United Nations Development Programme

Project Document
financed by the Green Climate Fund (GCF)

Project title: Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management	
Country: Sri Lanka	
Implementing Partner: Ministry of Mahaweli Development and Environment	**Management Arrangements :** National Implementation Modality (NIM)
UNDAF/Country Programme Outcome*:* **UNDAF 2013-2017: Outcome #4:** Policies, programs and capacities to ensure environmental sustainability, address climate change, mitigation and adaptation and reduce disaster risks in place at national, sub national and community levels **Country Programme Output 4.1:** Development agencies are equipped with policies, strategies, methodologies and tools to integrate sustainable development and disaster resilience principles	
UNDP Strategic Plan Output: Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented.	
UNDP Social and Environmental Screening Category: MODERATE	**UNDP Gender Marker for each project output:** GEN2
Atlas Project ID: 00057445	**Atlas Output ID number:** 70975
UNDP-GEF PIMS ID number: 5752	**GCF ID number:** FP016
Planned start date: July 2017	**Planned end date:** June 2024
LPAC date: June 16, 2017	
Brief project description: The proposed project supports the Government of Sri Lanka (GoSL) to strengthen the resilience of vulnerable smallholder farmers in the country's Dry Zone; particularly women, who are facing increasing risks of rising temperatures, erratic rainfall, and extreme events attributable to climate change. It will address technical, financial and institutional barriers related to achieving integrated water management to improve agriculture-based livelihoods of smallholder farmers in the Dry Zone. GCF resources, in conjunction with government co-financing, will invest in improving the community irrigation water infrastructure and associated	

agricultural practices, scaling-up decentralized drinking water systems, and strengthening Early Warnings (EWs) and forecasting for flood-response and water management. The **objective** of the project is to **strengthen the resilience of smallholder farmers, particularly women, in the Dry Zone through improved water management to enhance lives and livelihoods.** The **expected key Fund Level (GCF) impacts are *increased resilience of health and well-being, and food and water security*** and ***increased resilience and enhanced livelihoods of the vulnerable smallholder farmers*** in the Dry Zone of Sri Lanka. The **primary measurable benefits** include resilient water and agricultural management for 770,500 direct beneficiaries and 1,179,800 indirect beneficiaries who will gain from improved water management, resilient agriculture practices, and provision of climate and weather information.	
FINANCING PLAN	
GCF grant	**USD 38,084,000**
UNDP TRAC resources	-
(1) Total Budget	**USD 38,084,000**
PARALLEL CO-FINANCING (*all other co-financing (cash and in-kind) administered by other entities, non-cash co-financing administered by UNDP)*	
UNDP	-
Government	
Department of Agrarian Development (DAD)	USD 6,000,000
Department of Agriculture (DoA)	USD 1,140,000
Department of National Community Water Supply (DNCWS)	USD 2,110,000
National Water Supply and Drainage Board (NWSDB)	USD 4,000,000
Ministry of Disaster Management (MoD)	USD 750,000
(2) Total co-financing	**USD 14,000,000**
(3) Grand-Total Project Financing (1)+(2)	**USD 52,084,000**

SIGNATURES		
Signature: Udaya R. Senevirathne Secretary Ministry of Mahaweli Development and Environment No: 500, T.B. Jaya Mawatha, Colombo - 10. Mr. Udaya Senevirathne, Secretary, Mahaweli Development and Environment	**Agreed by Government**	**Date/Month/Year:** 16.06.2017
Signature: Priyantha Rathnayake Director General Department of External Resources Ministry of National Policies and Economic Affairs The Secretariat Colombo 01. Mr. Priyantha Rathnayaka, Director General, External Resources Department	**Agreed by Implementing Partner**	**Date/Month/Year:** 07/07/2017
Signature: UNITED NATIONS * COLOMBO - SRI LANKA * Mr. Joern Soerensen, Country Director, UNDP Sri Lanka	**Agreed by UNDP**	**Date/Month/Year:** 07/07/2017

Disbursement:

Annex 11 forms an integral part of this Project Document and to this end the Government hereby acknowledges that it has read and agrees to be bound, mutatis mutandis, by the obligations and agreements set forth in the [FAA] to the extent that they relate to actions of the Government, including, but not limited to, those set forth in Clauses 8 and 9.02 of the FAA. For the avoidance of doubt, the Government shall ensure that all conditions that relate to its actions are met and there is continuing compliance, and understands that availability of GCF funding is contingent on meeting such requirements and such compliance.

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II. DEVELOPMENT CHALLENGE

Context and Development Challenges

1. Sri Lanka's recent economic gains, following the end of a debilitating 30-year war and the aftermath of the 2004 Indian Ocean Tsunami, are being threatened due to its increasing vulnerability to climate change which is characterized by increasing temperatures and unpredictability of rainfall**.** Over 80% of poor Sri Lankans live in the rural areas and depend on agriculture for food and income. IPCC's fifth assessment report predicts that South Asia, including Sri Lanka, is vulnerable to drought, flood, food shortages and heat-related mortality[1]. The country has been experiencing severe shifts in its seasonal rainfall patterns accompanied by increased flood and drought in the last decade directly impacting rural food security and incomes[2].

2. The Dry Zone is one of three climatic zones (dry, intermediate and wet) that divide Sri Lanka on the basis of variations in rainfall. It receives less rainfall than average and has pronounced dry periods. The Dry Zone covers 70% of the island's land area and is the country's agricultural heartland and the main area where the staple rice is grown. Small-scale farmers with land holdings of less than 2 hectares dominate agriculture in this region. Many other forms of employment in the Dry Zone are also related to agriculture – e.g. agricultural marketing, transport, and financial services. About two-third of the cultivated area in the country is rain fed or irrigated by numerous semi-rainfed minor reservoirs and diversions, collectively referred to as village irrigation schemes. A number of studies confirm that smallholder farmers cultivating under village irrigation systems are poorer[3] and more vulnerable than their Dry Zone counterparts who have access to major irrigation[4]. Such farmers are much more vulnerable to impacts of climate change than farmers cultivating under larger irrigation systems. As productivity and crop yields decline with low water availability and unseasonal rains resulting from climate variability and extreme events, farmers are dragged deeper into poverty and face food deficits, which have to be met by buying food for consumption, increasing the level of indebtedness and further eroding their capacity to cope with climate risks.

Climate change impacts on rural Dry Zone communities, especially smallholder farmers and women

3. Across the country, climate change related weather aberrations and extreme weather events are becoming increasingly common. The increased intensity of rainfall, frequency of flood and drought incidence in the last ten years, has caused severe hardship to poor farmers across Sri Lanka impacting mostly on agricultural workers in the Dry Zone. 2015 witnessed a significantly higher incidence of high rainfall resulting in localised floods, especially in the post-war North[5], affecting roughly 31,500 people, and landslides in 3 districts,[6] affecting 295 people and leading to 7 deaths.[7] In addition, droughts affected 7 out of 25 districts and roughly 258,000 people.[8]

1 http://cdkn.org/wp-content/uploads/2014/04/CDKN-IPCC-Whats-in-it-for-South-Asia-AR5.pdf

2 http://www.climatechange.lk/NAP/NationalAdaptationPlan_RevisedFinal.26.10.2015.pdf

3 IWMI 2010 and Sri Lanka Water Partnership 2012

4 Sri Lanka Water Partnership 2012: Aheeyar M.M.M Climate change adaptation in water management for food security: Recent developments in Sri Lanka-A review of Existing Knowledge and Information.

5 Disaster Management Centre (2015). Situation Report, November 2015. Use of DesInventar query system, retrieved from: http://www.desinventar.lk:8081/DesInventar/main.jsp?countrycode=sr&continue=y. Accessed [30.11.2015] Also in Sunday Times (29 November 2015), "Climate Change Has Come to Stay…" quoting the Director General of the Department of Meteorology.

6 Disaster Management Centre (2015). Situation Report, November 2015. Use of DesInventar query system, retrieved from: http://www.desinventar.lk:8081/DesInventar/main.jsp?countrycode=sr&continue=y. Accessed [30.11.2015]

7 Disaster Management Centre (2015). Situation Report, November 2015. Use of DesInventar query system, retrieved from: http://www.desinventar.lk:8081/DesInventar/main.jsp?countrycode=sr&continue=y. Accessed [30.11.2015]

8 Disaster Management Centre (2015). Situation Report, November 2015. Use of DesInventar query system, retrieved from: http://www.desinventar.lk:8081/DesInventar/main.jsp?countrycode=sr&continue=y. Accessed [30.11.2015]

4. The impacts of climate related rainfall variability and extreme events directly affect incomes and food security of Dry Zone farmers[9] and compounds existing vulnerabilities owing to poverty, low incomes, and recovering from three decades of conflict. According to IWMI (2010) farming districts in the dry and intermediate zones are more sensitive to climate change than the rest of the country due to land degradation and heavy reliance on primary agriculture. Recurrent hydrological disasters have eroded the coping capacity of Dry Zone communities making them even less able to plan for and overcome climate-related variabilities in water availability. Climate-change induced droughts also impact access to reliable drinking water as they reduce the sufficiency of water supply and falling water volumes increase the concentration of pollutants.[10] Floods also affect the water quality of drinking water sources, by directly polluting the sources as well as by destroying village irrigation reservoirs that provide a source for drinking water.[11] Farmers in the Dry Zone are also increasingly exposed to water related chronic illnesses such as kidney disease. High rates of morbidity and mortality among young male farmers are reported in the north central and northern provinces.

5. Women and youth in the Dry Zone communities are particularly more vulnerable to climate change impacts. Women's role in the household care economy makes them more vulnerable to climate change and disasters due to impacts on household water availability, health of family members and safety of domestic assets such as livestock. Women traditionally manage household water, family gardens and livestock and are in the frontline of managing impacts of reduced water availability and disaster impacts. This affects their own intra-household food security, which can be exacerbated during extreme climate events and in the aftermath of a disaster[12]. Women take full responsibility for the care of children, the disabled and the elderly. In the Dry Zone districts of Sri Lanka the impact of the war and disease has left a number of women widowed and pushed others into precarious work, in Sri Lanka and overseas, as domestic migrant labour.

Relevance to national development priorities, global environment and climate mitigation or adaptation issues, and the sustainable development goals (SDGs)

6. GOSL has committed to Sustainable Development Goals, including the goals of ending poverty, achieving food security and promoting sustainable agriculture, promoting inclusive growth, reducing inequality and promoting inclusive societies. Two policy pronouncements of the GOSL made in the recent past three months, the Prime Minister's Economic Policy Statement[13] and the Budget Speech made by the Minister of Finance[14], emphasize the development of the rural economy, overcoming inequality of income distribution and supporting agriculture-based livelihoods as key priorities. The GOSL recognizes that no meaningful reduction in poverty can be achieved in the country without addressing the deleterious impacts of disasters and climate change. In responding to the challenges, the Government is focused on implementing a number of strategies as outlined in its Nationally determined Contributions, National Climate Change Policy, National Climate Change Adaptation Strategy and Action Plan, and the Sri Lanka Comprehensive Disaster Management Programme. These strategies focus on adaptive measures to avoid/minimize adverse impacts of climate change to the people, their livelihoods and ecosystems and develop the country's capacity to address the impacts of climate change effectively and efficiently. GOSL has in its Nationally Determined Contribution (NDCs) to UNFCCC (September 2016) committed to minimizing climate change impacts on food security. The NDCs and National Adaptation Plans focus on the water sector as a crucial crosscutting sector to be addressed; and, as such, water management for farming in the Dry Zone, outside of the major irrigation works, is a key priority of government intervention.

9Aheeyar M.M.M Climate change adaptation in water management for food security: Recent developments in Sri Lanka-A review of Existing Knowledge and Information. Sri Lanka Water Partnership/ Global Water Partnership 2012 P9

10Gunatilake, S.K., Samaratunga, S.S. and Rubasinghe R.T., 2014. Chronic Kidney Disease (CKD) in Sri Lanka - Current Research Evidence Justification: A Review. Sabaragamuwa University Journal 2014, V. 13 NO. 2 pp 31-58

11Sectoral Vulnerability Profile: Water. National Climate Change Adaptation Strategy and Action Plan 2010-2016, Climate Change Secretariat and ADB 2010

12Ibid

7. The project is line the different national policies that provide the policy framework for rural economic development, water management and climate change adaptation in Sri Lanka, and will contribute towards their implementation. **The government's vision for development** recognizes that while agriculture plays a less important role in the national economy, it still employs more than 30% of the population and over 50% of the population in rural areas. GoSL has reiterated its commitment to rural economy and agricultural productivity in the recent Public Investment Programme (PIP, National Planning Department 2016). The budget for 2016 targeted subsidies and low-interest credit for agriculture and support to rehabilitation of irrigation amounting to USD 150 million and the government has committed around USD 14 million to disaster risk reduction through sectoral agencies. The project aligns with the **National Agriculture Policy of Sri Lanka** in promoting food and nutrition security and technically feasible, socially acceptable, economically viable and environment friendly agricultural production technologies, marketing and related strategies. It also contributes to the implementation of **National Watershed Management Policy of 2004,** which recommends promoting and strengthening communities or stakeholders to manage their respective watersheds. The project fully supports the current government's National Food Security drive, led by the Presidential Secretariat. Under this project, agricultural water availability, efficiency and crop diversification and productivity are prioritised

The United Nations Development Assistance Framework (UNDAF 2013-2017) for Sri Lanka also acknowledges that – in the context of climate change – improved disaster management enhances the sustainability of economic growth, particularly in districts that are prone to natural disasters. The proposed project is consistent with three specific output areas from the UNDAF, namely: 1.1.2) Increased awareness in government planning for integration of DDR into development planning by providing support for mobilising Government, civil society and the private sector to collectively integrate DRR concepts into national, regional and local development plans; 1.1.3) Integrate data from multiple sources and sectors as well as carryout physical, social, economic and environmental analysis to support policies and programmes and target resources in improving sustainability and resilience to improve information management promoting evidenced based policy making; and 1.1.6) Support to adapt to climate change induced rainfall and temperature variations on the fauna, flora and soils, by facilitating adaptive agro-forestry, soil-water management and sustainable energy services through practical and innovative approaches.

Key Barriers addressed by the proposed project

8. There are a number of barriers that need to be overcome if the Project is to achieve its stated goals. They include:

- Limited financial capacity of communities and government agencies to sustainably meet the incremental costs of adaptation,
- Weak institutional coordination to implement a climate-risk informed, river basin approach in village irrigation cascade systems,
- Limited technical capacity on climate resilient practices, including for infrastructure development, in irrigation, agriculture and drinking water supply,
- Limited knowledge and awareness of climate-change risks, impacts, and adaptation solutions related to water management, and
- Limited community capacities to design integrated solutions, sustainably manage rural infrastructure and resolve user conflicts over water management.

Further details on gaps and barriers are presented in Feasibility Report, Chapter 4.

III. STRATEGY

9. The key objective of this Project is to **strengthen the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management.** This will be achieved through three outputs that build upon previous experience and best practice:

- Output 1: Upgrading and enhancing resilience of village irrigation systems and scaling up climate-resilient farming practices in three river basins of the Dry Zone (

- Output 2: Enhancing climate-resilient, decentralized water supply and management solutions to provide access to safe drinking water to vulnerable communities and

- Output 3: Strengthening weather/climate and hydrological observing, forecasting and water management systems to enhance adaptive capacity of smallholder farmers to droughts and floods.

Geographical coverage, selection of cascade systems, and targeted beneficiaries: The project will use a river basin/ sub-basin approach to deliver an integrated package of interventions for irrigation and drinking water (see Annex II, Feasibility Report, Section 5.2). The selection of cascades has considered income poverty, multi-dimensional poverty and disaster impact on these communities as criteria.

10. The selected river basins are Malwatu Oya, Mi Oya, and Yan Oya (see Annex XI for the project map) with watersheds situated almost entirely in the Dry Zone, resulting in highly unreliable water yields and flow in these rivers. The Mi Oya river basin has been identified as the most vulnerable river basin in the country (See Annex II, Feasibility Report, Section 5.2 for rationale), and all three are situated in areas currently facing drinking water challenges. Given that vulnerabilities arising as a result of poor quality drinking water are difficult to be addressed with a purely river basin approach (water quality is also dependent on the presence of fluorides and contaminated groundwater aquifers cut across river basin boundaries), interventions to provide good quality drinking water will expand to districts connected to the targeted river basins i.e. Kurunegala, Puttalam, Anuradhapura, Mannar, Trincomalee, Vavuniya and Polonnaruwa Districts.

11. **Targeting Beneficiaries:** Within selected cascades the Project will target households meeting the vulnerability criteria (one or more) for specific investments on climate smart agriculture, rainwater harvesting, community water supply programmes and flood early warning advisories, including:

1) Women headed households
2) Young unemployed women in target villages
3) Households with disability or kidney disease
4) Conflict displaced/resettled
5) Flood affected in the last five years
6) Families with children/women displaying low nutrition (underweight/ anemic)
7) Households with at-risk subgroups such as children and girls (children charged with households duties, neglected children not attending school, girls at risk)

Specific, targeted beneficiary groups for the various interventions are detailed in Section G, Annex XIII.

Output 1: Upgrading and enhancing resilience of village irrigation systems and scaling up climate-resilient farming practices in three river basins of the Dry Zone: This Output will focus on improved climate-risk informed water management for agricultural production in the selected river basins by upgrading inter-connected cascade systems and associated agricultural practices. Considering the multiple uses of water, the project will invest in added elements (structural and landscaping) to village irrigation cascades to make them more resilient to climate change. Co-financing from the government will also be invested in these upgrades to address non-climatic drivers contributing to deterioration of these systems. Upgrading the village irrigation cascade systems will be delivered using a participatory approach that involves FOs, field officers of agriculture related government institutions, private sector and local NGOs. This Output will support capacity building, training, and knowledge generation for climate-risk management related to integrated water and agricultural management solutions.

12. The Output will also support targeted women farmers to adopt recommendations made by the Department of Agriculture for drought tolerant crops and climate smart cropping practices for these agro-climatic zones. Women producers will be strengthened as MSEs through technology transfer, improved extension services, business

development training, and market linkages with support from private sector for technology and financing[15]. The climate-smart agricultural packages will also be widely disseminated through the Agrarian Service Centres and extension services of the Provincial Agriculture Departments.

Overall, this Output includes the following key activities:

- Activity 1.1 Improve technical capacity and knowledge management targeting ASCs, local field officials and community organisations for climate-risk informed water management and climate-smart agriculture:

- Activity 1.2 Improve resilience of and upgrade village irrigation systems in the identified cascades including restoration of upstream watersheds

- Activity 1.3 Develop and disseminate climate resilient agricultural practices with targeted enterprise development for women:

Output 2: Enhancing climate-resilient, decentralized water management solutions to provide safe year-round drinking water to drought vulnerable communities: This Output will deliver drinking water solutions to poor farmer households through a multi-pronged partnership approach to replenish sources, build storage, supply clean and safe drinking water and address root causes of water quality issues (See Feasibility Report, Section 5.4). One of the primary co-benefits of the GCF investment (aligned with government investments) in improving access to safe drinking water is the expected reduction in the disease burden (and current medical costs) in areas where kidney disease is fast spreading. A detailed discussion on climate and non-climate drivers of CKDu is presented in Annex XIII.

GCF resources and co-financing for rural drinking water supply will, therefore, be used to improve capacity of local officials, CBOs and FOs to incorporate climate-risks in design and management of sustainable rural drinking water solutions (community water supply systems - CWSS - and rainwater harvesting tanks).

Activities carried out in support of this output include:

- Activity 2.1 Improve capacity of water-supply support staff at district/divisions, selected partner organisations (NGOs) and CBOs to implement and maintain community-based climate change risk informed drinking water related interventions

- Activity 2.2 Implement sustainable, climate-resilient drinking water solutions through CBOs and government agencies:

Output 3: Strengthening climate and hydrological observing and forecasting systems to enhance water management and adaptive capacity of smallholder farmers to droughts and floods
Interventions for this output will include providing access to weather/climate related knowledge, such as advice on future seasonal conditions (for agricultural planning) and early warning of storms and flooding for flood and water management including planning of water release from irrigation tanks (see Section 5.5 of the Feasibility Report (Annex II) for full details)

13. Participatory co-development of tailored advisories (with FOs, farmers, DAD and ID) will ensure that weather and climate information is incorporated into decision making in agricultural and water management in the three river basins. Satellite-based estimates of rainfall generated through this Output will be used to extend advisories to areas not covered by the ground-monitoring network, hence reducing reliance on the network of

[15] In the project target areas, companies like Hayleys Plc and CIC Holdings provide modern agro-technology packages for farmers and farmer organizations. Other companies such as LOLC (Lanka Oryx Leasing Companies) have launched financing schemes to support farmer uptake of modern agriculture practices. Micro-finance institutions such as SANANA Bank and Sarvodaya Seeds Bank provide concessional financing for farmers to improve productivity. Companies like Holcim Plc fund CSR projects to support poor farmers to adopt water saving agro-technology packages.

raingauges. Participatory meetings and inter-agency workgroups will utilize feedback from FOs, farmers and VIS water managers to develop advisories for agriculture and water management. Different media (TV, radio and mobile technologies) will be used for dissemination of warnings to reach all parts of society, particularly women. This Output also addresses capacity barriers at local level to plan for and identify response measures to warnings and advisories. It will focus on identifying responses to floods, through mapping flood inundation levels, as well as developing plans, which identify appropriate spill areas in cascade systems and agricultural assets and infrastructure at risk. It will also develop response plans for agriculture to seasonal forecasts and associated advisories, as well as appropriate water management options. Coordination meetings and SOPs between DoM, DAD, DoA, DMC and ID at the district level will be developed to ensure appropriate coordination takes place. This output includes the following key activities:

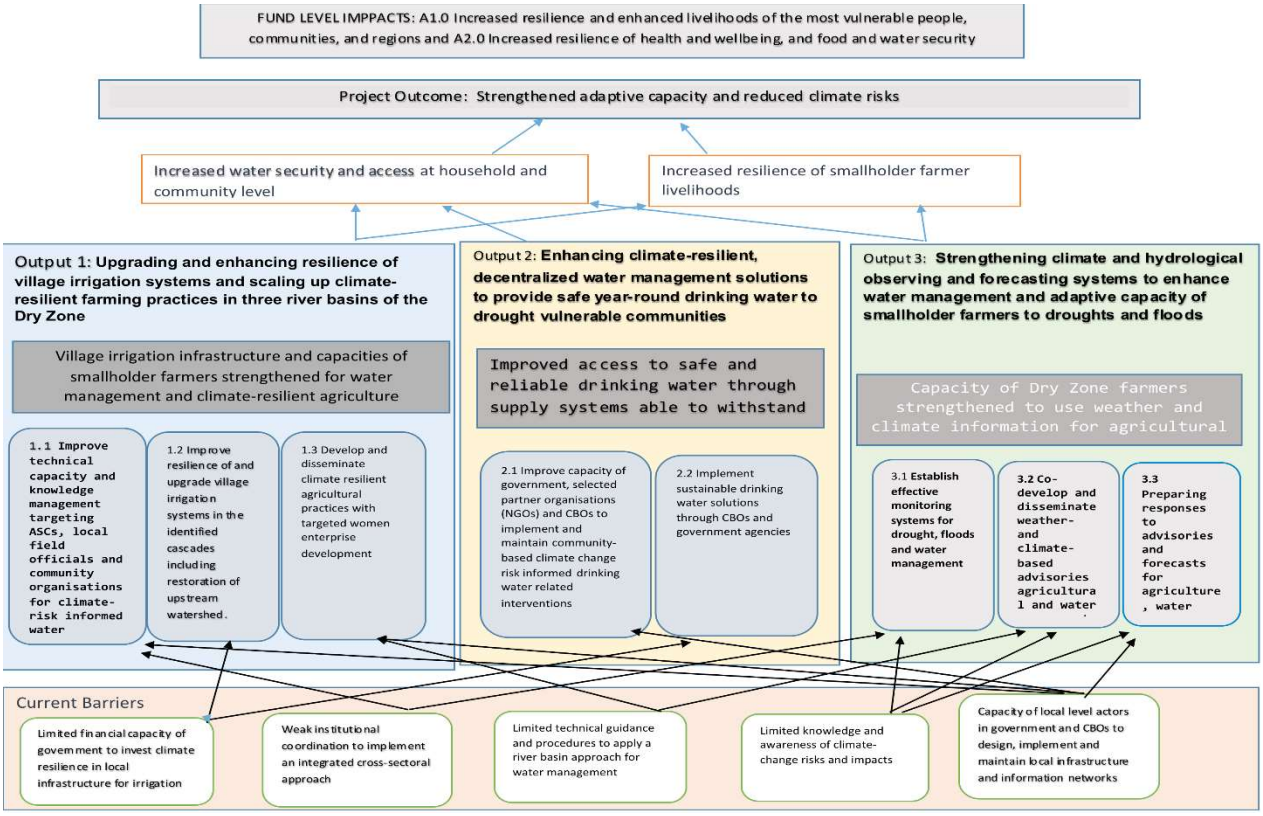
- Activity 3.1 Establish effective monitoring systems for drought, floods and water management:
- Activity 3.2 Co-develop and disseminate weather- and climate-based advisories for agricultural and water management through ASCs and FOs to farmers and village water managers:
- Activity 3.3 Develop climate-risk management response measures based on advisories and forecasts for agriculture, water management and flooding in cascade systems:

Paradigm Shift

14. The paradigm shift for the project lies in the project's integrated, holistic approach to enhancing water management through the interconnected elements of irrigation systems and farming practices, drinking water supply and management. It is the first time that an integrated approach to water management is being advanced in the country *incorporating climate change concerns*, understanding linkages across river basins/sub-river basins, and including multiple uses of water. The project sets standards and precedents for future river basin management planning, including the selection of river basins and VIS cascades based on adaptation potential and vulnerability, using the linkages among domestic water needs, livelihood needs, information needs and responding to community requirements in an integrated manner.

The theory of change model shown in Figure 2.0 below illustrates how each of the three outputs of the proposed project contribute to the long-term objective and how the resulting project impacts can be sustained, replicated and scaled to contribute to climate-resilient development in Sri Lanka. Through integration of the specific elements described in the Exit Strategy into the project design and implementation, conditions are created that lead to sustained impacts and potential for scale up.

Figure 2.0: Theory of Change Model for Project



15. Output 1 invests in the restoration and rehabilitation of village tank cascade systems and scale up of climate-resilient farming practices. The project will facilitate dissemination of such agricultural practices through both enhanced technical capacity of farmers and facilitation of market linkages to sustain these practices. The project assures long-term sustainability and potential for scale up and replication of these investments through a participatory approach and capacity building targeting Farmer Organisations, field officers of agriculture-related government institutions, private sector and local NGOs, as well as knowledge management through the ASCs.

16. Output 2 of the project will improve investments and strengthen institutional capacities to deal with unavailability of safe drinking water by scaling up solutions including rainwater harvesting and community-managed purification systems, which were successfully demonstrated in Sri Lanka. The project will promote participatory and entrepreneurial approaches for sustainability of drinking water supply and management solutions, lending these investments for potential to scale up across the targeted districts as well as to replicate drinking water solutions to other vulnerable parts of the country.

17. Output 3 will introduce technology and create systems that allow farmers and communities to access and actively participate in generating and sharing information for timely and coordinated operation of irrigation and drinking water systems and agriculture planning. At the national level, tailored forecast products and advisories will be developed to support decision-making. GCF funding will also strengthen ASCs in these areas to produce participatory advisories based on climatic forecasts and climate resilient agriculture options, using farmer knowledge and experience.

IV. RESULTS AND PARTNERSHIPS

Expected Results

18. The GCF financed project represents a paradigm shift as it will represent the first time an integrated approach to water management is advanced in Sri Lanka incorporating climate change concerns and understanding linkages across river basins/sub river basins and including multiple uses of water. The project will set comprehensive standards and precedents that will influence future river basin management planning. In the proposed design, Village Irrigation Systems (VIS) are considered as entities contributing to climate resilience of the entire basin. In recent river basin development projects, sectors such as drinking water were considered as indirect beneficiaries, or again as "demand nodes" where allocation of the required quantity of water would satisfy management needs.

Impact Potential

The project incorporates lessons learned and best practices from several successful international efforts in order to enable a transformative impact through the improvement of community irrigation water infrastructure and associated agricultural practices as well as a scale up of decentralized drinking water systems and effective Early Warning (EW), forecasting and water management systems to enhance the resilience of smallholder farmer livelihoods to climate-related impacts. Key lessons and success factors drawn include: i) upgrading village irrigation systems (small-scale rainwater storage reservoirs and related watersheds) in India[16,17]; ii) scaling up climate-smart agricultural practices in Vietnam[18]; iii) enhancing decentralized water supply and management solutions to provide safe drinking water to vulnerable communities in Bangladesh[19]; iv) Strengthening early warning, forecasting and water management systems to enhance the adaptive capacity of smallholder farmers to drought and floods in India.[20]

19. The project will advance climate-resilient sustainable development of Sri Lanka by ensuring adaptation of its smallholder farmers in the Dry Zone (agricultural heartland of the country) to climate risks and impacts. It will contribute to the Fund Level Impacts of Increased resilience of health and wellbeing, and food and water security and increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions. The climate-impact potential derives from the fact that GCF funding will support an integrated approach to strengthening the resilience of smallholder farmers in the Dry Zone through three inter-related outputs contributing to climate resilient water and agricultural management. Please refer to the Project Logframe.

- The project will directly benefit 770,500 (about 70% of the vulnerable population in the seven districts) people in the three river basins of whom about 392,000 are female. The direct beneficiaries are a combination of the direct beneficiaries of the irrigation and agriculture investments, drinking water investments, and EWs and forecasting investments, not counting the overlapping populations. The project will indirectly benefit about 1,179,000 more people of whom about 601,000 are female, with agriculture planning and water management advisories in the districts associated with the targeted river basins. Together, the total beneficiaries (approx. 1.9M) account for 57% of the population across the seven districts. This is about 9.6% of the population of the country.

16 Fisheries & Animal Resources Development Department website, Government of Odisha. "Orissa Community Tank Management Project". Retrieved from: http://fardodisha.gov.in/?q=node/137

17 Asian Development Bank (2006). "Rehabilitation and Management of Tanks in India: A Study of Select States". Retrieved from: https://openaccess.adb.org/bitstream/handle/11540/5073/rehabiliation-management-tanks.pdf?sequence=1

18 CGIAR Research Program on Climate Change, Agriculture and Food Security and the Technical Centre for Agricultural and Rural Cooperation (2013). "Climate-smart agriculture success stories from farming communities around the world". Retrieved from: https://cgspace.cgiar.org/rest/bitstreams/24750/retrieve

19 The World Bank website. "Safe Water for Rural Population in Bangladesh: Bangladesh Rural Water Supply and Sanitation Project (BRWSSP) Fact Sheet". Retrieved from: http://www.worldbank.org/en/news/feature/2016/03/15/safe-water-for-rural-population-in-bangladesh-bangladesh-rural-water-supply-and-sanitation-project-brwssp-fact-sheet

20 K. K. Singh (2011). "Weather Forecasting and Agromet Advisory Services in India". Retrieved from: http://www.iasri.res.in/ebook/TEFCPI_sampling/WEATHER%20FORECASTING%20AND%20AGROMET%20ADVISORY%20SERVICES%20IN%20INDIA.pdf

- Of the total direct beneficiary population, 520,000 smallholder farmers (254,800 males and 265,200 females) in the three river basins benefit through the adoption of diversified, climate resilient livelihood options related to climate-smart agriculture. (Fund Level impact, Result Area A1.0)
- Related to Result Area A2.0, the project also benefits about 517,800 people who receive year round and safe drinking water (through direct investments in drinking water systems) and whose drinking water supply systems are protected and sustained through flood advisories disseminated through cascade water management committees and through SMS. This includes 445,500 beneficiaries of flood advisories under Output 3 which subsumes the 144,700 people benefiting from drinking water systems. An additional 72,300 benefit from drinking water systems outside the river basins targeting high incidence CKDu areas. Please note that combined target populations from Result Area 1 and 2 does not add up to (and exceeds) total direct beneficiaries as these numbers both count farmers that benefit from CSA and water advisories. The total direct beneficiary number removes this duplication.

The project can potentially result in an annual benefit of 8 million USD per annum to the agricultural sector and about 2 million USD per annum of labor hours saved with increase access to drinking water.

Sustainable Development Potential

Economic benefits

20. The project will yield many economic benefits, at the micro and macro levels, as well as direct and indirect. The project will enhance the agricultural production of 130,000 smallholder farmer families (520,000 people) and increase productivity (accruing a benefit of USD 8 million per year to the agricultural sector) as well as incomes in three river basins through improved access to irrigation, adoption of climate resilient cropping patterns, and market linkages. Improved access to safe and reliable drinking water can result in about 2M USD in labour hours saved along with benefits to reduction of health costs and expenditures. In addition, the community-based enterprise development will create employment for around 20,000 women and men in the targeted communities – in managing drinking water systems, developing climate-smart agriculture market linkages and value-chains, and in working with the farmer organisations on early warnings and seasonal forecasting. There will also be some indirect employment opportunities created as the local economy is stimulated by the activities of the project, such as tank infrastructure rehabilitation, crop value addition (milling, transporting) and the building of rainwater harvesting infrastructure by local masons.

21. There will be macro level indirect economic benefits derived by the contribution to food security, self-sufficiency in the staple rice, and production of local fruits vegetables and grains, thus saving on potential imports. Reducing the vulnerability of the farming households will also reduce the likelihood of the households needing social protection/safety net pay-outs. Provision of safe drinking water to 165000 people will reduce the potential costs of water-related illness, both for the household, and the country's health system. The Ministry of Health has allocated Rs. 9 million, Rs. 40 million and an estimated Rs. 100 million in 2012, 2013 and 2014 respectively for treating CKDu through the state-supported health extension system- much of additional expenditure goes to five of the project target districts.

Social benefits

22. Smallholder farming communities were marginalized and subordinated to local officials, as they are dependent on subsidies and welfare programmes. Most of the project's target areas were isolated during the years of the conflict, and this intervention will initiate much needed infrastructure development and exposure to new technology. The project proposes to substantially improve decision making among farmers, as they become active stakeholders in integrated water management catering to local needs. Their capacity will be improved through training and engaging in implementing project activities and interface with government officials for service provision and private sector for market negotiations. By working in partnership with the FOs and other community groups and by acknowledging their existing knowledge and mobilization potential, the project will create significant social

capital. The project will promote social cohesiveness among upstream and downstream villages through planning and implementation of integrated cascade level water management plans. By promoting collective decision making and establishing protocols for water sharing for multiple uses, the project advances social and inter-community harmony. It also promotes post-conflict reconciliation by ensuring equitable access to natural resources and public services between ethnic groups and social classes.

23. The existence of a safe source of water for consumption will ease the pressure on farmer households, especially on women, who are responsible for domestic water and care of the sick. The project also tries to indirectly address the issue of CKDu type of water-related chronic disease by integrated and eco-system level water management and improves the health and wellbeing of the targeted populations. It will also promote safety, well-being, and decision-making among farmers through the benefits of EWs and climate information. Communities will benefit from the timely early warnings and reduced disruption to educational activities, family and community structures. The ability to adjust seasonal cultivation practices and crops according to tailored seasonal forecasting impacts positively on farmers ability to rationalise his inputs and assess his cultivation options for the coming months, preventing undue losses of crops and inputs.

Gender-sensitive development impact

24. Around 23.5% of all households in Sri Lanka are female-headed. Social isolation and poverty are inevitable for this group, many of whom are widowed at a young age mainly due to the conflict and deaths due to CKDu. The Dry Zone has larger number of women headed households and women taking care of disabled members of the family due to conflict and chronic diseases (especially the high incidence of chronic kidney failure affecting male farmers in the north and north central regions). In addition to this, the female unemployment rate, at 22%, is double that of men in Sri Lanka. Poverty in rural areas has pushed women to take up precarious work such as migrating overseas as unskilled domestic workers, or taking low paid jobs in the garment and other sectors.

25. GCF resources will be invested in interventions that directly impact on women's well-being and livelihood options in Dry Zone villages. Under Output 1, women will benefit from support to drought resilient home garden production with fruit/spice crops and low-cost, time saving micro irrigation. Women entrepreneurship will be promoted strengthening women's producer groups to adopt climate-smart agricultural practices, invest in agro-technology for value added products, and foster strong market linkages. Under Output 2, women-led CBOs will benefit from technical and business training to run sustainable drinking water supply schemes as social enterprises. Under Output 3, women FOs and CBOs will also be targeted to adopt ICT/mobile platforms to receive and transmit weather and climate information and benefit from response measures to floods and droughts. Project will benefit over 350,000 women (about 50% of the target beneficiaries). In particular, the project will benefit over 15000 women producer groups and at least 22,000 women (in CBOs) through enterprise development and income generation activities.

26. The project will yield positive outcomes related to health and well-being, decision making, access to resources, livelihoods, and income generation for women targeted through these various project interventions. With opportunities to generate additional income, women are more likely to respond to incentives that address their family's basic needs, such as better health and nutrition, linking to agriculture and food security improvements. The project will result in timesavings for women as a result of improved access to drinking water. The project will expand the sphere of decision-making and action through involvement in project implementation and impacts including water management planning, uptake of climate-resilient practices, management of water supply systems, and gender-targeted response measures for flood and droughts. Women will benefit from training and educational activities which may include activities related to climate change, agriculture, water management, leadership, business, finance, entrepreneurship and decision-making, thereby enabling empowerment and involvement of women in climate change adaptation planning and investments. For project specific assessment and action plan for gender, refer to Section C, Annex XIII.

Environmental co-benefits

27. Project activities will deliver a number of specific environmental benefits that include: a) soil conservation and reduction of erosion, sedimentation, and siltation of anicuts (diversions) and village reservoirs; b) improved tree cover in home gardens, catchment areas and other components of the cascade ecosystems such as silt barriers, salt/mineral balancing areas etc. that will have several interlinked environmental benefits such as improved micro-climate, improved soil structure, bioremediation for irrigation and drinking water quality, increased biodiversity; c) restoration of ecosystem integrity, goods, and services; and d) preservation of biodiversity in home gardens, in forests and in crop fields. The reduction of chemical inputs, especially N2 fertilisers through climate smart agriculture, will contribute to reduced emissions from agriculture as well. Agro-forestry in the watersheds and catchment areas will also contribute to enhanced emissions reduction.

28. Environmental benefits also include positive impacts on biodiversity and agro-biodiversity of the village irrigation systems and in home gardens. The project will enhance the ecological connection between the different functioning aspects of the cascade system. Introduction of perennial crops and timber in upstream watershed areas, protecting village forests and increasing tree cover in home gardens will have multiple environmental benefits. Soil conservation measures introduced in upstream farm fields and home gardens will not only prevent siltation of reservoirs but also support soil biota and improve ground-water yields by allowing greater percolation. Improved water yields will have a positive impact on water availability during the dry season to both humans and wildlife. The biodiversity value of VIS to provide food and habitat for many species is well recorded[21]. Some indigenous fish species, such as the snakehead, climbing perch and local catfish use small puddles in the village irrigation ecosystem to survive the dry period. Even fish found in larger lakes migrate upstream to colonize and breed on smaller seasonal reservoirs during the dry period. Trees around the perimeter of tank provide shelter against temperature extremes and microclimates required by certain species, hideouts and refuges from predators, and nesting ground for birds. The restored irrigation reservoirs harbour endemic fish and other important aquatic biota, which form essential components of the Dry Zone ecosystem and food chain for other terrestrial species. Ecological agriculture practices introduced by the project will reduce the harmful effects of agro chemical use on soil, animals and plants; and increase the diversity of soil biota.

Partnerships

29. The project will be implemented in partnership with civil society organizations, scientific institutions, academia and private sector. The International Water Management Institute (IWMI) will provide technical guidance to develop the integrated cascade development model and associated training modules and monitoring protocols for the project. The Project's national partners (government agencies) will work with a range of national and local civil society to deliver the project activities on the ground especially social mobilization work that is essential to developing grassroots adaptation solutions and will ensure ownership and sustainability of the outputs.

30. The project will work with a range of private sector including Hayleys, CIC and Organic Marketing chains like Good Market/ Saraketha and supermarket chains such as Keells, Arpico and Food City to promote market-oriented crops which can be cultivated under water-efficient irrigation methods.

Stakeholder engagement

31. The project was designed through extensive stakeholder consultations, including with civil society, in the targeted regions of the country and the NDA has issued a no-objection letter.

32. Local stakeholders and community members have a key role in the implementation and monitoring of the project. During the inception phase of the project, MMDE working together with UNDP, will consult with all stakeholders, including vulnerable community members, FOs, CBOs, etc. and facilitate an understanding of the roles, functions, and responsibilities within the Project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The project Logic Framework (indicators, means of verification, assumptions) will be reviewed and the quarterly and annual plans will be refined engaging the

21Marambe, M, Pushpakumara, G and Silva, P (2010) in Biodiversity and Agrobiodiversity in Sri Lanka: Village Tank Systems. University of Peradeniya

communities from the targeted districts. The stakeholders will also be engaged during the mid-term and final evaluations to assess the progress of the project and enable adaptive project management in response to the needs and priorities of the communities.

33. **Engagement of the NDA and other agencies:** Project development was initiated and led by Ministry of Mahaweli Development and Environment (MMDE), supported by the Presidential Secretariat (the President is the Minister of Mahaweli Development and Environment) through a multi-stakeholder consultative process. The priorities addressed in this project were first identified in the National Climate Change Adaptation Strategy (2011-2016) and further elaborated in the Second National Communication (2012) and National Adaptation Plan (2015). The INDCs submitted by Sri Lanka just before Paris Conference of Parties in 2015 identified water sector as a critical intervention area for climate change adaptation- focusing on food security, health and disasters.

34. The Climate Change Secretariat (within the MMDE) represented the NDA and coordinated the concept and proposal development through the establishment of the Technical Working Group (TWG) to oversee project design. An integrated river-basin based approach for project implementation was endorsed by the TWG which comprised members from the following agencies: Ministry of Mahaweli Development & Environment, Ministry of Agriculture, Ministry of Disaster Management, Ministry of Foreign Affairs, Ministry of Irrigation, Department of Agriculture, Ministry of Health, Ministry of City Planning and Water Supply, Department of Agrarian Development, National Water Supply and Drainage Board, Department of National Community Water Supply, International Water Management Institute (IWMI), National Planning Department, External Resources Department, Department of Meteorology, Department of Irrigation. Under the guidance of the TWG, the Technical Feasibility Report for the project was developed through extensive stakeholder consultations (including community consultations). The report analyses the gaps, needs, and barriers, examines lessons learnt and best practices from past and on-going projects, and provides recommendations for the design and implementation of the proposed interventions.

35. **Stakeholder consultations including civil society organizations: A number of civil society organizations were consulted during the development of the feasibility study and the proposal.** Field consultations were held in six districts involving various NGOs (Such as IUCN, SAPSRI, Janathakshan, and GEF SGP), FOs, women's organisations managing community water supply projects, and other CBOs. Field consultations included visits to local ASCs and discussions with field extension officers of Agrarian and Agriculture Departments. Targeted consultations were held to consult with and engage women stakeholders in the design of the project as well as the development of the Gender Assessment and Action Plan (Refer to Section C, Annex XIII). These consultations took place during the field visits (to consult communities) as well as the consultation event organized at the UN Compound with a number of local organisations and women's groups working in project target districts. Meetings were also held with Provincial Departments of Agriculture and their extension services during the field visits. In addition to civil society, women groups, and community field consultations, a number of bilateral discussions were held with Ministries, technical experts, academics and research institutions. Other national and international actors such as the International Water Management Institute (IWMI) and Sri Lanka Carbon Fund (as potential Direct Access entity for GCF) were also consulted and engaged in the process of preparing the funding proposal.

36. Stakeholder engagement plan: The project would engage multiple stakeholders at national and local level. This includes the five government agencies who are responsible parties to the project. In addition, the project will engage with Provincial agencies, Divisional Secretariats, Agrarian Services Centres (ASCs), Farmer Organisations, Community Based Organisations, Private Sector and NGOs to implement and monitor project impact. Project specifically targets women and youth groups in implementation, maintenance, and monitoring of project investments.

Mainstreaming gender

37. As women are key players in agricultural sector and therefore food security, livelihoods and water management, this proposal seeks to address the issue that women own fewer assets and have access to less land, have less input, and access to fewer financial services. Around 23.5% of all households in Sri Lanka are female-headed.

38. The project will work to improve the lives of women more broadly through increased food security and clean drinking water in locations, where, in the past, women were impacted by cultural practices. Women have a reliance on home gardens to support their families and project interventions under Output 1 will support women to grow food and earn income through agro-based small industry. Moreover, the project will target women-headed households and disabled women for low-tech agriculture and household drinking water improvement, lessening the current burden on such families. Quantitative outcomes of this targeting include female-headed households as beneficiaries, improved access to drinking water, and improved livelihoods and business development services targeting rural women entrepreneur groups.

39. At least 15,000 women in the project target area will benefit from income opportunity and entrepreneurship through implementation of climate resilient agriculture technologies and market linkages and about 22,000 women will benefit from empowerment, skills development and employment by managing community drinking water projects as local social enterprises. The expected outcomes of the project include improvements in health and well-being, improved livelihoods, and business development services targeting rural women entrepreneur groups. The qualitative outcomes include increased opportunities to generate additional income, as women are more likely to respond to incentives that address their family's basic needs, such as better health and nutrition, linking to agriculture and food security improvements; time-savings for women as a result improved access to drinking water; contribution to improved self-esteem and empowerment of women in the community; expanded involvement in public and project decision-making as a result of initiation of women into active participation in income generating activities; support for training and educational activities which may include activities related to climate change, agriculture, water management, leadership, business, finance, entrepreneurship and decision-making, thereby enabling empowerment and involvement (or increased involvement) of women to participate with confidence in community meetings; and effectiveness of awareness raising.

South-South and Triangular Cooperation (SSC/TrC)

40. The proposal is aligned with UNDP's comparative advantage in the areas of capacity building, providing technical and policy support, reducing barriers and creating enabling conditions for adaptation planning and investments. Specifically, the proposed project will build upon UNDP's comparative advantage stemming from experience in working with governments and communities in Sri Lanka and globally on: i) establishing and strengthening institutional, policy and legislative mechanisms; ii) building capacity; iii) undertaking risk assessments; iv) mainstreaming climate change adaptation, disaster risk reduction and early warning systems into development planning; and v) harnessing best practices and community-based approaches across different thematic areas for climate change adaptation and disaster risk reduction. This includes experience with initiatives focused on transferring knowledge and technology via South-South cooperation.

Knowledge Management

41. The project applies best practices from Sri Lanka and elsewhere to address three distinctly inter-connected issues –lack of irrigation and drinking water and timely weather/climate information- which affect the resilience of the targeted vulnerable communities in the Dry Zone of Sri Lanka. The technological approaches and design builds on the traditional knowledge and practices, combined with modern systems for improved water use efficiency and community-based management practices for maintaining both irrigation and drinking water systems. The project design learns from best practices of recent projects that have applied the cascade-wide approach to minor irrigation rehabilitation. These include cascade-level farmer committees, reviving traditional elements of the irrigation systems and combining with modern engineering solutions; reviving and strengthening community co-management of resources (land and water) as well as community input in to maintenance of structures for village irrigation and drinking water.

42. Climate resilient agriculture and tailored advisories for floods and drought learn from regional best practices- scaling up climate-smart agricultural practices in Vietnam and strengthening early warning, forecasting and water management systems to enhance the adaptive capacity of smallholder farmers to drought and floods in India. These projects have demonstrated very positive results on the ground in changing farmer behavior in relation

to chemical use, low-input drought-resistant seeds, water efficient technologies for agriculture and linking tailored climate advisories and technical inputs with positive farm-level productivity increase. [22]

[22] CGIAR Research Program on Climate Change, Agriculture and Food Security (2014). "Assessment of India's Integrated Agro-meteorological Advisory Service from a farmer's perspective". Retrieved from: https://cgspace.cgiar.org/rest/bitstreams/34467/retrieve

V. FEASIBILITY

Cost efficiency and effectiveness

43. The effectiveness of proposed solutions has been tested out in a number of projects at varying scale. This project builds on those lessons of cost-effectiveness and efficiency of delivery. The geographic, hydro-climatic and socio-economic suitability of the recommended activities were successfully tested in the field and they offer the most effective and efficient solutions to the climate stresses on local water resources in Dry Zone Sri Lanka.

44. The costs of implementing the project are heavily co-financed by existing systems and staff of government agencies. For example the Agrarian Services Centres (ASCs) will become the project's nodal implementing 'hub' at the local level, coordinating the integrated water management plans at sub-basin level as well as the procurer and conveyor of climate and technology-related information. The project will build synergies with other projects in the same geographical location and working on issues like water resource development and management, disaster management and climate resilience to maximize effectiveness. For instance, the project will synergize with NCPCP interventions such as water augmentation, which increases the productivity in the farms. It will also use local materials such as excavated silt for catchment protection and dam strengthening.

45. Costs of the infrastructure investments have been estimated utilizing comparable benchmarks from other projects. A cascade could have varying number of village irrigation systems (VIS). On average the project costs the upgrading of a VIS including catchment conservation at USD 50,000. A cascade that has 10-12 tanks (the generalized median) would cost 500,000-600,000. This is comparable to the cost of IUCN-HSBC (500,000) and SCCF (600,000) projects. Average costs for water treatment facilities (advanced filtration USD 3500 for a small sized/17,000 for large and 120,000 for a small community managed water supply system) and RWH (USD 550) have been derived from the benchmarks of other projects discussed in the Technical Feasibility Report.

46. Community participation in the implementation and operational stages will ensure cost-effectives of the investments. Previous experience shows that in some instances (e.g. for catchment protection) labour is usually volunteered. The RWHs will be managed by the community, thereby reducing the operation and maintenance costs for the government in the long term. Similarly, the community contribution to the management of hydro-meteorological stations can make the maintenance cost-effective because this will reduce the inputs (travel, salaries and accommodation) from the project. The data collected by the communities from the manually operated rainfall gauges will be made available to the researchers and organizations such as DoM, which will enhance the current weather information database, and the resolution of forecasting, without the government having to spend on operation of rainfall and water level gauges.

47. Alternative solutions were considered in the design of the proposed interventions. An alternative solution to the loss of productivity in village irrigation systems is to divert the agricultural population to other forms of production such as industries, which is not a foreseeable investment for the agricultural heartland of the country. Therefore, the government policies in the past 60-70 years are aimed at improving the agricultural productivity in this region. While there are significant investments in major irrigation, there is a need to invest in strengthening the village irrigation systems and improved agricultural practices to complement the government investments. In the case of drinking water, the feasibility study has considered all the possible alternatives including RWH, small-scale water supply schemes with simple treatment and advanced filtering methods for complicated water pollution cases. The option that has not been considered is the large-scale water supply schemes. Considering the extraction capacity of the water resources and scattered nature of the population compared to town centres, the study proposes an optimum mix of above-mentioned solutions excluding large and medium scale water supply schemes. Related to the investments in weather forecasting and early warning systems, an alternative solution is a fully automated system of weather and hydrological information, which can be centrally operated. However, the country's ability to maintain such a sophisticated system is not clearly established at present. Overall, the proposed solutions were designed to

be in line with best practices, community ownership, and synergies across the three inter-related outputs and build on ongoing efforts to ensure their efficiency and cost-effectiveness

Risk Management

48. Please see Risk Log in Annex 14 for full details on risk management. The overall risk rating for this project ismoderate. As per standard UNDP requirements, the National Project Director will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probablity are high (i.e. when impact is rated as 5 and probablity is 1,2,3,4, 5 or when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported in the annual Project Implementation Report (PIR).

Social and environmental safeguards

49. Social and environmental complaints by communities and people affected by the project can be submitted to UNDP's Social and Environmental Compliance Unit (SECU). SECU will respond to claims that UNDP is not in compliance with applicable environmental and social policies. Complaints can be submitted by e-mail to project.concerns@undp.org or the UNDP website. Project-affected stakeholders can also request the UNDP Country Office for access to appropriate grievance resolution procedures for hearing and addressing project-related social and enviornmental complaints and disputes. Environmental and social grievances will be monitored and reported in the annual PIR.

Sustainability and Scaling Up

50. Building on a sound technical foundation with multiple consultations, the project ensures that the investments as well as the results of the interventions are sustained beyond the project period and in the longer-term through the following elements of project design and implementation:

51. **Combining traditional knowledge and practices with climate-resilient technologies and innovative practices:** Building on traditional systems and mechanisms of village irrigation, maintenance models, and community organizational structures, such as the FOs that have buy-in and ownership amongst the smallholder farmers, provides a strong basis to integrate climate-resilient design and practices thereby enabling adoption for the long-term. Capacity building and training on climate-risk informed planning, design, and implementation of climate-resilient practices will be more effective through these locally suited and community-owned systems.

52. **Capacity building for integrated, locally owned solutions:** GCF resources will be invested in building capacities for climate-resilient, integrated solutions for irrigation and drinking water following a landscape or ecosystem approach based on sub-river basins (cascade systems). The project promotes institutional planning and coordination across government officials and communities to overcome the sectoral and piecemeal approach to water management that had been adopted in the past. Project outputs will also contribute to enhancing organisational capacity of farmers to plan for and implement climate-risk informed local water management solutions, adopt technologies and systems for climate-smart agricultural production and safe drinking water, and integrate climate information and advisories for water management ensuring their financial and human resource viability post-project.

53. **Co-investments by government institutions and communities**: The project leverages domestic co-financing in the form of government financing that supports baseline funding of the proposed interventions as well as co-mingling of resources to support project implementation. Co investments (totalling USD 14M) for the project include investments from DAD towards village irrigation systems (VIS) rehabilitation and O&M in the project targeted river basins and districts and upgrading of ASCs; DOA towards development and dissemination of climate resilient agriculture packages and the co-development of tailored agricultural advisories; DNCWS to establish and manage and support O&M of community water supply systems including the training of CBOs; NWSDB to support design and development of community water supply schemes and water purification and filtration systems, water quality testing and monitoring, and O&M of these investments; and MOD to support flood and drought response for agriculture and water management in project targeted districts and O&M of observational networks. Overall, domestic financing strengthens commitment and ownership in implementation of the project and enable these actors to sustain the investments beyond project duration.

54. **Ex-post plan for Operations and Maintenance of observing equipment:** An O&M plan (project and post-project O&M) including the budgeting for the human and financial resources required for O&M for the project investments. The plan reflects local ownership and commitment for the long-term sustainability of the project activities and outcomes. The costs of developing a long-term strategy for O&M, is provided for in the first two years, and the strategy will be reassessed towards project completion (final two years). Project will also support FOs managing VIS to supplement their reserve funds with income from food fishery in the upgraded VIS. Project also builds in contingency funds for unforeseen events (e.g. climate shocks) and includes a provision for spare parts to last beyond the lifetime of the project. The farmers traditionally manage village irrigation systems and the project will improve the capacity of FOs (development of O&M and financing plans, O&M manuals, technical guidelines for water management, SOPs, initial seed fund, etc.) to function more efficiently. Supported by enhanced incomes from agriculture, it is envisaged that FO contribution would also improve. The CBOs managing drinking water supply systems will be capacitated to sustain the maintenance of community water supply facilities through initial support for stock of spare parts, training in maintenance and financial management, cascade level source protection plans, training of skilled labor, etc. The CBOs managing the advanced purification and filtration systems will cover the O&M costs through the incomes generated. For O&M of hydro-agro-met network, project supports maintenance of the equipment for a limited period after the warranty periods and training of government officials and local communities along with domestic financing is expected for post-project O&M.

55. **Promoting private sector participation through enterprise development and enabling environment:** The project will promote entrepreneurship among communities to deliver a suite of new technologies for resilient agriculture, drinking water and climate information. It will build capacity of young men and women in these rural areas to engage in managing these ventures as enterprises in the village. The engagement of women in FOs and as interlocutors between private sector markets for ecologically produced, climate smart crops will increase livelihood options and income sources for women entrepreneurs in villages. Many rural water supply schemes already provide space for women-led CBOs to manage these schemes as local social enterprises. The project will also introduce IT-based climate information sharing platforms that can be developed and managed by local youth. Furthermore, the strengthened environment through enhanced institutional coordination (SOPs, water management plans, training of government agencies on planning and implementation), information and data sharing (incl. on EWs, forecasting, and advisories), and market linkages will enable and incentivize private sector investment beyond the project life time. For instance, strengthened value-chains for agriculture, improved ecosystems, enhanced climate information can spur private sector investments in agro-processing, tourism and ecosystem services, insurance sector, etc. In addition, the project will strengthen the environment for engagement of microcredit institutions and banks as village level agri-businesses scale-up. Since there are many NGOs working with MFIs, the project resources will be invested in strengthening the demand and capacities of farmers and MSEs to engage with the MFIs. The project will strengthen the capacity of farmers and micro enterprises through awareness, business development, technology transfer, improved income generation and facilitation of market linkages. Project will also strengthen the use and interpretation of climate information for effective business planning benefiting both farmers/micro enterprises as well as microcredit institutions.

Scaling-up potential

56. Training of trainers conducted in Outputs 1 and 3 will enable the approach to be immediately replicated in and adopted by Agrarian Services Centres in the district but outside the river basins. Overall, the project's integrated approach can be scaled up in at least 08 other Dry Zone districts with vulnerable smallholder farmers through 192 Agrarian Services Centres delivering support for VIS rehabilitation and climate resilient agriculture; and SMS-based flood advisories to protect drinking water and irrigation infrastructures.

57. Through these output activities, the project establishes pathways for future replication and scale.

- The integrated, cascade-level approach to upgrading village irrigation systems and water management allows for future replication and scale to both adjacent cascades within the targeted basins as well to other identifiable vulnerable river basins in the country. The integrated approach to cascade water management planning and VIS upgrading has the potential to be up-scaled five (x5) times the initial number of 30 cascades within the targeted river basins. The training of trainers for district/provincial officers and ASC officers would support future replication within the three river basins. This approach can then be replicated to five (05) other vulnerable river basins in the Dry Zone with large populations of smallholder farmers reaching up to 25 times its initial impact
- The climate resilient agriculture can be immediately up-scaled to 91 other ASCs using district officers trained reaching 614,545 farmers, and doubling (x2) the initial impact. There is potential to replicate climate resilient agro-technology packages and tailored agriculture advisories in 8 other Dry Zone districts through 192 ASCs reaching 1,296,623 small holder farmers, creating up to four times (x4) replication potential of the initial beneficiaries. This replication is supported by project activities such as investments in developing climate resilient agriculture packages co-financed training programmes conducted by DOA for Provincial and ASC staff for dissemination of climate smart agro technology and crop selection.
- The cascade water management plans and water source protection plans/committees that are being introduced through the project for 50 cascades in Outputs 1 and 2 can be replicated up to five times (x5) the initial target in the river basins themselves. Upscaling the community-based model for drinking water can benefit up to twice (x2) the initial beneficiaries in the target cascades (144,600 or a third of 217,000) themselves and could be replicated by at least five times (x5) in the river basins to benefit additional vulnerable communities without access to safe drinking water creating ten times (x10) potential beneficiaries (or 1,446,000) through training of officials and CBOs, and exchange visits for knowledge transfer through the project.
- Dissemination of flood advisories for water management through SMS is targeted to 30% of the rural population of the districts. The SMS- and media based dissemination has the potential, depending on coverage to potentially can reach all the rural population in the 7 target districts associated with the river basins which is 3,423,973 people (x3 of the initial target) all of whom depend on either irrigation or rural drinking water supply schemes. Replicating this flood advisory can potentially double this benefit (x2) benefiting as many as 3,213,112 rural people in 8 other Dry Zone districts across the country.

58. Overall, the project's cascade based approach to water management has potential to be replicated in other vulnerable, Dry Zone river basins and the climate resilient agriculture practices and advisories for flood management in all Dry Zone districts. The cascade approach to water management including drinking water source protection committees can be replicated in at least 5 other river basins for up to 25 times its initial impact reaching 796,800[23] farmer families or 3,187,200 people. This accounts for as much as 44% of the total Dry Zone population of 7,245,000.[24] The climate smart agriculture and advisories related to drought and flood have the potential to be replicated in 8 other Dry Zone districts in the country through ASCs and mobile networks reaching the 6,600,000 people25 in 15 districts, which accounts for over 90% of the total Dry Zone population of 7,245,000.

23 This assumes that the approach is replicated in 83 (16.6 cascades in each RB*5) cascades in each river basin (83x3 initial RBs +83*5 new RBs) totaling 664 cascades in eight riverbasins. Each cascade has an estimated population of 1200 families or 4000 people. Both farmers and non-farmers benefit from the integrated water management approach.

24 Central Bank of Sri Lanka 2013. Economic and Social Statistics

25 3,423,973+3,213,112 (total for 15 districts)

Economic and/or Financial Analysis

59. Economic analysis of the project was carried out in accordance with the Guidelines for the Economic Analysis of Projects of United Nations Development Program (UNDP 2015). The feasibility of the investments was determined by computing the economic internal rate of return (EIRR) and economic net present value (NPV), and comparing the EIRR with the assumed 10% discount rate (as recommended in UNDP 2015). The period of analysis covers 25 years.

60. The economic analysis is based on the following additional assumptions about the project and economic conditions:

- Benefits generally won't accrue the first year of the project. Because of the soft nature of the interventions, benefits can accrue starting from the second year.
- Based on the budget and phasing of the project, we use the proportion of the project that is implemented each year to calculate the benefits that accrue from the project up to the 7th year when the entire project will be implemented.

61. Economic benefits valued for this analysis include:

- Improved irrigation access for farmers that will maintain carry-over storage to the dry periods and increases the agricultural productivity and farmer incomes through efficient water distribution.
- Value of introducing fingerling per tank.
- Increased water availability and quality due to better storage capacity of the tanks
- Focusing on travel time saved due to water available in the community.
- Strengthening early warning, forecasting and water management systems to improve agricultural productivity as a result of improved climate advisory services.

62. The total cost of the project amounts to USD 52.08 million that includes operating and maintenance costs for the interventions over the lifetime of the project and the Government of Sri Lanka's co-financing.

63. The cost benefit analysis shows that with a 10 percent discount rate, the discounted net present value of the project is valued at about 34.7 million USD. The economic internal rate of return is 22%, which exceeds 10%, the discount rate assumed for the analysis.

64. All proposed investments are economically feasible, with positive NPVs and EIRRs exceeding the minimum threshold of 10%. Under all test cases including the "worst case" scenario combining 20% increase in investments costs with a 20% reduction in total benefits; EIRR remains above the minimum threshold. There are a number of direct benefits of the projects that were not explicitly estimated in the economic analysis. The implication of ignoring these additional benefits is that the estimates of the economic IRR and NPV will be the lower bound and provide conservative estimates of the value of the project.

65. The targeted populations' baseline situation of poverty, conflict-related displacement, livelihood insecurity and access to services are significantly worsened by repeated cycles of flood and drought, climate variability, and gradual erosion of health, nutrition and income status. These districts contain large numbers of female-headed households and unemployed youth. Post-conflict investments in roads, schools, hospitals and housing have failed to deliver the required development benefit due to the continued livelihood vulnerability and increasing exposure to impact of climate variability and extreme events.

66. The public goods nature of this project's outputs doesn't entail significant revenue generation or cost recovery from the project. Where income generation opportunities exist, these apply directly to the beneficiaries (for instance, improved agricultural incomes and fee contribution from farmers to Farmer Organizations for O&M) primarily as household incomes or contributions to sustain O&M. In addition, the revenues accrued to each CBO managing advanced purification plants from water sold (USD.007 per litre) to communities is directed to (a) subsidize water for households that are conflict-affected or have people with kidney disease, (b) cover operation and maintenance costs for the infrastructure, (c) support staff resources, and (d) maintain a reserve fund that is used for

community development activities. A financial analysis for the project is therefore not deemed pertinent given the proportion of financial flows at the CBO level relative to the project costs.

67. Without significant cost-recovery, the additional investment required to build resilience to climate change in rural Dry Zone villages is prohibitive for a government that is constrained by heavy debt and an unfavourable balance of payments. The project is economically viable and advances financial viability of the investments beyond project duration. A grant financing mechanism is, therefore, sought to support the prioritised interventions of this project. The Government of Sri Lanka seeks maximum concessionality for the proposed urgent adaptation actions that will benefit largely poverty-stricken and post-conflict regions of the island nation.

VI. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): **GOAL1: Poverty reduction** **GOAL2: Food security** **GOAL5: Gender equality** **GOAL6: Integrated water management** **GOAL13: Climate change adaptation**					
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: Outcome #4: Policies, programs and capacities to ensure environmental sustainability, address climate change, mitigation and adaptation and reduce disaster risks in place at national, sub national and community levels Country Programme Output 4.1: Development agencies are equipped with policies, strategies, methodologies and tools to integrate sustainable development and disaster resilience principles					
This project will be linked to the following output of the UNDP Strategic Plan: Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste. Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented. Output 1.5: Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy) Output 2.5: Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation.					
GCF Paradigm shift objectives:					
	Objective and Outcome Indicators	**Baseline**	**Mid-term Target**	**End of Project Target**	**Assumptions**
SDG indicators	Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented.	0			
UNDP Strategic Plan Indicators	1. # direct project beneficiaries.				
FUND LEVEL IMPACT:					
Fund level Impact: A 1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities, and regions	Total number of direct and indirect beneficiaries (% of whom is female)	0		Total 1,950,374[26] (51% of whom is female) 9.6% of the total population of Sri Lanka[27]	Completed infrastructure and sustained maintenance for water supply systems Uptake of training and capacity building by provincial, district and ASC officials on water management,

26 This total combines direct and indirect beneficiaries.

27 Total population of Sri Lanka 20,271,464 according to Census of 2012

	Indicator 1.2 Number of males and females benefiting from the adoption of diversified, climate resilient livelihood options			770,500[28] (51% of whom is female) (direct) 1,179,874[29] of (51% of whom is female) (indirect) 520,000[30] of which 265,200 are women	climate resilient agriculture packages, flood/drought and management advisories Efficiency and reach of the SMS-based communication system for flood warning and water management advisories Completed irrigation infrastructure and sustained O&M. Uptake of training and capacity building by farmers related to the CSA practices.
Fund level Impact: A 2.0 Increased resilience of health and well-being, and food and water security	**Indicator 2.3**: Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses.	0		517,800[31] of which 264,078 are women	Completed infrastructure and sustained maintenance for water supply systems Uptake of training and capacity building by provincial, district and community stakeholders on water management, flood/drought and management advisories Efficiency and reach of the SMS-based communication system for flood warning and water management advisories
PROJECT OUTCOMES:					

28 See footnote 82.

29 The total number of indirect beneficiaries was derived as follows: Total rural population in 7 districts is 3,423,974; Total population in targeted 3 river basins is: 925,000. So, the base figure for indirect beneficiaries are those outside the river basins (3,423,974-925,000): 2,498,974. Of these: 1) 614,545 indirect beneficiaries, farmers, will benefit under Output 1 based on assumptions that training on CSA and interpretation and use of drought advisories will be adopted by other 91 ASCs in the seven target district, outside the river basins. Each ASC targets 6,753 farmers based on DAD statistics. 2) Then of the remaining population of potential indirect beneficiaries, which is 1,884,429 (2,498,974-614545), we count the population receiving flood advisories for water management through the SMS services. Assuming 30% penetration of mobile services (see footnote 101 on basis for assumption), we estimate 30% of 1,884,420 (565,328) will receive SMS based early warnings. Therefore, total indirect beneficiaries is 614545 plus 563,328 = **1,179,874**.

30 See footnote 88.

31 This is the total number of beneficiaries who receive year round and safe drinking water and whose drinking water supply systems are protected and sustained through flood advisories disseminated through cascade water management committees and through SMS. The number is calculated based on Output 2 and Output 3 beneficiaries avoiding overlaps. To avoid duplication, since the number of beneficiaries of water management and flood advisories of Output 3 (445,500, see footnote 99) are calculated at the river basin level population, we assume this already subsumes the beneficiaries of drinking water systems residing in the river basins (144,700, see footnote 94). Therefore we estimate the target population for this indicator as 445,500 plus the additional 72,300 beneficiaries of drinking water systems outside the river basins, under Output 2. This totals to **517,800** people. Please note that combined target populations from Result Area 1 and 2 does not add up to (and exceeds) total direct beneficiaries as these numbers both count farmers that benefit from CSA and water advisories. The total direct beneficiary number removes this duplication.

Project Outcomes A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	7.1: Extent to which vulnerable households, communities and businesses use improved strategies and activities to respond to climate variability and climate change	0	422,664	770,500[32] of which 392,955 are women	Completed infrastructure and sustained maintenance for VIS Agrarian Service Centres are able to reach all small holder farmer families in their areas with climate risk information and agriculture packages. There is continued commitment and uptake of the information by targeted communities in the project.
PROJECT OUTPUTS:					
Project Outputs Output 1: Upgrading and enhancing resilience of village irrigation systems and scaling up climate-resilient farming practices in three river basins of the Dry Zone	Extent of minor irrigation under targeted cascades with increased cropping intensity (CI<1.6) Number of male and female farmers reached through dissemination of climate resilient agriculture technology packages No of women farmers implementing climate resilient agriculture technologies and practices	0 CSA packages are currently not being disseminated	8875 ha[34] 416,000[35] of which 212,160 are women	9750[37]ha 520,000[38] of which 265,200 are women39	Village irrigation upgradation is completed on schedule without large disruptions from extreme weather events or from bureaucratic delays in approvals etc. Agrarian Service Centres are able to reach all small holder farmers through Farmer Organisations Climate smart packages and agriculture advisories are available in every Agrarian Services Centre

32 The target combines the direct beneficiaries in the three river basins under the three outputs, avoiding overlaps. This was calculated using: (i) the total number of beneficiaries reached under Output 1 which is 520,000 (which subsumes 144700 of the 217000 beneficiaries from Output and overlaps with the 520,000 beneficiaries of agricultural advisories under Output 3); (ii) the additional drinking water beneficiaries outside river basin (72,300) not counted under Output 1; and (iii) the additional number of river basin population receiving flood advisories through cascade level water committees and SMS and not counted under Output 1. This would be the non-farming population of the total reached under Output 3 which is about 40% of 445,500 (178,200). The total number of direct beneficiaries is 520,000+72,300+178,200 = **770,500**.

34 The project is upgrading 325 village irrigation systems in 30 cascades. Each of these VIS currently does not support farmers to complete one full season. The minor season, which is generally dry depends heavily on stored water in the village reservoirs. If there is not sufficient storage, minor season cultivation is abandoned. Therefore cropping intensity, measured by the number of times the irrigated downstream is fully cultivated, is less than 1. By upgrading storage and efficient water allocation, project aims to increase cropping intensity in these village irrigation systems to 1.6 or more, by improving the ability to use the downstream lands during the minor season. According to Department of Agrarian Development each of the Village Irrigation systems has 25-30 hectares as a median command area. So the targets reflect the extent of command area that will directly benefit from the improved irrigation potential and water availability through VIS upgrade. The full extent is 9750 ha but the project assumes that by the mid-term of delivery, around 80% of the farm fields would have increased production in the two seasons.

35 Output 1 beneficiary number is calculated based on the assumption that the total number of small holder farmers working in village irrigation systems in the three river basins (520,000) will have access to climate resilient agriculture packages disseminated through the 77 Agrarian Service Centres. The mid-term target therefore is calculated on the basis that 80% of this target would be reached by the end of year 04. No of women farmers is 51.2 % of the total.

37 The project is upgrading 325 village irrigation systems in 30 cascades. Each of these VIS currently does not support farmers to complete one full season. The minor season, which is generally dry depends heavily on stored water in the village reservoirs. If there is not sufficient storage, minor season cultivation is abandoned. Therefore cropping intensity, measured by the number of times the irrigated downstream is fully cultivated, is less than 1. By upgrading storage and efficient water allocation, project aims to increase cropping intensity in these village irrigation systems to 1.6 or more, by improving the ability to use the downstream lands during the minor season. According to Department of Agrarian Development each of the Village Irrigation systems has 25-30 hectares as a median command area. So the targets reflect the extent of command area that will directly benefit from the improved irrigation potential and water availability through VIS upgrade. The full extent is **9750** ha by end of the project.

38 Output 1 beneficiary number is calculated based on the assumption that the total number of small holder farmers working in village irrigation systems in the three river basins (**520,000**) will have access to climate resilient agriculture packages disseminated through the 77 Agrarian Service Centres (each serving about 6753 farmers). The mid-term target therefore is calculated on the basis that 100% of this target would be reached by the end of year 7.

39 Output 1 beneficiary number is calculated based on the assumption that the total number of small holder farmers working in village irrigation systems in the three river basins (520,000) will have access to climate resilient agriculture packages disseminated through the 77 Agrarian Service Centres (each serving about 6753 farmers). The mid-term target therefore is calculated on the basis that 100% of this target would be reached by the end of year 7. No of women farmers is 51.2 % of the total.

		0[33]	13,209[36]	16,677[40]	
Project Outputs 2. Enhancing climate resilient, decentralized water supply and management solutions to provide year-round access to safe drinking water to vulnerable communities	Number of households with year round access to reliable and safe water supply Number of women engaged in managing and maintaining community drinking water supply schemes	0[41] <1000[42]	130,200[43] >10,000	217,000 of which 72300 are based outside river basins44 >20,000[45]	Completed infrastructure and sustained maintenance for water supply systems Uptake of training and capacity building by women enterprises on sustained O&M.

33 There are no field-level interventions promoting the adoption of climate resilient practices among women farmers currently in 30 cascades and 325 VIS targeted by the project.

36 The project through activity 1.3 will provide investments to women farmers to adopt agro-technology packages that will increase income and food security. This includes 300 women entrepreneurs engaged in value addition of climate resilient crops, 822 small-farmer seed production facilities, 4950 demonstrations of improved home gardens, 8250 low-cost drip systems and 355 farm field water management demonstrations. Another 2000 women will benefit from agro-processing technologies. The total number of beneficiaries is 16,677 of which 75% will be reached by end of year 4

40 The project through activity 1.3 will provide investments to women farmers to adopt agro-technology packages that will increase income and food security. This includes 300 women entrepreneurs engaged in value addition of climate resilient crops, 822 small-farmer seed production facilities, 4950 demonstrations of improved home gardens, 8250 low-cost drip systems and 355 farm field water management demonstrations. Another 2000 women will benefit from agro-processing technologies. The total number of beneficiaries is **16,677**.

41 Project investments will go in to communities that do not currently have access to year round and safe (treated, sterilized and filtered) water. So the baseline value is 0 (based on the year-round availability – these communities do have access for some of the year and for these periods, they purchase water)

42 While many water supply schemes are run by women-led CBOs field surveys showed that they need capacity development and institutional strengthening support to effectively manage the O&M and business model of community water supply. Active engagement of women in the project target river basins is estimated as less than 1000 women.

43 The mid-term target for drinking water access is 60% of the total beneficiaries reached.

44 There will be **217,000** (includes beneficiaries of advanced purification and filtration systems: 131,000; CWSS: 70,000; and RWH: 16,000) people benefitting from the different drinking water interventions that the project will invest in linked to the village irrigation systems. Of these, geographically, 70% of the systems (and therefore 144,700 beneficiaries) are located within the 3 river basins and remaining 30% of them or 72,300 of these beneficiaries will be located outside the river basin boundaries but within the associated 07 districts, targeting divisions with high vulnerability to CKDu, salinity and poverty. The 217,000 population includes the beneficiaries of 4000 rainwater harvesting tanks (individual households) and 35 community managed water supply schemes and 125 advanced filtration systems for locations with serious water quality issues.

45 The project aims to provide training and capacity building and institutional strengthening to at least 400 women led CBOs by the project's end. Each CBO will have an estimated 50 members of whom at least 5 will earn an income from maintaining the water supply scheme.

Project Outputs 3. Strengthening climate and hydrological observing and forecasting system to enhance water management and adaptive capacity of smallholder farmers to droughts and floods	Number of female and male farmers reached through seasonal forecast for agriculture planning Number of female and male farmers receiving advisories for water management	0[46] 0[47]	156,000 of which 79,560 are women 133,650 of which 68,161 are women	520,000[48] of which 265,200 are women 445,500[49] of which 227,205 are women	

While no activities are found in this version of the project document, this information can be found Annex 10.

46 The developed seasonal forecasts (as of Maha 2015) are disseminated to the PDOA but is yet to reach the farmer organizations with practical and timely advice on adaptation to the forecast.

47 There is currently no SMS service for flood early warnings.

48 The forecasts and agricultural advisories will be disseminated through 77 Agrarian Services Centres in the three river basins. Farmers will contribute to the preparation of these advisories through ASCs and have access to the advisories through seasonal cultivation meetings at each village irrigation system, twice a year. These advisories will reach **520,000** small holder famer population who are connected to the 77 ASCs (serving about 6753 farmers each) for service delivery through both agriculture and agrarian services extension services which also will deliver tailored, climate resilient agro-technology packages to these farmers under Output 1.

49 The Cascade Level Committees are the primary target for flood advisories for water management. Each cascade level water committee will reach around 4800 people (each cascade= 12 VIS/ each VIS=100 familiesx4 members) comprising of farmers benefitting from village irrigation systems, farmers working in non-irrigated lands and non-farming households. The project will form cascade water management committees bringing together the local-level representatives of drinking water supply systems and Farmer Organisations in 50 cascades. This is a total of 240,000 people directly reached through such committees. Of the remaining river basin population (925,000-240,000=685000), we also count those people benefiting from SMS service, Given the penetration of mobile phones according to statistics and recent survey (http://www.tradingeconomics.com/sri-lanka/mobile-cellular-subscriptions-per-100-people-wb-data.html and http://dbsjeyaraj.com/dbsj/ archives/ 20172) is round 40-50%, we use a conservative estimate of 30% as actually receiving the SMS advisories. Therefore, this amounts to 205,500. The total number of beneficiaries from water related EWs and advisories is a sum of those reached by cascade level committees and SMS. **(445500)**

VII. MANAGEMENT ARRANGEMENTS

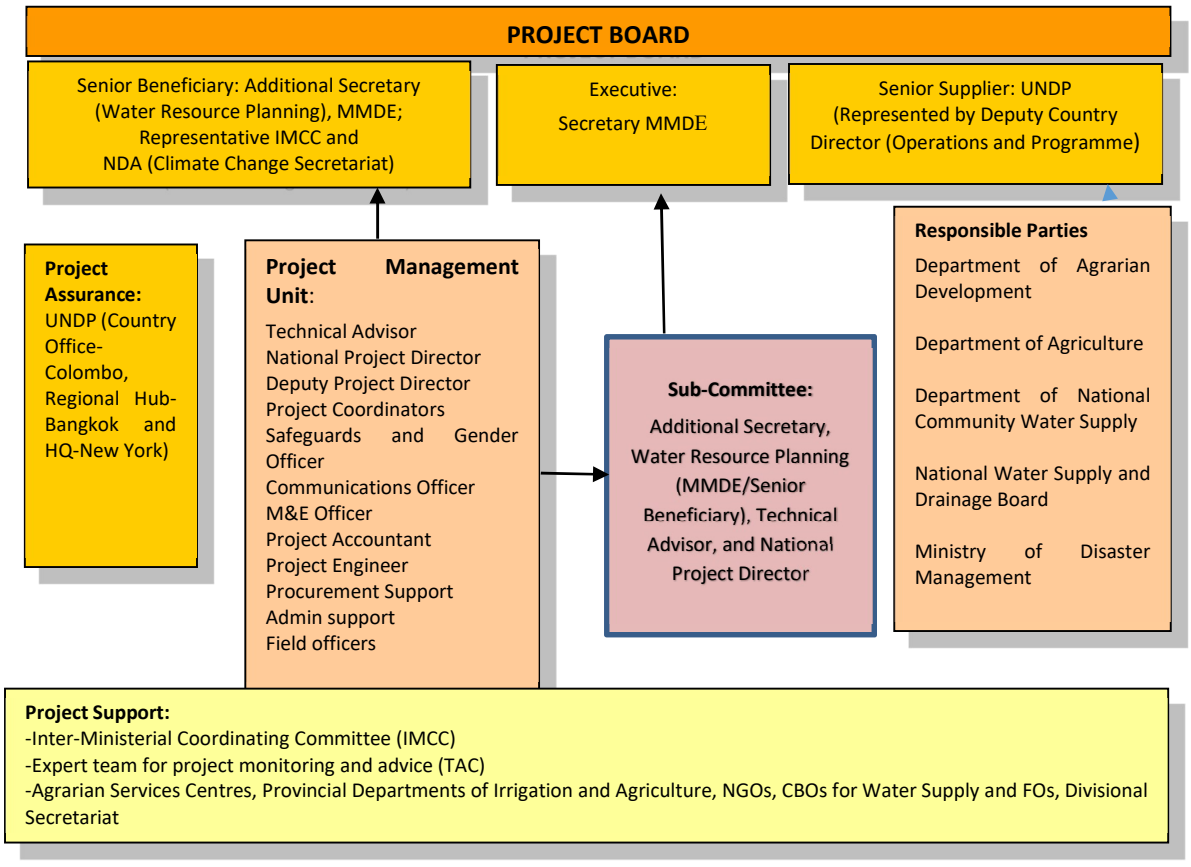
Roles and responsibilities of the project's governance mechanism

68. The project will be implemented following UNDP's national implementation modality, embedding significant UNDP-support implementation, according to the Standard Basic Assistance Agreement between UNDP and the Government of *Sri Lanka,* and the approved Country Programme 2014-2017.

69. The **Implementing Partner** for this project is **Ministry of Mahaweli Development and Environment**. The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. The Implementing Partner is responsible for:

- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

The project organisation structure is as follows:



70. **Project Board:** The Project Board (also called Project Steering Committee) is responsible for management decisions by concensus when guidance is required by the National Project Director, including recommendations for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

71. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager (DCD, Programme).

72. Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the National Project Director;
- Provide guidance on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Agree on National Project Director's tolerances as required;
- Review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Appraise the annual project implementation report, including the quality assessment rating report; make recommendations for the workplan;
- Provide ad hoc direction and advice for exceptional situations when the National Project Director's tolerances are exceeded; and
- Assess and decide to proceed on project changes through appropriate revisions.

73. The composition of the Project Board must include the following roles:

1) Executive: The Executive is an individual who represents ownership of the project who will chair the Project Board. This role can be held by a representative from the Government Cooperating Agency or UNDP. The Executive is: *Secretary, Ministry of Mahaweli Development and Environment.*

   The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive has to ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and suppler.

Specific Responsibilities: (as part of the above responsibilities for the Project Board)

- Ensure that there is a coherent project organisation structure and logical set of plans;
- Set tolerances in the AWP and other plans as required for the National Project Director;
- Monitor and control the progress of the project at a strategic level;
- Ensure that risks are being tracked and mitigated as effectively as possible;
- Brief relevant stakeholders about project progress;
- Organise and chair Project Board meetings.

2) Senior Supplier: The Senior Supplier is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Suppler is: *Deputy Country Director, Programme and Operations, UNDP Sri Lanka*

   Specific Responsibilities (as part of the above responsibilities for the Project Board)

   - Make sure that progress towards the outputs remains consistent from the supplier perspective;
   - Promote and maintain focus on the expected project output(s) from the point of view of supplier management;

- Ensure that the supplier resources required for the project are made available;
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

3) Senior Beneficiary: The Senior Beneficiary is an individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society. The Senior Beneficiary is : *Additional Secretary (Water Resource Planning), Ministry of Mahaweli Development and Environment; the Representative the Inter-Ministerial Committee and a representative from the Climate Change Secretariat as NDA of the GCF.*

   The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness, the role should not be split between too many people. The Additional Secretary, Water Resource Planning will oversee the Project Management Unit, providing technical and administrative support to project implementation, and ensuring benefits are transferred to the intended recipients. The Ministry will nominate a senior official to ensure that objective level results are achieved in a timely manner, thus representing the NDA's interests.

The Senior Beneficiary should:

- Prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Specification of the Beneficiary's needs is accurate, complete and unambiguous;
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target;
- Impact of potential changes is evaluated from the beneficiary point of view;
- Risks to the beneficiaries are frequently monitored.

Specific Responsibilities of senior Beneficiary (as part of the above responsibilities for the Project Board)

- Setting up the PMU and recruitment of personnel suitable to execute the project
- Ensuring that the project procurements are technically consistent and correct tender procedure is followed
- Ensuring that the project work plan is implemented with support from UNDP as required to expedite procurement and technical service provision
- Ensuring that deviations from the work plan are duly approved by the Board
- Guiding the PMU technically
- Liaising with government agencies -at national and sub-national level
- Chairing the technical advisory committee meeting

74. **National Project Director**: The National Project Director has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The National Project Director is responsible for day-to-day management and decision-making for the project. The National Project Director's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

75. The Implementing Partner will appoint the National Project Director as per the Government Circular on managing donor funded projects (Management Circular No1 of 2016), who should be different from the Implementing Partner's representative in the Project Board or Senior Beneficiary (Additional Secretary MMDE).

Specific responsibilities include:

- Provide direction and guidance to project team(s)/ responsible party (ies);

- Liaise with the Project Board to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning and control of the project;
- Responsible for project administration;
- Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
- Mobilize personnel, goods and services, training and micro-capital grants to initiative activities, including drafting terms of reference and work specifications, and overseeing all contractors' work;
- Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
- Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
- Be responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
- Manage and monitor the project risks initially identified and submit new risks to the project board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
- Capture lessons learned during project implementation;
- Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available.
- Prepare the Annual Project Implementation Report (PIR), and submit the final report to the Project Board;
- Based on the PIR and the Project Board review, prepare the AWP for the following year.
- Ensure the mid-term review process is undertaken as per the UNDP guidance, and submit the final MTR report to the Project Board.
- Identify follow-on actions and submit them for consideration to the Project Board;
- Ensure the terminal evaluation process is undertaken as per the UNDP guidance, and submit the final TE report to the Project Board;

76. **Project Implementation Sub-Committee:** To report to the Project Board and to liaise with the Responsible Parties there will be a sub-committee consisting of Additional Secretary, National Project Director, Technical Advisor and senior staff of the PMU

Project Assurance

77. UNDP provides a three – tier supervision, oversight and quality assurance role – funded by the agency fee – involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of the Project Management function. The quality assurance role supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the National Project Director. This project oversight and quality assurance role is covered by the accredited entity fee provided by the GCF.

78. As an Accredited Entity to the GCF, UNDP delivers the following GCF-specific oversight and quality assurance services: (i) day to day project oversight supervision covering the start-up and implementation; (ii) oversight of project completion; and (iii) oversight of project reporting. A detailed list of the services is presented in the table below.

Function	Detailed description of activity	Typical GCF fee breakdown
Day-to-day oversight supervision	**1. Project start-up:** • In the case of Full Funding Proposals, prepare all the necessary documentation for the negotiation and execution of the Funding Activity Agreement (for the project) with the GCF, including all schedules • In the case of readiness proposals, if needed assist the NDA and/or government partners prepare all the necessary documentation for approval of a readiness grant proposal • Prepare the Project Document with the government counterparts • Technical and financial clearance for the Project Document • Organize Local Project Appraisal Committee • Project document signature • Ensure quick project start and first disbursement • Hire project management unit staff • Coordinate/prepare the project inception workshop • Oversee finalization of the project inception workshop report **2. Project implementation:** • Project Board: Coordinate/prepare/attend annual Project Board Meetings • Annual work plans: Quality assurance of annual work plans prepared by the project team; issue UNDP annual work plan; strict monitoring of the implementation of the work plan and the project timetable according to the conditions of the FAA and disbursement schedule (or in the case of readiness the approved readiness proposal) • Prepare GCF/UNDP annual project report: review input provided by National Project Director/team; provide specialized technical support and complete required sections • Portfolio Report (readiness): Prepare and review a Portfolio Report of all readiness activities done by UNDP in line with Clause 9.02 of the Readiness Framework Agreement. • Procurement plan: Monitor the implementation of the project procurement plan • Supervision missions: Participate in and support in-country GCF visits/learning mission/site visits; conduct annual supervision/oversight site missions • Interim Independent Evaluation Report: Initiate, coordinate, finalize the project interim evaluation report and management response • Risk management and troubleshooting: Ensure that risks are properly managed, and that the risk log in Atlas (UNDP financial management system) is regularly updated; Troubleshooting project missions from the regional technical advisors or management and programme support unit staff as and when necessary (i.e. high risk, slow performing projects) • Project budget: Provide quality assurance of project budget and financial transactions according to UNDP and GCF policies • Performance management of staff: where UNDP supervises or co-supervises project staff • Corporate level policy functions: Overall fiduciary and financial policies, accountability and oversight; Treasury Functions including banking	70%

Function	Detailed description of activity	Typical GCF fee breakdown
	information and arrangements and cash management; Travel services, asset management, and procurement policies and support; Management and oversight of the audit exercise for all GCF projects; Information Systems and Technology provision, maintenance and support; Legal advice and contracting/procurement support policy advice; Strategic Human Resources Management and related entitlement administration; Office of Audit and Investigations oversight/investigations into allegations of misconduct, corruption, wrongdoing and fraud; and social and environmental compliance unit and grievance mechanism.	
Oversight of project completion	• Initiate, coordinate, finalize the Project Completion Report, Final Independent Evaluation Report and management response • Quality assurance of final evaluation report and management response • Independent Evaluation Office assessment of final evaluation reports; evaluation guidance and standard setting • Quality assurance of final cumulative budget implementation and reporting to the GCF • Return of any un-spent GCF resources to the GCF	10%
Oversight of project reporting	• Quality assurance of the project interim evaluation report and management response • Technical review of project reports: quality assurance and technical inputs in relevant project reports • Quality assurance of the GCF annual project report • Preparation and certification of UNDP annual financial statements and donor reports • Prepare and submit fund specific financial reports	20%
	TOTAL	**100%**

79. Direct Project Services as requested by Government: services provided to government directly under NIM The UNDP Country Office will also deliver a pre-determined set of project-specific execution services at the request of the Government. To ensure the strict independence required by the GCF and in accordance with the UNDP Internal Control Framework, these execution services should be delivered independent from the GCF-specific oversight and quality assurance services (i.e. not done by same person to avoid conflict of interest).

80. These execution services will be charged to the project budget in accordance with the UNDP's Harmonized Conceptual Funding Framework and Cost Recovery Methodology. The letter of agreement for these direct project costs is included in Annex to this project document.

Project Management Unit

81. The Project Management Unit, established under the MMDE will have a deputy project director to oversee implementation of the project through the different responsible parties to the project in the three river-basins. The project management unit will comprise of a project director, a deputy project director, a safeguards specialist, a communications specialist, an M&E specialist, an accountant, a finance officer, a procurement specialist, a Project engineer, three technical officers, five management/finance assistants, six field officers, two office aides, a driver and a project secretary. These posts will be hired in compliance with the management circular 01/2016 at prescribed levels of experience and salary as set out in the circular. (TORs are attached in Annex 12)

82. This PMU will be supported by technical experts recruited by UNDP to support effective implementation in adherence to the project design and technical parameters developed for the Project. UNDP will hire a technical advisor to provide overall technical guidance to the National Project Director and the PMU to implement the Project. UNDP will also hire a project coordinator to provide coordination support to the project director to implement the project through different responsible parties, a procurement associate, and finance associate to provide project related procurement and finance support. Additional support positions are recruited by UNDP on concurrence of the National Project Director and the Project Board.

Agreement on intellectual property rights and use of logo on the project's deliverables

83. In order to accord proper acknowledgement to the GCF for providing grant funding, the GCF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GCF will also accord proper acknowledgement to the GCF as per the GCF branding guidelines.

Disclosure of information

84. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[50] and the GCF Disclosure Policy[51].

Carbon offsets or units

85. As outlined in the AMA agreement between UNDP and the GCF, to the extent permitted by applicable laws and regulations, the Implementing Partner will ensure that any greenhouse gas emission reductions (e.g. in emissions by sources or an enhancement of removal by sinks) achieved by this project shall not be converted into any offset credits or units generated thereby, or if so converted, will be retired without allowing any other emissions of greenhouse gases to be offset.

86. Transfer or disposal of assets: In consultation with the NIM Implementing Partner and other parties of the project, UNDP programme manager (UNDP Resident Representative) is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file. POPP: https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default. In addition, the following GCF requirements must be followed: As stated in Clause 9.03 of the Funding Activity Agreement included in Annex[52], the Accredited Entity shall inform the GCF, in the final APR, which steps it intends to take in relation to the durable assets and/or equipment purchased with the GCF Proceeds to implement the Funded Activity.

50 See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

51 See https://www.greenclimate.fund/documents/20182/184476/GCF_B.12_24_-_Comprehensive_Information_Disclosure_Policy_of_the_Fund.pdf/f551e954-baa9-4e0d-bec7-352194b49bcb

52 23.04 of the AMA states: " In relation to a Funded Activity that is a grant financed in whole or in part with GCF Proceeds, if any part of such grant is used to purchase any durable assets or equipment used to implement the relevant Funded Activity (such as vehicles or office equipment), upon completion of the Funded Activity or termination of the relevant FAA in accordance with its terms, the Accredited Entity shall take such steps in relation to such assets or equipment which it reasonably deems in the best interest of the continued operation of the Funded Activity taking into consideration the objectives of the Fund and the terms of the applicable SBAA."

VIII. MONITORING AND EVALUATION (M&E) PLAN

87. The project results as outlined in the project results framework will be monitored and reported annually and evaluated periodically during project implementation to ensure the project effectively achieves these results. A full monitoring and evaluation plan have been included in Annex 8 and Annex 9 respectively.

88. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GCF-specific M&E requirements will be undertaken in accordance with relevant GCF policies.

89. In addition to these mandatory UNDP and GCF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Workshop Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including national/regional institutes assigned to undertake project monitoring.

M&E oversight and monitoring responsibilities

90. **National Project Director**: The National Project Director is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The National Project Director will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The National Project Director will inform the Project Board, the UNDP Country Office and the UNDP-GEF Regional Technical Advisor of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

91. The National Project Director will develop annual work plans to support the efficient implementation of the project. The National Project Director along with the Safeguards Specialist and M&E Specialist will ensure that the standard UNDP and GCF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. Environmental and social management plan, gender action plan etc.) occur on a regular basis.

92. **Project Board:** The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

93. **Project Implementing Partner:** The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used by and generated by the project supports national data gathering and analysis.

94. **UNDP Country Office:** The UNDP Country Office will support the National Project Director as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and

Project Board within one month of the mission. The UNDP Country Office will initiate and organize key M&E activities including the annual PIR, the independent mid-term review and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GCF M&E requirements are fulfilled to the highest quality.

95. The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual PIR quality assessment ratings) must be addressed by the UNDP Country Office and the National Project Director.

96. The UNDP Country Office will support GCF staff (or their designate) during any missions undertaken in the country, and support any ad-hoc checks or ex post evaluations that may be required by the GCF.

97. The UNDP Country Office will retain all project records for this project for up to seven years after project financial closure in order to support any ex-post reviews and evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GCF.

98. **UNDP-Global Environmental Finance Unit (UNDP-GEF):** Additional M&E and implementation oversight, quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as outlined in the management arrangement section above.

Audit

99. The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.[53] Additional audits may be undertaken at the request of the GCF.

Additional monitoring and reporting requirements

100. **Inception Workshop and Report**: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E;
e) Identify how project M&E can support national monitoring of SDG indicators as relevant;
f) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender action plan; and other relevant strategies;
g) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
h) Plan and schedule Project Board meetings and finalize the first year annual work plan.

53 See guidance here: https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx

101. The National Project Director will prepare the inception report no later than one month after the inception workshop. The inception workshop report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser and will be approved by the Project Board. The project inception report must be submitted to the GCF no later than 6 months after the FAA effectiveness date (7 June 2017).

102. **GCF Annual Project Report (APR):** The National Project Director, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual APR covering the calendar year for each year of project implementation. The National Project Director will ensure that the indicators included in the project results framework are monitored annually in advance of the APR submission deadline so that progress can be reported in the APR. The APR will include reporting of: environmental and social risks and related management plans, gender, co-financing and financial commitments, GCF 'conditions precedent' outlined in the FAA, amongst other issues. The annual project report will be due for submission to the GCF in the first quarter of each year for the duration of the project. The last APR will be due for submission within 3 months after the project completion date.

103. The APR will be shared with the Project Board. The UNDP Country Office will coordinate the input of other stakeholders to the APR as appropriate. The quality rating of the previous year's APR will be used to inform the preparation of the subsequent APR.

104. **Lessons learned and knowledge generation:** Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

105. **Independent Interim Evaluation Report:** An independent mid-term review process will begin after the third APR has been submitted to the GCF, and the MTR report will be submitted to the GCF in the same year as the 4th GCF APR. The interim independent evaluation report is due for submission to GCF by the 2nd quarter of 2021. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO available on the UNDP Evaluation Resource Center (ERC). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

106. **Final Independent Evaluation Report:** A final independent evaluation will take place upon completion of all major project outputs and activities. The final evaluation process will begin at least three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Final Independent Evaluation report is due for submission to the GCF within 6 months after the project completion date.

107. The National Project Director will remain on contract until the final evaluation report and management response have been finalized. The terms of reference, the evaluation process and the final report will follow the standard templates and guidance prepared by the UNDP IEO available on the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing

or advising on the project to be evaluated. Additional quality assurance support is available from the UNDP-GEF Directorate. The final evaluation report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publically available in English on the UNDP ERC.

108. The UNDP Country Office will include the planned project evaluations in the UNDP Country Office evaluation plan, and will upload the final evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC).

109. **Final Report:** The project's terminal APR along with the final independent evaluation report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Mandatory GCF M&E Requirements and M&E Budget:

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget54 (US$)		Time frame
		GCF grant	Co-financing	
Inception Workshop	UNDP Country Office	USD 11,000	*USD 2,000*	Within two months of project document signature
Inception Report	National Project Director	-	-	7 December 2017
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	-	-	Quarterly, annually
Monitoring of indicators in project results framework ***(including hiring of external experts, baseline and project surveys, data analysis etc)***	National Project Director	USD 200,000	USD 2,500	Annually
GCF Annual Project Report	National Project Director and UNDP Country Office and UNDP-GEF team	-	-	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	Per year: USD 3,000 / TOTAL USD 21,000	*USD 1,000*	Annually or other frequency as per UNDP Audit policies
Lessons learned, case studies, and knowledge generation	National Project Director	Per year: USD 5,000/ TOTAL USD 35,000	-	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	National Project Director UNDP CO	Per year: USD 5,000/ TOTAL USD 35,000	-	On-going

54 Excluding project team staff time and UNDP staff time and travel expenses.

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget54 (US$)		Time frame
		GCF grant	Co-financing	
Monitoring of gender action plan	National Project Director UNDP CO	Per year: USD 6,000/ TOTAL USD 42,000	-	On-going
Monitoring of stakeholder engagement plan	National Project Director UNDP CO	Per year: USD 4,000/ TOTAL USD 28,000	-	On-going
Addressing environmental and social grievances	National Project Director UNDP Country Office BPPS as needed	USD 145,000	-	*Costs associated with missions, workshops, BPPS expertise etc. can be charged to the project budget.*
Project Board meetings	Project Board UNDP Country Office National Project Director	-	*USD 2,000*	At minimum twice annually
Supervision missions	UNDP Country Office	None[55]	-	Two per year
Oversight missions	UNDP-GEF team	None	-	Troubleshooting as needed
GCF learning missions/site visits	UNDP Country Office and National Project Director and UNDP-GEF team	USD 3,000	-	To be determined.
Interim Independent Evaluation and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 20,000	-	2nd quarter 2021
Final Independent Evaluation included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 35,000	-	December 2023
Translation of evaluation reports into English	UNDP Country Office	-	-	As required. GCF will only accept reports in English.
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		USD 575,000 1.5% project budget	USD 7,500	

55 The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GCF Agency Fee.

IX. FINANCIAL PLANNING AND MANAGEMENT

110. The total cost of the project is *USD 52,084,000.* This is financed through a GCF grant of *USD* 38,084,000, *USD 12,860,000* in cash co-financing and *USD 1,140,000* in parallel co-financing. UNDP, as the GCF Accredited Agency, is responsible for the oversight and quality assurance of the execution of GCF resources and the cash co-financing transferred to UNDP bank account only.

Project Financing

Component	Outputs	Financing institution			Total (US$)
		GCF	Government	UNDP	
		Grant	Grant	Grant	
Component 1.	1) Upgrading and enhancing resilience of village irrigation systems and scaling up climate-resilient farming practices in three river basins of the Dry Zone	21,044,120	7,140,000	0	28,184,120
	2) Enhancing climate resilient, decentralized water supply and management solutions to provide year-round access to safe drinking water to vulnerable communities	9,904,632	6,110,000	0	16,014,632
	3)Strengthening climate and hydrological observing and forecasting system to enhance water management and adaptive capacity of smallholder farmers to droughts and floods	3,651,729	750,000	0	4,401,729
	Project Management	3,483,520	0	0	3,483,520
Total		**38,084,000**	**14,000,000**		**52,084,000**

GCF Disbursement schedule

111. GCF grant funds will be disbursed according to the GCF disbursement schedule. The Country Office will submit an annual work plan to the UNDP-GEF Unit and comply with the GCF milestones in order for the next tranche of project funds to be released. All efforts must be made to achieve 80% delivery annually. Refer to detailed milestones included in the signed FAA on "Conditions Precedent to Disbursement".

Disbursements	Amounts (in USD)	Indicative expected month and year of disbursement
Disbursement 1	2,867,879	August 2017
Disbursement 2	8,287,745	August 2018
Disbursement 3	9,264,383	August 2019
Disbursement 4	9,594,023	August 2020
Disbursement 5	4,431,338	August 2021
Disbursement 6	2,363,850	August 2022
Disbursement 7	1,274,783	August 2023
TOTAL	38,084,000	

Budget Revision and Tolerance

112. GCF requirement: 10% of the total projected costs per year can be reallocated among the outputs. Any budget reallocation involving a major change in the project's scope, structure, design or objectives or any other change that substantially alters the purpose or benefit of the project requires the GCF's prior written consent.

113. UNDP requirement: As outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the National Project Director to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board (within the GCF requirements noted above). Should such deviation occur, the National Project Director and UNDP Country office will seek the approval of the UNDP-GEF team.

114. Any over expenditure incurred beyond the available GCF grant amount will be absorbed by non-GCF resources (e.g. UNDP TRAC or cash co-financing).

Refund to GCF

115. Unspent GCF resources must be returned to the GCF. Should a refund of unspent funds to the GCF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

Project Closure

116. Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP.[56] On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

Operational completion

56 see https://info.undp.org/global/popp/ppm/Pages/Closing-a-Project.aspx

117. The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed.

Financial completion

118. The project will be financially closed when the following conditions have been met: a) The project is operationally completed or has been cancelled; b) The Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

119. The project is required to be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

X. TOTAL BUDGET AND WORK PLAN

***Guidance to project developer**: This table must be completed using a separate excel file and then be copied here. All sub-totals and totals must tally. All figures must be "numeric value", not "text".*

Total Budget and Work Plan	
Atlas57 Proposal or Award ID:	00057445/70975
Atlas Proposal or Award Title:	Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management
Atlas Business Unit	LKA10
Atlas Primary Output Project Title	Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management
UNDP-GEF PIMS No.	5752
Implementing Partner	Ministry of Mahaweli Development and Environment (MMDE)

Component	GCF Output/Atlas Activity	Responsible Party (Atlas Implementing Agent)	Finan. Source	Budgetary Account Code	Budget Account Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Total (USD)	Budget Note*
Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management	GCF Output 1: Upgrading and enhancing resilience of village irrigation systems and scaling up climate-resilient farming practices in three river basins of the Dry Zone	Department of Agrarian Development, Department of Agriculture	GCF	71300	Local Consultants	100,869	133,269	113,269	113,269	113,269	107,469	46,517	**727,930**	1A
				71400	Contractual Services - Individ	19,840	29,760	39,680	39,680	39,680	39,680	39,680	**248,000**	1B
				72100	Contractual Services - Companies	808,965	4,654,346	4,890,646	5,343,565	1,569,834	761,558	173,000	**18,201,913**	1C
				71600	Travel	35,000	48,000	48,000	48,000	46,000	46,000	29,000	**300,000**	1D
				72200	Equipment and Furniture	-	147,200	241,885	247,385	194,957	143,457	64,400	**1,039,284**	1E
				74200	Audio Visual & Print Prod Costs	-	-	15,065	15,065	10,043	10,043	-	**50,216**	1F
				75700	Training, Workshops and Conference	18,000	-	62,956	62,956	41,970	23,970	-	**209,852**	1G
				61100	Salary Costs - NP Staff	36,381	36,594	36,594	38,424	38,424	39,291	41,216	**266,925**	1H
					Sub Total - GCF	**1,019,055**	**5,049,169**	**5,448,095**	**5,908,344**	**2,054,177**	**1,171,468**	**393,813**	**21,044,120**	
		Department of Agrarian Developmen	GoSL	72100	**Contractual Services - Companies**	-	675,000	750,000	900,000	750,000	450,000	450,000	**3,975,000**	1I

57 See separate guidance on how to enter the TBWP into Atlas

		t, Department of Agriculture		71600	**Travel**	75,000	80,000	80,000	80,000	75,000	60,000	50,000	**500,000**	1J
				72200	**Equipment and Furniture**	55,000	72,500	80,000	85,000	80,000	77,500	75,000	**525,000**	1K
				75700	**Training, Workshops and Conference**	250,000	280,000	300,000	300,000	300,000	300,000	270,000	**2,000,000**	1L
				74200	Audio Visual & Print Prod Costs	15,000	16,000	22,000	22,000	22,000	22,000	21,000	**140,000**	1M
					Sub Total - GoSL	**395,000**	**1,123,500**	**1,232,000**	**1,387,000**	**1,227,000**	**909,500**	**866,000**	**7,140,000**	
	Total Output 1					**1,414,055**	**6,172,669**	**6,680,095**	**7,295,344**	**3,281,177**	**2,080,968**	**1,259,813**	**28,184,120**	
	GCF Output 2: Enhancing climate resilient, decentralized water supply and management solutions to provide year-round access to safe drinking water to vulnerable communities	Department of National Community Water Supply, National Water Supply & Drainage Board	GCF	71300	Local Consultants	49,744	88,926	91,926	91,926	91,926	91,926	68,163	**574,535**	2A
				72100	Contractual Services - Companies	732,695	1,733,865	2,171,382	2,047,682	1,182,925	122,862	77,208	**8,068,618**	2B
				71600	Travel	62,101	103,001	109,001	109,001	109,001	109,001	80,151	**681,259**	2C
				72200	Equipment and Furniture	54,846	54,846	54,846	54,846	54,846	73,128	18,282	**365,640**	2D
				74200	Audio Visual & Print Prod Costs	4,982	7,472	7,472	-	4,982	6,227	-	**31,135**	2E
				75700	Training, Workshops and Conference	3,999	15,994	11,996	9,996	7,997	-	-	**49,982**	2F
				61100	Salary Costs - NP Staff	18,190	18,297	18,297	19,212	19,212	19,646	20,608	**133,463**	2G
					Sub Total - GCF	**926,556**	**2,022,402**	**2,464,920**	**2,332,663**	**1,470,889**	**422,790**	**264,412**	**9,904,632**	
			GoSL	72100	Contractual Services - Companies	600,000	650,000	750,000	720,000	680,000	400,000	200,000	**4,000,000**	2H
				71600	Travel	110,000	115,000	120,000	120,000	120,000	115,000	110,000	**810,000**	2I
				75700	Training, Workshops and Conference	90,000	110,000	120,000	124,000	140,000	110,000	106,000	**800,000**	2J
				74200	Audio Visual and print	62,500	76,000	82,000	74,000	78,000	81,500	46,000	**500,000**	2K
					Sub Total - GoSL	**862,500**	**951,000**	**1,072,000**	**1,038,000**	**1,018,000**	**706,500**	**462,000**	**6,110,000**	
	Total Output 2					**1,789,056**	**2,973,402**	**3,536,920**	**3,370,663**	**2,488,889**	**1,129,290**	**726,412**	**16,014,632**	

	GCF Output 3: Strengthening climate and hydrological observing and forecasting system to enhance water management and adaptive capacity of smallholder farmers to droughts and floods	Ministry of Disaster Management	GCF	71300	Local Consultants	20,000	48,400	86,082	20,000	10,000	-	-	**184,482**	3A
				71200	International Consultants	256,500	256,500	-	-	-	-	-	**513,000**	3B
				71400	Contractual Services - Individ	28,000	56,000	56,000	56,000	56,000	56,000	42,000	**350,000**	3C
				72100	Contractual Services - Companies	50,230	209,909	401,977	501,610	152,213	69,413	40,964	**1,426,315**	3D
				71600	Travel	51,670	51,670	68,893	68,893	68,893	68,893	51,670	**430,583**	3E
				74200	Audio Visual & Print Prod Costs	15,506	20,674	20,674	20,674	20,674	20,674	10,337	**129,215**	3F
				72800	IT Equipments	7,886	10,514	15,772	15,772	7,886	7,886	-	**65,715**	3G
				75700	Training, Workshops and Conference	7,917	28,393	65,852	69,450	52,426	30,906	17,986	**272,931**	3H
				72200	Equipment and Furniture	38,400	91,020	64,080	24,900	16,600	-	-	**235,000**	3I
				61100	Salary Costs - NP Staff	6,063	6,099	6,099	6,404	6,404	6,549	6,869	**44,488**	3J
					Sub Total - GCF	**482,172**	**779,180**	**785,430**	**783,702**	**391,097**	**260,321**	**169,826**	**3,651,729**	
			GoSL	71300	Local Consultants	50,000	58,000	62,000	68,000	60,000	60,000	42,000	**400,000**	3K
				72200	Equipment and Furniture	50,000	50,000	50,000	50,000	50,000	50,000	50,000	**350,000**	3L
					Sub Total - GoSL	**100,000**	**108,000**	**112,000**	**118,000**	**110,000**	**110,000**	**92,000**	**750,000**	
	Total Output 3					**582,172**	**887,180**	**897,430**	**901,702**	**501,097**	**370,321**	**261,826**	**4,401,729**	
	Project Management	Ministry of Mahaweli Development and Environment /UNDP	GCF	71400	Contractual Services - Individ	235,233	235,233	313,645	313,645	313,645	313,645	235,233	**1,960,279**	PM1
				71200	International Consultants	-	-	-	20,350	-	-	34,650	**55,000**	PM2
				71600	Travel	28,571	57,142	57,142	57,142	57,142	57,142	42,857	**357,140**	PM3
				72200	Equipment and Furniture	57,142	35,714	21,428	28,571	-	-	-	**142,856**	PM4
				72500	Supplies	16,428	5,000	10,000	10,000	13,571	10,714	5,714	**71,428**	PM5
				73100	Rental & Maintenance-Premises	13,200	8,800	26,400	17,600	17,600	17,600	8,800	**109,999**	PM6

				74200	Audio Visual & Print Prod Costs	12,857	8,571	25,714	17,143	17,143	17,143	8,571	**107,142**	PM7
				75700	Training, Workshops and Conference	10,673	7,115	21,345	14,230	10,673	10,673	14,230	**88,938**	PM8
				74500	Miscellaneous	8,847	20,643	23,592	23,592	23,591	23,592	23,592	**147,446**	PM9
				64397	Services to Projects-CO staff	57,144	58,775	66,673	67,041	61,811	58,763	73,084	**443,292**	PM10
	Total Proj Mngt					**440,096**	**436,994**	**565,939**	**569,314**	**515,175**	**509,271**	**446,731**	**3,483,520**	
Total Amount						**4,225,379**	**10,470,245**	**11,680,383**	**12,137,023**	**6,786,338**	**4,089,850**	**2,694,783**	**52,084,000**	
Total Amount GCF						**2,867,879**	**8,287,745**	**9,264,383**	**9,594,023**	**4,431,338**	**2,363,850**	**1,274,783**	**38,084,000**	
Total Amount Government co-financing						**1,357,500**	**2,182,500**	**2,416,000**	**2,543,000**	**2,355,000**	**1,726,000**	**1,420,000**	**14,000,000**	

Summary of Funds: [85]:

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Amount Year 5	Amount Year 6	Amount Year 7	Total
GCF	**2,867,879**	**8,287,745**	**9,264,383**	**9,594,023**	**4,431,338**	**2,363,850**	**1,274,783**	**38,084,000**
GOSL	**1,357,500**	**2,182,500**	**2,416,000**	**2,543,000**	**2,355,000**	**1,726,000**	**1,420,000**	**14,000,000**
Total	**4,225,379**	**10,470,245**	**11,680,383**	**12,137,023**	**6,786,338**	**4,089,850**	**2,694,783**	**52,084,000**

Budget notes:

GCF Output 1: Village Irrigation infrastructure and capacities of smallholder farmers strengthened for climate resilient water management and agriculture	
1A	Climate Resilient Irrigation Specialist (at a rate of US$2660/month for 78 months); Water resource management consultants (at a rate of US$2300/month for 78 months); Social mobilization and VIS training consultants (at a rate of US$2309.28/month for 70 months); climate resilient agriculture specialist (at a rate of US$2300/month for 78 months)
1B	Consultant to Train 400 women in value addition, marketing and business development for climate resilient agriculture products
1C	● CSOs (7 in number) to develop multi-stakeholder, climate-risk informed cascade level water resources development and management plans for 50 cascades in target districts (Est $30,000); ● Company to develop technical guidelines for climate-resilient, water management (irrigation and drinking water) and standard operating procedures for water management at cascade level and water allocation based on seasonal forecasts (Est US$ 40,000); ● CSOs (7 in number) to build awareness and mobilize FOs and women's groups to implement and maintain cascade water resources plans and SOPs (for 50 cascades) (Est US$ 33,000); ● Company to conduct training of Trainers (75 District Officials, ASC staff and FO representatives) for climate resilient crop and input solutions based on seasonal forecasting (Est US$ 20,000) ● CSOs (7 in number) to conduct rapid participatory appraisal and mapping of each village irrigation system (VIS) to determine upgrading priorities incorporating CC risks (Est US$ 60,000); ● Companies (6 in number) to develop climate-risk informed, VIS-specific intervention plans linked to cascade water management plans (Est US$ 205,144) ; ● 35 Companies to upgrade and climate-proof 325 village irrigation systems (Est US$ 15,641,121) ; ● CSOs (7 in number) to Develop a multi-year maintenance and financing plan for each VIS (Est US$ 140,000); ● Company to Develop and disseminate (through ASCs) tailored climate resilient agriculture practices & Expert advisory services for Climate Smart Agriculture (Est US$ 180,000); ● CSOs (7 in number) to carry out Targeted implementation of tailored climate resilient agriculture packages through women farmers (Est US$ 1,730,000); ● Company to Train 400 women in value addition, marketing and business development for climate resilient agriculture products (Est US$ 122,648):
1D	● Hiring two vehicles to facilitate transport for consultants and resource persons: One at a rate of US$ 2400 per month for 84 months; second one at a rate of US$ 2400 per month for 41 months
1E	● 77 IT equipment (Computers, including software + virus guards; and communication equipment depending on the requirement) at a rate of US$ 1478 per ASC ● 325 sets of agricultural equipment for Operations and Maintenance of VIS (Grass Cutters, Mammoties, Catties, masonry & carpentry equipment) at a rate of US$ 1404 per farmer organization ● 800 sets of irrigation and agricultural equipment (low cost micro irrigation systems and mammoties, hand sprayers etc.) at a rate of US$ 150 per seed nursery ● 400 sets of equipment for value addition of agricultural products (low cost/low energy dryers, sealers, sterilization equipment, packaging equipment, bottling, labeling etc. depending on the requirement) at a rate of US$ 872.945 per women beneficiaries
1F	Training materials (45% for video production/ 20% for designing / 35% for printing) : ● Designing of training materials (page setting) ● Printing of training materials based on the target groups ● Production of short videos (3-5 min) to be used as training materials

1G	● 7 district level training programme for district stakeholders to plan and implement VIS upgrading and management taking CC risks into account and including financing and business development (US $3000 per programme for resource persons, venue and meals/refreshment and training materials) ● 21 training programmes targeting ASC level officials to plan and implement VIS upgrading and management taking CC risks into account and including financing and business development (US $2500 per programme for resource persons, venue and meals/refreshment and training materials) ● 50 cascade level training programmes for FO officials/ lead farmers to plan and implement VIS upgrading and management taking CC risks into account and including financing and business development (US $930 per programme for resource persons, venue and meals/refreshment and training materials) ● Training of 400 women in value addition, marketing and business development for climate resilient agriculture products (US$ 224.63 per trainee for resource person, training materials, exposure visits, samples etc.)
1H	Technical Inputs of UNDP experts on technical analysis and strategic support for river basin approach, scoping of ToRs; Technical analysis and inputs to implement integrated cascade approach and catchment conservation planning process with communities incorporating environmental conservation and ecological agriculture; Policy analysis and technical support on strategic options for climate resilient agriculture and agronomic practices; Technical Analysis and inputs to action plan for Govt., Cascade committees, ASCs, etc. to replicate VIS/CSA approaches to other river basins; Facilitate dialogue to align VIS and CSA efforts with other initiatives to leverage synergies including aligning CSA/VIS investments with SDGs, INDCs, etc.
1I	Contractual services with FO and small companies for the downstream development work (on average US$ 12,230.77 per tank for 325 tanks)
1J	Travel cost (transport and per diem) for Responsible Parties and Ministry of Agriculture officials for monitoring the project work.
1K	Equipment and furniture (office furniture/laboratory equipment/ photo copiers/ printers etc.) for the DAD, DoA offices
1L	Training programmes to be organized by Staff of the Ministry of Agriculture/Department of Agriculture/ Department of Agrarian Development: ● Training for District/ASC/PC Officers on cascade level WM, O&M and rehabilitation (on average 7 programme per year) ● FO level awareness meeting on tank rehabilitation and cultivation meetings for water management, crop selection, O & M (on average 325 programmes per year) ● AI/ARPA on water management and preparation for cultivation meetings (on average 21 meetings per year)
1M	Production of training and awareness materials; Training materials (20% for designing / 80% for printing) : ● Designing of training materials (page setting) ● Printing of training materials based on the target groups
GCF Output 2: Improved access to safe and reliable drinking water through supply systems able to withstand climate change and variability	

2A	● Consultant to conduct Training of cascade-level water committees and the divisional officers on integrating climate-risks and adaptation options for drinking water access and quality into the sub-basin water resources development planning (Est US$ 50,000); ● Consultant to Develop climate-risk informed, cascade-level water supply source protection plans through water source protection committees (Est US$ 50,000) ● Consultant to Train women-led CBOs in villages to design, develop and maintain rural, climate-resilient drinking water supply schemes (Est US$ 50,000); ● Consultant to Train local masons to construct Ferro-cement rainwater harvesting tanks for domestic purposes (Est US$ 50,000) ● Consultant to conduct Surveys, including water quality testing to site drinking water supply schemes (Est US$ 50,000) ● Consultant to Implement 35 climate-resilient community water supply schemes (Est US$ 50,000); ● Consultant to oversee installation of 125 water treatment and purification systems to existing drinking water intakes to ensure quality and safety (Est US$ 50,000); ● Consultant to oversee Construction of 4,000 household rainwater harvesting units of 5000 liters for women-headed or disability or chronic disease-affected households (Est US$ 50,000); ● Consultant to provide Technical support for water systems design and installation (Est US$ 50,000); ● Consultant to Maintain the systems (Est US$ 94535); ● Consultant to Enhance water quality monitoring and source protection through source protection committees, incorporating CC risks and impacts (Est 30,000)
2B	● CSOs (7 in number) to conduct Training of cascade-level water committees and the divisional officers on integrating climate-risks and adaptation options for drinking water access and quality into the sub-basin water resources development planning (Est US$ 60,000); ● CSOs (7 in number) to Develop climate-risk informed, cascade-level water supply source protection plans through water source protection committees (Est US$ 60,000); ● CSOs (7 in number) to Train women-led CBOs in villages to design, develop and maintain rural, climate-resilient drinking water supply schemes (Est US$ 35,000) ● Company to Train local masons to construct Ferro-cement rainwater harvesting tanks for domestic purposes (Est US$ 30,000); ● Company to conduct Surveys, including water quality testing to site drinking water supply schemes (Est US$ 230,000); ● Companies (7 in number) to Implement 35 climate-resilient community water supply schemes (Est US$ 3,489,259); ● Companies (5 in number) to Install 125 water treatment and purification systems to existing drinking water intakes to ensure quality and safety (Est US$ 1,450,000); ● Companies (7 in number) to Construct 4,000 household rainwater harvesting units of 5000 liters for women-headed or disability or chronic disease-affected households (Est US$ 1,850,000); ● Company to provide Technical support for water systems design and installation (Est US$ 270,000); ● Companies (35 in number) to Maintain the systems (Est 264,359); ● CSOs (7 in number) to enhance water quality monitoring and source protection through source protection committees, incorporating CC risks and impacts (Est US$ 330,000)
2C	Hiring of vehicles to facilitate transport for consultants and resource persons: three double cab vehicles at a rate US$ 2,400 per month for 84 months); hiring of vehicles based on demand on daily basis (US$ 0.66 /km)
2D	● 35 sets of maintenance equipment (Plumbing tool set and spare parts) for community water supply systems (each cost est US$ 6161.14) ● 125 sets of maintenance tools for filtration plants (each cost est US$ 800) ● Maintenance tools and spare parts (gutters, filters) for 4000 RWH tanks (US$ 50,000 at US$ 12.5 per unit)
2E	Training materials (45% for video production/ 20% for designing / 35% for printing) : ● Designing of training materials (page setting) ● Printing of training materials based on the target groups ● Production of short videos (3-5 min) to be used as training materials

2F	● 35 Training programmes for Community water supply committees on maintenance and operations of water supply schemes (US$ 570 per programme for venue and refreshments); ● Two training programmes per district for 7 districts on operations and maintenance of advance filtration systems (US$ 716.57 per programme for venue and refreshment) ● 200 training programmes on maintenance of RWH systems (US$ 100 per programme for refreshments)
2G	Technical Inputs of UNDP experts on technical analysis and strategic support for CBO based approach to drinking water supply, management, and water quality testing and mornitoring, scoping of ToRs; Technical support to develop women centered social enterprises around drinking water provision in drought-affected villages; Policy analysis of options and technical inputs to replicate river basin, cascade level water use planning, source protection, monitoring, and supply approaches for drinking water security to other drought-affected districts; Regular facilitation and dialogue with govt and development partners in aligning drinking water planning with other investments and alignment of results with SDGs, INDCs, etc.
2H	Services provided by the Ministry of Water Supply, NWSDB and DNCWS for project monitoring and implementation; Contractual services for source selection, investigations, designing, water quality testing, monitoring, O&M
2I	Travel (transport and per diem) cost for Ministry of Water Supply, NWSDB, DNCWS for training and monitoring the project work
2J	Conducting training and awareness sessions for district stakeholders on source protection, community water supply schemes; Conducting awareness programmes for the community water supply committees
2K	Production of training and awareness materials; Training materials (20% for designing / 80% for printing) : ● Designing of training materials (page setting) ● Printing of training materials based on the target groups
GCF Output 3:Capacity of Sry Zone farmers strengthened to use weather and climate information for agricultural and water management	
3A	● Consultant to development of advisories for agriculture, including inter-agency working groups (US$ 50,000); ● Consultant to conduct market study to establish potential revenue generating services for agricultural, water management and flood advisories/warnings in the 3 river basins (US$ 84,482); ● Consultant to design and implement SOPs (including Reservoir operation SOPs) at the district to enable coordination of responses to agricultural and water management advisories, between DoM, DAD, DoA, DMC and ID (US$ 50,000)
3B	Consultant to conduct training of trainers using community participatory approach to enhance and disseminate advisories through ASCs; Consultant to conduct training for DOM/DAD/DoA/ID staff - generate satellite-based products; Consultants to develop plans for water management and response based on warnings and advisories
3C	Consultant to co-develop information requirements through ASCs (FOs, DoM, DAD, DoA) including training of trainers to understand and use advisories

3D	● Company to install and operate 50 automated water level sensors to improve the monitoring capabilities of water levels in the 3 river basins (uS$ 95,000); ● Company for development of advisories for agriculture, including inter-agency working groups (US$ 37,000) ● Company to synthesize and broadcast radio and TV shows on agricultural best practices linked to weather and seasonal forecasts (US$ 193,000); ● Company to synthesize and disseminate flood warnings and water related information through mobile and other platform (US$ 60,069); ● Company to develop procedures for combining data collected through the central repository to identify risks using GIS-based tools (US$ 36,000); ● Company to conduct inundation area mapping, including assets, property and services at risk from flooding under different flooding scenarios (US$ 485,000); ● Company to design and implement SOPs (including Reservoir operation SOPs) at the district to enable coordination of responses to agricultural and water management advisories, between DoM, DAD, DoA, DMC and ID (US$ 50,000); ● Company to develop community/FO based response plans for agriculture and water management, including stakeholder meetings at ASCs, which integrate advisories and forecast products, as well as potential changes to climate (US$ 106,246); ● Companies to develop flood response measures for VIS/drinking water systems (DMC, DAD, ID) (US$ 150,000); ● CSOs (7 in numbers) to develop flood preparedness measures to protect assets and agricultural infrastructure in 30 cascades (US$ 214,000)
3E	Transport for inundation area mapping; traveling for the resource persons Travel costs for resource persons (Hiring of two double cab vehicles at a rate US$ 2,400 per month for 84 months); hiring of vehicles based on demand on daily basis (US$ 0.66 /km)
3F	Audio visuals and printing cost for training and communication related products; Synthesize and broadcast radio and TV shows on agricultural best practices linked to weather and seasonal forecasts
3G	50 data loggers for 50 cascades at US$ 114 per unit; 25 Computers and internet data dongles with software & virus guards at US$ 2000 for ID/DAD/DMC/PDOA/MET Departments; 5 Multi-media equipment for ID/DAD/DMC/PDOA/MET Departments at a rate of US$ 2003
3H	● Two Training programmes per district for 7 districts for field officers (DAD, DoA, DoM, ID) on operations & maintenance of equipment (US$ 3857 per programme for resource persons, venue and meals/refreshment and training materials) ● 20 Sensitization workshops per district for 7 districts for communities through FOs and ASCs, for uptake of agro met information and advisories (US$ 307 per programme for venue, refreshments) ● 20 Training and awareness workshops per district for 7 districts for using flood warnings and water related information through mobile and other platform (US$ 642 per programme for venue & refreshments) ● Two Training programmes per district for 7 districts for DOM/DAD/DoA/ID staff to access drought monitoring information (including IWMI) and combine with locally collected drought related information and forecasts (US$ 6148.07 for venue, refreshments, resource persons, and training materials etc.)
3I	5 AgMET stations at a rate of US$ 5,000; 10 automated rain gauges at US$ 2143; 8 stream gauges at US$ 4283.75; Operations and maintenance cost of 5 AgMET for seven years US$ 16,500; 10 automated rain gauges for seven years US$ 18,000; 8 stream gauges for seven years US$ 23,600; 325 water level gauges and rain gauges for VIS (US$ 296 per unit)
3J	Technical Inputs of UNDP experts on technical analysis and strategic support for monitoring systems and climate information for drought, flood and water management, scoping of ToRs; Technical inputs to support co-development of advisories and response measures; Review and technical support on climate change and disaster risk reduction strategies aligned with ongoing policies and programs; Facilitation and dialogue to ensure private sector engagement in the development and dissemination of early warnings and climate information; Policy analysis of options and technical inputs to implement exit strategies for a demand-based provision of climate information; Regular facilitation and support to govt. in aligning CCA/DRR results with INDCs, Sendai framework etc.

3K	Resource persons from Ministry of Disaster Management, DMC, and MET Department to conduct training programmes flood and drought response for agriculture; Convening meetings and workshops; preparedness activities in project targeted districts; staff support for development of tailored weather and climate products such as nowcast, 10 days forecast and seasonal forecast to support the adaptation activities
3L	Equipment and furniture for MDM, DMC and Met Department; operation and maintenance of equipment including Agro met stations and agro met rain gauges
Project management	
PM1	PMU staff consists of 1 National Project Director; 1 Deputy Project Director; 3 Project Coordinators; 1 Social & Env Social safeguard officer , 1 Communications officer; 1 M&E officer, 1 Project accountant, 1 Procurement officer, 1 Procurement Associate; 1 Project engineer, 1 Financial management officer, 1 Finance associate; 3 Technical officers; 1 Project Secretary; 6 Management/financial assistants; 6 Field officers; 2 office aides ; 1 Driver
PM2	International consultants for reviews and evaluations
PM3	Project Management related travel costs (Hiring of one double cab vehicle at a rate US$ 2,400 per month for 84 months, and one van at a rate of US$ 1851.66 per month for 84 months)
PM4	Equipment and furniture for PMU over project lifecycle (e.g., 20 work stations (desk/chair/small shelves); two meeting room tables; 30 conference chairs; 25 Laptop computers; 2 multi-function printers; 1 photo copier; publication displays; 2 routers (500GB); notice boards; Maggi Boards; filing cabinets; 2 LED projectors, computer accessories, including software); 2 water dispensors
PM5	Stationeries and office supplies (toners; printer cartridges; virus guard /software renewal license & others) for Programme Management Unit
PM6	Rental and maintenance costs of Programme management unit office; including minor refurbishment, security and utilities
PM7	Audio visual equipment, communication related printing and production costs; (45% for audio visual production/ 20% for designing / 35% for printing) : ● Designing of promotional and information materials (page setting) ● Printing of promotional and information materials based on the target groups ● Production of short videos (8-10 min) to be used as promotional and information materials
PM8	National level workshops: Inception workshop; planning workshops; Stakeholder orientation workshop; consultation workshops for reviews. Provincial and district workshops: Provincial and district level stakeholder forums; planning workshops; review workshops Meetings: quarterly progress meetings; Project Board Meetings; Steering Committee meetings; Advisory committee meetings; annual progress meetings Training Programmes for PMU staff
PM9	Miscellaneous expenses: Handling charges, shipping expenses, postage, delivery charges, any other minor logistics expenses, Security assessment
PM10	Admin services/support related to finance services, IT services, HR services and procurement services including: a) Finance services - vendor management, payment processing b) IT services -email account management, regular and specialised IT support c) HR services - recruitment and management of service contracts d) Procurement services - procurement of good and services, consultant recruitment, travel arrangements and disposal of equipments

Total Project Financing / Form of Financing (by source):

Component	Outputs	Amount (USD)	Percentage of total project financing	Source/Type*
	Output 1	21,044,120	40%	GCF/Grant

Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management.		7,140,000	14%	GoSL/Grant (both in cash and in kind)
	Output 2	9,904,632	19%	GCF/Grant
		6,110,000	12%	GoSL/Grant (both in cash and in kind)
	Output 3	3,651,729	7%	GCF/Grant
		750,000	1%	GoSL/Grant (both in cash and in kind)
	Project Management	3,483,520	7%	GCF/Grant
Total project financing		**52,084,000**	**100%**	

XI. LEGAL CONTEXT

Additional legal conditions

120. Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

121. By signing this UNDP GCF project document, the Implementing Partner also agrees to the terms and conditions of the GCF Funded Activity Agreement (FAA) included in Annex and to use the GCF funds for the purposes for which they were provided. UNDP has the right to terminate this project should the Implementing Partner breach the terms of the GCF FFA.

Legal Context Standard Clauses

122. This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of (country) and UNDP, signed on (date). All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

123. This project will be implemented by Ministry of Mahaweli Development and Environment ("Implementing Partner") in accordancewith its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

XII. RISK MANAGEMENT

124. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:

a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan.

125. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner's obligations under this Project Document.

126. The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.

127. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

128. The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

129. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

130. The Implementing Partner will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, responsible parties, subcontractors and sub-recipients in implementing the project or using UNDP funds. The Implementing Partner will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

131. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to the Implementing Partner: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. The Implementing Partner agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

132. In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes. The Implementing Partner shall provide its full cooperation, including making available personnel, relevant documentation, and granting access to the Implementing Partner's (and its consultants', responsible parties', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with the Implementing Partner to find a solution.

133. The signatories to this Project Document will promptly inform one another in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

134. Where the Implementing Partner becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, the Implementing Partner will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). The Implementing Partner shall provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

135. UNDP shall be entitled to a refund from the Implementing Partner of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the Implementing Partner under this or any other agreement.

136. Where such funds have not been refunded to UNDP, the Implementing Partner agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to the Implementing Partner for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

Each contract issued by the Implementing Partner in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from the Implementing Partner shall cooperate with any and all investigations and post-payment audits.

Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

The Implementing Partner shall ensure that all of its obligations set forth under this section entitled “Risk Management” are passed on to each responsible party, subcontractor and sub-recipient and that all the clauses under this section entitled “Risk Management Standard Clauses” are included, *mutatis mutandis*, in all sub-contracts or sub-agreements entered into further to this Project Document.

XIII. MANDATORY ANNEXES

Please see separate files.