input checked="" type="checkbox"/>]
OP/BP 4.11 - Physical Cultural Resources			
Does the EA include adequate measures related to cultural property?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]	NA [<input type="checkbox"/>]
OP/BP 4.12 - Involuntary Resettlement			
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input checked="" type="checkbox"/>]
Is physical displacement/relocation expected?	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]	TBD [<input type="checkbox"/>]
Provided estimated number of people to be affected			
Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods)	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]	TBD [<input type="checkbox"/>]
Provided estimated number of people to be affected			
OP/BP 4.37 - Safety of Dams			
Have dam safety plans been prepared?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have the TORs as well as composition for the independent Panel of Experts (POE) been reviewed and approved by the Bank?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Has an Emergency Preparedness Plan (EPP) been prepared and arrangements been made for public awareness and training?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
The World Bank Policy on Disclosure of Information			
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
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 [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
All Safeguard Policies			
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]

Have costs related to safeguard policy measures been included in the project cost?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]

V. Contact point

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VII. Approval

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<i>Approved By</i>		
Practice Manager/ Manager:	Name: Bernice K. Van Bronkhorst (PMGR)	Date: 07-Jan-2016
Country Director:	Name: Rolande Simone Pryce (CD)	Date: 18-Jan-2016