Environmental and Social Screening Report (ESSR) and Environment and Social Management Plan (ESMP) of Mahanikawewa/ Oymaduwa Cascade in Thanthirimale ASC, Mahavilachchiya DS Division in Anuradhapura District – North Central Province

Climate Smart Irrigated Agriculture Project (CSIAP)

Ministry of Agriculture, Rural Economic Affairs, Irrigation, Fisheries and Aquatic Resources Development




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Abbreviations

AL	Advanced Level
ARAP	Abbreviated Resettlement Action Policy
ARPA	Agriculture Research and Production
ASC	Agrarian Service Centre
BMI	Body Mass Index
CBO	Community Based Organization
CKD	Chronic Kidney Disease
CMC	Cascade Management Committee
CSA	Climate Smart Agriculture
CSIAP	Climate Smart Irrigated Agriculture Project
DAD	Department of Agrarian Development
DSD	Divisional Secretariat Divisions
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FO	Farmer Organization
GAP	Good Agricultural Practices
GBV	Gender Based Violence
GND	Grama Niladhari Division
GOSL	Government of Sri Lanka
GRC	Grievance Redressal Committee
HAS	Hot Spot Areas
ICT	Information and Communication Technology
IEC	Information and Education Campaign
KG	Kilo Gram
KII	Key Informant Interview
KM	Kilo Meter
LDO	Land Development Ordinance

LKR	Lanka Rupee
LOLC	Lank Orient Leasing Company
MOH	Medical Officer of Health
HSAADP	Hot Spot Area Agriculture Development Plan
HS	Hot Spot Area
NCP	North Central Province
PMU	Project Management Unit
NGO	Non-Government Organization
PDA	Provincial Director of Agriculture
PG	Producer Group
SESA	Strategic Environmental and Social Assessment
EIA	Environmental Impact Assessment
SIA	Social Impact Assessment
SA	Social Audit
SCATW	Climate Smart Agriculture "Triple-Wins"
ESMP	Environmental and Social Impact Management Plan
SITHAMU	Sinhala Tamil and Muslim
ESSR	Environmental and Social Screening Report
ESMP	Environmental and Social Management Plan
ToT	Training of Trainers
WB	World Bank
WFO	Women Farmer Organization
WHH	Woman Headed Household
Cum	Cubic Meters

Contents

1. Introduction

Climate Smart Irrigated Agriculture Project (CSIAP) financed by the World Bank, the project development objective (PDO) is to improve the productivity and climate resilience of smallholder agriculture in selected hot-spot areas. Through the following four main components the PDO will be achieved.

Component 1: Agriculture Production and Marketing (US $ 42 million). The objective of this component is to improve agriculture productivity and diversification through the adoption of CSA practices and improved on-farm water management. The component 1 is consisted of following two sub components which are Climate-Smart Agriculture and Water Technology (US $ 21 million) and Marketing (US $ 21 million).

Component 2: Water for Agriculture (US $ 92 million). The objective of this component is to facilitate (a) planning for water and other infrastructure necessary to support climate-resilient irrigated agriculture, (b) construction of the planned infrastructure and (c) co-management of this infrastructure by central/provincial governments and the local community. The component 2 is consisted of following two sub components which are Rehabilitation of Irrigation Systems (US $ 86 million) and Operation and Maintenance of Irrigation Systems (US $ 6 million).

Component 3: Project Management (US $ 6 million).The objective of this component is to ensure the quality of overall project management while ensuring smooth coordination of activity implementation by various agencies and strategic partners at national and sub national levels.

Component 4: Contingent Emergency Response (US $ 0.0 million). This emergency response component will allow for rapid allocation of project proceeds in the event of natural disaster

or crisis that has caused or is likely to imminently cause major adverse economic and or social impacts.

The project will be financed through the sis year investment project financing (IPF) credit. The total project cost is US $ 140 million and will be funded by an IDA transitional credit of US $ 125 million, with the GoSL contribution US $ 10 million and US $ 5 million expected from beneficiaries contribution.

CSIAP targets a wide area in the dry zone which is identified as 11 Hot-Spot Areas (Districts) within 6 Provinces. The project intends to cover the districts of Anuradhapura, Polonnaruwa, Hambantota, Kilinochchi, Kurunegala, Monaragala, Mullthivu, Puttlam, Trincomalee, Baticoloa and Ampara. In other words, it covers the selected districts of Northern, Eastern, North Western, North Central, Uva and Southern Provinces. These Hotspots fall in 34 Divisional Secretariat Divisions (DSDs), 47 ASCs. Project aims to implement in a vital area covering 17 water sheds, 122 cascades, 1089 water tanks covering a total project area of over 280,000 ha.

The first phase (2018–2021) covers three Hot-Spot Areas (Anuradhapura, Kurunegala and Kilinochchi districts), whereas the second (2020–2022) and third (2022–2024) stages will cover the balance eight districts.

1.1 Brief Location Summary of the Subproject

Province of the Subproject	: North Central Province
District of the Subproject	: Anuradhapura
Divisional Secretariat Division of the Subproject	: Mahawilachchiya
Agrarian Service Centre of the Subproject	: Thantirimayala
ARPA of the Subproject	: 358, Meda Oyamaduwa wewa
GN Division of the subproject area	: 358, Oyamaduwa

Name of the Casecade : Oyamaduwa (Manikkawewa)

This cascade includes nearly six tanks and the details are given bellow:

No	Tank Name
1	Ihala Oyamaduwa wewa
2	Meda Oyamaduwa also called as Kuda oyamaduwa wewa)
3	Oyamaduwa wewa
4	Kuda karapincha wewa
5	Maha nika wewa
6	Kuda nika wewa

1.2 Information of the Selected tank (Meda Oyamaduwa)

The Meda Oyamaduwa tank is part of the Mahanikkawewa cascade. In the upstream area Ihala Oyamaduwa wewa and in the downstream Phala Oyamaduwa wewa are located. The Meda Oyamaduwa tank is located along the Anuradapura Elayapatthuwa road, when reach to Meddaoyamaduwa junction turn right & proceed to the gravel road and travel up to 2km to reach the tank.

General community profile of the Oyamaduwa GND

Name of the GND	Covering Villages	Total Number of Families	Total Number of Population		Total Number of Farm Families	Total Number of Woman Headed Farm Families
			Male	Female		
GND No: 358 Oyamaduwa GND	Mahanikkawewa	82	142	125	Data to be collected. 120 farm families at the	
	Oyamaduwa	357	537	540		
	Perunkulama	62	99	108		
	Maningamuwa Junction	92	111	129		

	Ihala Puliyangulama	30	73	78	Oyamadu wa Village	
	Total	**623**	**962**	**980**		**130**

Source: Resource Map, Mahawilachchiya DSD, 2018

Woman population is higher than the male population in all the villages of the oyamaduwa GND except Mahanikka wewa village.

Total number of the families of the Oyamaduwa/ Mahanikkawewa cascade is 623 out of which 130 are women headed families. Even though there are six tanks in this cascade, at present only Medaoyamaduwa tank will be rehabilitated. Approximately 120 families will directly benefit from the Meda Oyamaduwa tank. Main cultivation in the Maha season is paddy with an average area of 3 and ¼ acre per farm family. Out of the 120 farm families who will directly benefit from the rehabilitation of the Medaoyamaduwa tank approximately 76 farm families are involved in paddy cultivation in Maha season. Approximately 10 families are involving in fishing activities based in the Meda Oyamaduwa Tank. Farmers engaged in Cattle farming and Paddy cultivation in the downstream of the Meda Oyamaduwa tank. But fishing is somewhat unpredictable due to climate change. Also balance families involve in the daily wage labor activity within the village as well as outside of the village.

The tank is infested with the invasive Salveniya plant. During the field visit, it was found that the tank is silted. Dead Salveniya plant matter and mud from the surface runoff has **contributed** for the silt accumulate. There will be some shrubs cleaning during the rehabilitation of tank. Removal of 10000cum of soil is estimated (Tank Estimate)

Farmers from the Ihala Oyamaduwa tank have encorached the forest around the Meda Oyamaduwa tank. In the Gasgommana area

Chana cultivation is practiced. These have been observed during the field visit. In this picture, Tank bed is infested with Salveniya.

Source: Field Visit, August - 2019

The Kattakaduwa area of the Meda Oyamaduwa Tank is about 675 m in length and about 10m in width and needs to be restored with salinity absorbing grass and trees. Farmers suggests to restore the katakaduwa area with Mee trees (*Mashuca longifolia*) and semi aquatic reeds and sedges such as Pan and other shady trees that can generate additional income for the farmers. Also it will create a micro climatic condition favourable in the area.

Even though the farmers understand the importance of Kattakaduwa sub ecosystem in the tank, they continue to burn the area by setting fire during the dry season and use this area for cultivation during the Maha season which is an environmentally unfriendly farming practice. Kattakaduwa is absent in this picture which is taken during the field visit.

(Source: Field Visit, August – 2019)

1.3 Status of the documents and estimated cost

The subproject estimate is prepared by the Department of Agrarian Development, North Central Province. This sub project will be awarded The cost of the stank rehabilitation is estimated as Rs. 10,276,500.00. It will be implemented by the above said department and the subproject will be monitored by the Provincial Deputy Project Directors Office (PDPDO) North Central Province.

The proposed rehabilitation work is expected to start around 15/11/2019. The agreed period of completion is 30 weeks from commencement, and the completion date of the tank rehabilitation is expected to be around 08th of January 2020. But due to the heavy rainy

season, construction work is not started yet. Tender awarded to contractor. Construction works will be start during the Yala season.

2. Subproject Description

2.1 Subproject Description and Objective of the Subproject Objective

The main objective of the sub project is to increase the capacity of the tank by de-silting and rehabilitation in order to.

- Increase the production and productivity of the farm lands.
- Provide the water access to the livestock.
- Improve fishing activities.
- Ensure the food security and increase the level of nutrition in this community.
- Reduce the poverty level.
- Introduce the CSA practices.
- Improve the micro climatic condition of the tank by restoration of tank eco system.

2.2 Proposed Rehabilitation interventions in the Oyamaduwa Tank

a. Improvement of tank bund
b. Repairs of sluice
c. Constructions of spills extensions
d. De-silting of the tank bed

Refer Annex 1: Activity Plan for Meda Oyamaduwa Tank in Oyamaduwa Cascade

2.2.1 Improvement of tank bund

During the field visit it was observed that the leak on the tank bund and also a part of the tank bund is eroded, light jungle growth and termite nests in the tank bund. Tank bund erosion and leakage are risk factors for the stability of the dam. therefore Tank bund

improvements are proposed with removal of Termite nests, Light jungle clearing, Graveling, compaction of tank bund and Turfing are proposed (Estimate of DAD).

Source: Field Visit, August, 2019

2.2.2 Repair the sluice gate and the spill

Sluice is in a dilapidated condition. The farmers requested the sluice to be repaired so that, the water in the tank can be managed better for paddy cultivation and other livelihoods activities.

Source: Field Visit, August - 2019

2.2.3 Construction of spill extension

The construction of spill extensions will protect the tank during high rainfall periods as the existing length is considered inadequate. There is no any tree removal or jungle cleaning observed. Spill extension is proposed but no spill raise is proposed. Current Spill length is 72 ft and proposed to extend the spill up to 90 ft by the DAD.

2.2.4 De-silting of Tank bed

This tank is a typical minor tank that the dry zone is scattered with. These minor tanks typically undergo high water level fluctuations, sometimes even going dry completely just prior to the monsoon season. Tank is infested with Salveniya and is silted Fish species recorded are presented in section 4.2.3. The fauna and flora in the tank are generally adapted to high water fluctuations and helps the ecosystem to control invasives and rejuvenate during the monsoon season. The presence of Salvinia is indicative of the anthropological influence over the cascade. Even though desilting will cause some damage to the tank fauna and flora, the system will rejuvenate as spill water from tanks in the upper cascade will help replenish the tank ecosystem, as has been documented in many of such minor tank rehabilitations. As such, no detail faunal or floral surveys were undertaken.

De silting of the tank by machinary is proposed .Removal of 10000 cum of soil from the tank bed is proposed (Medaoyamaduwa tank estimate) Soil test data is not available to determine the de-silting depth. Department of Agrarien services Anuradapura will conduct the soil sampling for the tank before rehabilitation work.

Source: Field Visit, August - 2019

2.3 Subproject Justification and Alternative Analysis

The subproject is designed considering the significant correlation between poverty and access to irrigation water on which the farming community is dependent for their livelihood. An already erratic weather pattern worsened by climate change combine to make the village irrigation source increasingly more vulnerable than in the past that could possibly breach the irrigation infrastructures in the connected small tanks in the cascade because they have not been designed for extreme weather conditions. Furthermore, the people's adaptations which were appropriate in the past and the characteristically short-term responses to the

opportunities in the market require to be managed in line with climate resilient practices. For example, production areas and settlements have expanded into the catchment areas where agro-wells have been constructed leading to soil erosion and unsustainable systems.

The subproject aims to address the issues related to irrigation efficiency, availability of irrigation water for diversified agriculture with high productivity in yala, and cascade management. In the dry season people face many difficulties for continued cultivation due to acute shortage of irrigation water and access to drinking water.

The irrigation infrastructures are already in place and functional, and the main canal has been rehabilitated recently. The planned activities are for upstream rehabilitation not involving any physical displacement or economic displacement of the populations downstream. There is no need for considering alternative designs to minimize adverse impacts as these are considered essential rehabilitation.

Also, the Manikkawewa/ Oyamaduwa cascades are not covered by any other ongoing projects. Furthermore, in addition to CSIAP, Mahaweli Watershed Improvement Project also covered some other watersheds but not this cascade. Tanks in Oyamaduwa dry up during Yala season so that farmers have to find outside jobs to make a living. Other watersheds use rainwater from the onset of Maha season which enables them to save water stored in tanks which is not practiced in this cascade.

In water shortage seasons, farmers cultivate black gram in paddy fields. Farmers in Oyamaduwa similar to those of Thanthirimale and Parasangaswewa use 5000L plastic tanks for rain water harvesting and use harvested water for home gardening. Cultivation of 2 ½ months old varieties during periods of water shortage is another climate resistant strategy used in this area.

Occasionally, farmers use micro-irrigation also for optimizing water use when it is scarce. They produce rice seed for Maha season, and receive high income due to higher prices received for seed. In Oyamaduwa area, farmers cultivate pumpkin during Maha season properly, but immediately before the onset of rains. They use coconut shells as seedling pots

to make seedling survive until rain comes. Although soil conservation measures help moisture recharging of lands, adoption of soil conservation practices is inadequate.

Some farmers in Anuradhapura District use Good Agricultural Practices to receive better prices at local markets (Local GAP). GAP certificate given by DOA includes additional value criteria such as maintenance of labour welfare as the certificate is oriented to meet export standards. Therefore, production for Local GAP market has been organized with a certificate issued by a team nominated by local Producer Group (PG). Farmers are organized into group of 4-5 local GAP farmers, and the certificate is issued to the whole group. If one member of the group fails to meet the standard required to receive certification, the certificate is not issued to the whole group. These practices are not taken forward by the farmers of Oyamaduwa cascade.

Deputy Project Director of NCP - CSIAP, told that there are commercial livestock farms at Oyamaduwa area and farmers have good quality cows that give about 7.5 L/day. Milk marketing is well organized as Milco Company has collecting points. In years with climate hazards, farmers sell animals and the consequent cash income ensures food security. Therefore, incorporation of crop-livestock integration strategies into action plans of the project is important. Oyamaduwa has lot of commercial pumpkin farms. As climate resilient strategies in drought, they use coconut shells as seedling pots and use coconut shells in hand watering to save water.

In Oyamaduwa catchment, there are about 180 agro-wells but only about 80 is functioning properly. The balance 100 wells are affected by salinity. The provincial project office has already initiated arrangements to test quality of irrigation water at the Field Crops Research and Development Institute Maha-Illuppallama.

Lack of flexibility in cropping calendar is a major problem faced by farmers in Oyamaduwa at present. If tanks are renovated, the number of properly functioning agro-wells would increase, and highland cultivation could be enhanced. This would also provide flexibility of

cropping calendar. In these cascades farmers grow pumpkin. They received very low prices at the initial months of this year, and some farmers found it very difficult to sell their produce. Even with the support of government programmes, low prices continued for more than a month.

Therefore, improvement of marketing is necessary to reduce price risks. Crop diversification, arrangement of forward contracts, support for processing, and financial support for storage can be considered as suitable support measures. Inclusion of farmers in a crop insurance scheme that is coupled with better crop and price forecasting would facilitate marketing arrangements. An improved crop forecast of the area at the growing stage would enlighten purchasing parties for preplanning to tackle glut situation.

A discussion with farmer community of Oyamaduwa Cascade was held in which 15 participants including 5 females. These participants are from Oyamaduwa area. According to the discussion, the farmers pointed out that the majority people living in the area depends on agriculture for their survival. During Maha season they are cultivating paddy in their paddy fields and other field crops within the home gardens.

Most of them are used to Chena cultivation during Yala season. During our field missions during mid-September, we observed that majority of the farmers were not present as they were engaged in Chana cultivation with their family members including children and they only arrive back to their homes in the evenings. This practice though for a short period of time do have an impact on children's education.

Major views and concerns expressed by the farmers are given below:

- They highlighted that traditionally they are used to do agriculture cultivating during both Yala and Maha seasons but during the last 6 years the rainfall were extremely limited. Therefore they are cultivating in Maha season, not the Yala season at present. Also, they are doing the Chena cultivation too. -

- They confirmed that the Divisional Secretariat, Agrarian Development Department and Irrigation Department and some projects have undertaken rehabilitation and reconstruction of tanks in their area from time to time. However, they believe the outcome and the impact of these rehabilitation works have not brought the anticipated results by the farming community. They strongly believe the only real objective that has met from these development works is the fulfilment of political agendas. Even though the farmers have repeatedly requested the need for rehabilitation of bunds and de-siltation of tank beds, these requirements are not being attended to. Also farmers from the Oyamaduwa area do not have trust on government officials. They pointed out that, field officers dont come and observe the paddy land during the drought season. Many times they have been informed, but they are not willing to visit the farm lands even if we want to take one signature, we have to spend a lot of time to get it. They are not doing their work in responsible manner likewise people blamed the government officers in these areas. While this is a risk factor to the project, operational processes that will ensure community inclusiveness will ensure the project interventions meet the local demands.

- Distribution canals and Anicuts in the tanks of this cascade are not being rehabilitated for a long spell and they are in very poor condition at present. Mahanikawewa main canal was rehabilitated recently but field canals are in very poor condition and the anicut is at a location which is too low and hence many paddy fields in some areas do not receive water adequately.

- Farmers are extremely concerned about the elephant fence and they also complained that their previously cultivated lands are being annexed into protected areas. In some tanks they are not allowed to do fishing or even bathing.

Farmer community in Oyamaduwa Cascade has extensive experience in agriculture based activities as well as they are knowledgeable about the climatic conditions and irrigation

systems including the tanks. Therefore, the farmers request CSIAP to take the views and concerns of the farmer community in determining the rehabilitation and reconstruction work. Mahanikawewa canal system should be restructured and rehabilitated in consultation with Farmer Organization of the area. At the same time, hillocks in the area of Mahanikawewa should be levelled in order to improve the command area.

2.4 Project Alternative Considered

Medaoyamaduwa tank rehabilitation is a solution that contributes to increase the water use efficiency of an existing scheme, therefore no alternatives to provide the expected results of this rehabilitation of physical infrastructure. Increase of water retention capacity will lead to facilitate agriculture but the tank command area increase will not be possible. Introduction of new climate smart agriculture practices will be facilitating the villages for better land use practices and improve their livelihood.

3. Social impacts of the proposed sub project/ Corridor of Impacts

The identified land for rehabilitation works belongs to the government. The command area is below the tank that is used for paddy cultivation in Maha. The settlement area is away from the site and their properties and structures are not affected. The dam, however, is used as a road.

The community can be described as a 'spontaneous' settlement. Meda Oyamaduwa remained farmland cultivated by the villagers of Oyamaduwa. The settlement came into being in 1985 when three families arrived from Pavatkulam, Vavuniya and settled themselves settled in the meda oyamaduwa village.Subsequently, six more families arrived.

The land ownership pattern is characterized by the presence of non-titleholders who possess permits issued by the DS that is annually renewed and squatters without any such permit. In total, there are 76 permit holders. Size of paddy landholding is ranges from 2 to 4 acres.

There are no indigenous people in the project impact area. There are no development projects being implemented in the project area. The project area is not a popular area where outsiders visit frequently. Sometimes unwelcome people visit the village. Reported social problems include teenage pregnancy, school dropouts, child marriages, marriage breakup, drug abuse including alcohol and other substance use.

There is no land acquisition observed because these are permit lands and no loss of livelihoods observed if the works are completed during the dry/off season.

3.1 Gender Issues

There are 16 women-headed families and 22 families who are below the official poverty line who receive Samurdhi assistance in Medaoyamaduwa Village but the total number of women headed families are 130 in the Oyamaduwa GND.

Women are engaged in agriculture – in family farms, homesteads and in farms that belong to other people. The activities in which women are involved include land clearing, land tilling, planting, weeding, fertilizer application, harvesting, food processing, and livestock management. Women have an increased workload in the diversified high land agriculture sector, including irrigating from wells.

Wages paid to women are less in comparison to that of men. Further, women paddy farmers are disadvantaged by the lack of access to timely information on rice varieties, post-harvest operations, water management and, training and technical skills. Sometimes they are overlooked or unable to participate in extension training due the inappropriate scheduling. Women who perform the role of head of household are often unable to access most services or, create market linkages to sell their produce.

Despite being paddy landowners and farmers, women are not included in the key positions of the Farmer Organizations (FO) which are male dominated. Thus, opportunities for women to take part in decision making are less.

In many households the males are either employed in the civil defence force, army or work outside the village. Women must take responsibility for most household tasks; majority women tend to cook one meal of rice and curry a day for breakfast and lunch.

3.2 Social Capital

There are several community-based organizations. Among them are: Farmer Organization, Women Farmer Organization, Funeral Aid Society, Temple Society, and Rural Development Society. Private leasing companies such as LOLC has organized micro-credit groups to whom it sells consumables on lease.

3.3 Land Acquisition

The technical footprint for Meda Oyamaduwa tank rehabilitation covers existing irrigation infrastructure at head works which does not involve land acquisition. -During the consultations the beneficiaries indicated willingness to donate land or relinquish land use rights, if required. So far, there is no such requirement for land donation due to the interventions.

3.4 Social Impacts (Positive Impacts)

The rehabilitated irrigation infrastructure with capability to withstand extreme weather conditions will assure safety of the system over the long term. This subproject will benefit the local population of the area, especially the farming community in many ways. Once the project is complete, benefits will start to flow almost immediately with the onset of rain and the long term through enhanced resilience.

Productivity increase will result from high irrigation efficiency on the one hand and expanded area under cultivation as well as diversification and value addition. 6 years ago, only 10 acres cultivated during yala where each farmer cultivate ¼ acre. This extent and the number of farmers will increase as the tank with enhance capacity holds more water that will be managed efficiently. This will improve the economic condition of the people. Tank rehabilitation expect to increase the water retention capacity thus can expect to improve

cultivation in Yala season also. At present the project is going to rehabilitate the Meda Oyamaduwa Tank at the Manahnikkawewa cascade. Reset of the tank will be rehabilitated later.

Agricultural development in individual landholdings will be testimony to obtain permits from the government for the squatter farmers with no permits. This will enable the officers to grant them land ownership in future that will definitely improve their social status.

The benefits will accrue across different groups that include a spontaneous voluntarily resettled community of relatively recent origin and an old village in the neighbourhood that has paddy lands in the command area of the rehabilitated tank.

The two communities interacting with each other, government officers and contractors in the process of jointly conducting social auditing, participating in irrigation water management, training and extension, business development and marketing will reap benefits in the form of valuing working together despite differences along with increased knowledge and awareness.

Women farmers, the women-headed households will be included in the project implementation and irrigation management process. The completed subproject will enhance the ground water level and soil moisture that will contribute to diversified agriculture and home-gardens where women play a major role. They would now be exposed to good agricultural practices, climate smart technologies and nutrition thus contributing to their economic empowerment leading to better lifestyle, status and confidence building as well as family wellbeing.

Boosted up village economy in combination with exposure to training on business development would attract many a youth to 'do business' commuting between village and town instead of moving out to join the low ranks in urban economy. Overall, the completed project will bring about poverty reduction, inclusive development and shared prosperity.

3.5 Social Impacts (Negative Impacts)

Though the sub project will contribute to bring substantial social and economic benefits in the area there are some negative impacts as well, most of which are temporary. The people who use the bund road to move back and forth will experience restricted access for a short period of time which will last only 2-3 months. Aside this problem, minor labor influx issues could be anticipated, because approximately 7 skilled and 20 unskilled labourers are required. Furthermore, given the remoteness of the area which is less served with transport facilities there is a chance to set up a labour camp in the village. At least some workers may stay as tenants of village households. The construction site is not within the residential area since nearly all families are 750m to 1km away from the construction site. Hence households will not be impacted from dust and noise from construction works. However, those who use the bund road for travel will experience impacts from construction related dust and noise. All construction work should be carried out during the dry season and the Yala season, so that the farmers will not have to forgo the cultivation season (i.e. Maha) resulting in livelihood impacts. Therefore, the construction has to be completed between January to September months.

Environmental Characteristics

3.6 Physical Features

3.6.1 Topography and Terrain

Meda Oyamaduwa Tank is located in dry zone low country of Sri Lanka and DL 1 (Dry Zone 1 Agro ecological zones. Generally project site is undulating terrain with gentle slope. The Elevation of Project site is around 95-100 AMSL Above means sea . With the people in migrating to these areas in 1985, the land has already been cleared for agriculture purpose

3.6.2 Climate

Project site falls in to DL 1 Agro Ecological Zone in Amuradhapura district. District temperature show slight elevation over the year and generally warm throughout the year

average temperature is about 27.3 C. Two dry seasons exists in Project area, Longer dry season is May to September and other dry season in January to March.

Generally, rain fall distribution pattern is bimodal. The main rainy season called "Maha" rains spread over about 3 months starting form late September or early October. The "Maha" rain contributes to 66 % of average rain fall. Other rainy season called "Yala" is experienced around April and lasts for about 2 months. Project site falls under DL1 and received annual rain fall of which 75 % of Expectancy value of annual rain fall is >900 mm..

3.6.3 Soil Type and Quality

Two main soil types can be identified in the project area ie Reddish Brown Earth and low Humic gley soils. Non Calcic Brown and regossols as well as alluvial soil can be found in some places. The Depth of the Soil can be is moderately shallow

3.6.4 Surface Water

Meda oayamaduwa tank is located in middle of the Oyamaduwa cascade and Ihala Oyamaduwa is feeding the medaoaymduwa subcatchment and spill water and drainage water flows to the Maha Oyamaduwa Tank. This tank 'water is mainly used by 76 farm families residing in Medaoayamadwa village for Irrigation bathing fishing and washing activities Command are is about 31 ha paddy land. .

3.6.5 Ground water

Ground water level in the vicinity is highly depending on the tank water level, The monsoonal rain replenishes the depleted tank water level and ground water level to a substantial level. .

Most of the villages have their own wells according to the information received by the President of the farmer organization Medaoyamaduwa. According to this villager, the wells retain at least 3-4 feet of water during the dry season which provides the community with basic needs.

3.6.6 Flooding

The sub catchment area is presumably not subjected any flooding under regular seasonal monsoon precipitation except for extreme event, 2 flooding events were recorded in 2012 and

2014 in past 10 years duration Maximum flood level experienced in 300mm above the spill crest

3.6.7 Air quality

Major air pollution sources within the 100 m radius of the project site are not recorded. Occasionally ash particles from both burning the of paddy straw after the harvesting and burning of land for Chena cultivation that is carried by the wind may be locally present. It is not scenario to be even reckoned as an issue. In terms of air quality data is not availed for the project area.

Since the project located in rural area air quality is deemed to be within the limits of National Ambient Air quality Standards.

3.7 Ecological Features

3.7.1 Vegetation in the area

Both aquatic and terrestrial habitats are found in surrounding areas of the tanks in the cascade. Olu (Nymphaea Sp.) are found in the tank bed. Oyamaduwa Tank cascade area consist with trees common to the dry zone area. Trees found in the immediate vicinity of the tank area consist with trees such as Tamarind (*Tamarindus indica*), Neem tree (*Azadirachta indica)*, Singhala name Palu tree (*Manilkara hexandra)*, Woodapple tree (*Limonia acidissima*) .

There are about 3 trees in the sides of the Tank bud that may have a risk of getting damaged due to the bund rehabilitation. Those are Tamarind (*Tamarindus indica*), Palu tree (*Manilkara hexandra.*

Conserved or nationally protected habitats or highly environmentally sensitive areas have not been recorded within the cascade. The main semi aquatic ecosystem of the area seems to be the paddy land in the downstream. Weedy shrubs, herbs and thorny bushes are distributed in the tank bund.

Invasive species found in the tanks of the cascade are Salvinia (*Salvinia molesta*), Japan Jabara (*Eichhornia rassipes).* Olu (*Nymphaea pubescens*) are other aquatic species inhabited in the tanks. In the Meda Oyamaduwa tank invasive Salvinia (*Salvinia molesta*) plants are observed.

3.7.2 Presence of wetlands

There were no any natural wet lands identified in the area other than the Tanks in the cascadeand the paddy fields that are fed from tank water. During the dry spell inside the tank Madakaluwa muddy.This area with some amount of water that creates a wet micro climate for common aquatic species.

3.7.3 Fish and wildlife habitats

The tank consists with common fish species such as Weligouva (Glossogobius giuris), Mada kanaya (Channa punctata), Hirikanaya (Labio dussumieri), Anda (Anguilla bicolor bicolor), Ankutta (Mystus vittatus), Lula (Channa striata). Fish community of the tank is maintain as the regularly migration of fish to the tank from Villachchiya tank when spill during the Maha season. Two species of exotic fish, Tillapia (Oreochromis mossambicus and Oreochromis niloticus) have been introduced to the tank for commercial fishing.

Black palm civet cat (Paradoxurus hemaphroditusi), Indian wild pig (Susscrofa cristatus), Kangaroo Rat (Tatera india), Black napped hare (Lepus nigricollis), Palm squirrel (Funambulus palmarum), Giant squirrel (Ratufa macroura) and Toque monkey (Macaca Sinica) are the mammals recorded by the wild life office that can be observed in the area. No threatened or endemic flora species were recorded during the study.

Wildlife and forest reserves are not present in the immediate vicinity of the project-affected area. Wilpattuwa National Park is located 15-20 km, away from the project site. Elephant roaming is common scenario in the area . During the dry season (August, September, October) wild elephants move from Wilpattuwa area to villages within the cascade .

As per the assessment above, the species assemblage observed in the project impacted area comprise of mostly common species with few endemic species. According to interview held

with the wildlife officer in charge of the area, so far no reports on any critical species or habitats in the project affected area have been recorded.

3.7.4 Birds

Detailed faunal assessments were not undertaken, however, the team has collected information from local sources such as community and the local wildlife office which indicate that there are no special faunal habitats observed or recorded in the area.

The avifaunal diversity of the tank and the surrounding is observed to be consisting of common aquatic birds such as Egrets ,Commorant that show a wide distribution in Sri Lanka. The tanks are generally good habitats for wetlands birds, however, there are no records of migratory bird habitats as these areas have not been subjected to detail study and the team visited the site in the off season. According to the wild life officer migratory birds present in the project affected area will not settle in the area when the water level depletes in the tank during the dry spell. However, any damage to habitat is considered temporary as after post rehabilitation the tank surrounds will rejuvenate – which might be beneficial ecologically with better water retention and enhanced soil moisture.

There are no named special habitats within the proposed project area that are either designated as protected areas or identified as critical habitats.

Environmental, Socio-Economic Factors

3.8 Landownership Patterns

Oyamaduwa cascade propose Sub Project site Meda Oyamaduwa Tank ownership is with the Department of Agrarian Development. The people are living in the permit land/ land license holders. They are still not given deeds for land.

3.9 Residential/Sensitive Areas

Villages are settled in the area during the war period in 1985. They deforested and resettled in this village. The area is not recorded as situated in Sensitive area. The Cascade system's forest

cover is been encroached due to that situation people have destroyed the forest. There will not be any negative impact to the encroached settlements from the construction activity as there is a considerable distance between the settlements and the tank site. There are no sensitive area identified within the zone of direct impact (nearest school temple, hospital which are 3km away from the residents) however 2 household are within 750m radius from the construction site and the rest of them are 1 km away from the tank construction area)

3.10 Archeological resources

Archaeological resources in the proposed project site are not recorded. But the tank is having a boo tree (*Ficus riligiosa*) and a Buddhist Statue in the side of the spill way which was made by the villages. Aaccording to the information received by the Villachchiya Archaeological officer some Archeologically important ruins found outside the Meda Oyamaduwa Tank bund,therefore Tank construction also have to be done with the supervision of the department of Archaeology.

Also the Medaoyamaduwa tank is not listed under world heritage site or as an Archaeological important tank according to the information received by the Villachchiya land officer of the Provincial Land Commissioners Department.

3.11 Cultural activities

The majority of the villages are Buddhist but they have made this statue in the tank bund. The statue is made from cement near a huge tree. Villages practice a tradition of offerings harvest to the God call "Ganadevi" this statue is present in the Tank bund for that purpose. "Aluth Saha Mangalya " tradition is the name given to this cultural activity.

Traditional economic activities such as paddy and subsistence fishing, livestock farming are carried out by the villagers. Details of these activities are provided under the social baseline.

Environmental Impacts

Based on the Screening and consultation with local communities and relevant stakeholders it is indicated that all the potential adverse effects can be classified as general construction related impacts and can be mitigated on site with proper construction management interventions. These potential impacts are temporary in nature. It is recommended to start the project work in the off-season for paddy cultivation and avoid night time work. Public concern does not warrant further assessment. Therefore, as per the EAMF prepared for the CSIAP, a stand-alone Environmental Assessment is not required, Implementation of the Environmental Management Plan is sufficient to mitigate the identified impacts. No tree removal is proposed in the tank or tank bed in the proposal.

3.12 Burrowing for material

All the potential borrows sites need sound managements to avoid or minimize pollution potential and best practices for managing sites will be adopted. All the other borrow areas will be accepted for material exploitation only if proper approvals from the relevant authorities are obtained. Borrow site in the tank bed must be utilized with a proper rehabilitation and safety plan for the protection of fauna inhabiting the area. Anuradappura Provincila Agrarien Services Department is the responsible authority to provide the approved Burrow sites for the contractor. The Department informed that after the soil test of the tank and the Tank bund, burrow areas will be decided and informed to the contractor.

3.13 Managing Soil Erosion

Soil erosion during the rehabilitation activity is expected with stripping off vegetation in the Tank bund stripping of topsoil, etc. This is likely to increase the turbidity of water slightly but there will be hardly any impact on downstream users or those who use the tank for bathing purposes. The tank dries out considerably during the dry season and as such it naturally

becomes unavailable for bathing. Downstream users of water are the paddy farmers of the Medaoyamaduwa tank and there are no other socio-economic uses of the canal water. Hence the slight increase of water turbidity will have no adverse impact. Tank Bund turfing is proposed in the estimate to stop bund erosion. The Canal system of the tank need renovation but not estimated for the recent tank rehabilitation programme.

3.14 Temporary loss of access

Work on the tank bund will cause temporary disruptions to the communities' travel routes though the risks are low. The Tank bund is used as a road to reach Tanthirimalee Town, but during construction period Ihala Oyamaduwa route is available as an alternative way for the villages. Therefore, disturbance to the community in terms of loss of access will be minimized.

3.15 Risks and vulnerabilities to public safety

The risks and vulnerabilities to public due to construction activities can be expected during the use of access when civil works undertaken. People can use the alternative road during the construction period. As such, safety risks to the public are considered to be low since the construction activities only involve rehabilitation-related works and is sited away from the villages.

The area is consisting with Human Elephant Conflict. Wild elephant may start roaming after dusk, therefore workers need to education on this not to work out side during the risk times of the day.

3.16 Impact at operational stage

Upon completion of the rehabilitation interventions, the outcomes are expected to be positive with increased water productivity which will benefit all the users and reduce soil erosion. The proper demarcation of boundaries and buffers will help enhance the ecology in the area.
Tank rehabilitation will enhance the water retention capacity and thus help increase the fish population. Fishing community will be benefitted. Wetland ecosystem will improve.

Objectives of the ESMP

The objective of the Environmental and Social Management Plan (ESMP) for the Rehabilitation of Meda Oyamaduwa Tank is to have a site specific and well documented set of mitigation, monitoring and institutional actions to be taken before and during implementation of the project. These measures seek to address adverse environmental and social impacts, offset them or reduce them to acceptable levels. In addition, the ESMP also includes measures needed to implement these actions, addressing the adequacy of the monitoring and institutional arrangements for the upper and lower watersheds in the intervention site.

Social Mitigation Measures

Since the civil construction works will be carried out using proper construction practices and within the boundaries of the upstream irrigation system that is currently in use for the same purpose there will be no adverse impacts on the properties, residential and other structures of the community located at a distance from the site. However, there will be some temporary impacts due to the project implementation in respect of which mitigation measures are proposed.

All construction works will be completed during the Yala season to ensure minimum impacts to the community. The bund rehabilitation works will be undertaken in sections and keeping a section always open for continued usage to minimize road access disturbances however alternative route is available through the ihala Oyamaduwa Wewa, as stated earlier. People indicated that the bund is in use during the land preparation and harvesting stage when tractors, lorries and machinery are needed. Thus, scheduling work for Yala is the best option.

The contractor will be required to employ an environmental and social officer to address any issues that may crop up during project implementation. The staff and workers will be given an orientation on appropriate behaviours to ensure no disturbance to the community life.

People have indicated willingness to allow for material storage in their property, if necessary. The FOs will play an important role in maintaining good relations between the community and the workforce of the contractor. Members of the community who command respect will provide service in terms of social auditing.

Through the relevant officials the FOs will request the contractor for employing local labour to the maximum extent possible and hire village vehicles for material transport. -

The mitigation measures including the appointment of an environmental and social officer, will be included in the specifications for the main contract, and monitored by the project management to ensure compliance.

Grievance redress mechanism and Social Audit Committees will be established to ensure project benefits sharing, community needs in development planning and community engagement in implementation.

4. Environmental and Social Screening Checklist of Meda Oyamaduwa Tank

	Screening question	Yes	No	Significance of the effect	Remarks
Project Design					
a. General					
1	Does the sub project involve the construction of new physical infrastructure?		√		It's mainly rehabilitation, not new physical construction works.
2	Does the project include upgrading or rehabilitation of existing physical infrastructure?	√			Improvement of Tank Bunds, Repair of Sluices, and Construction of spill extensions, De-silting of tank bed. (See Annexes to further information: Drawings)
b. Rehabilitation of dam head works and rip rap associated irrigation infrastructure					
3	Will improvements to tank bund including the head works and rip rap structures require the water level in the reservoir to be artificially drawn down?		√		The construction is planned to be done particularly during Yala season where water level is low. Lowering of water level is not thus necessary for the proposed interventions, hence no impact.
4(i)	If yes, can this lead to any alteration of		N/A		The water tables are always low during the proposed

	Screening question	Yes	No	Significance of the effect	Remarks
	water flows in surface as well as groundwater sources, especially in the dry season?				construction periods of the dry Yala months. There are no alterations in water flows caused by this activity.
4(ii)	Will the water draw down affect the ecology of the tank and other important wetlands that depend on the main lake and canal system to maintain water level?		√		Since water draw down is not anticipated, there may not be ecological impacts caused by water scarcity due to project activities.
5	Will repairs to irrigation canals require temporary suspension of water issuance in order to facilitate civil works? Can this lead to diminishing of other downstream water uses that can result in social issues such as community bathing, drinking water supplies, irrigation of home gardens etc.		√		Irrigation canal repairing is not in the tank rehabilitation of the Meda Oyamaduwa wewa. Also the identified sluice repair works can be performed in parallel to bund rehabilitation work during dry season. Therefore, there is no need for temporary suspension of irrigation water.

	Screening question	Yes	No	Significance of the effect	Remarks
6	Will civil works lead to diminishing of other downstream water uses as a result of water quality impairment?		√		
7	Will there be changes to original design levels of the head works that will result in inundation of new land in the catchment		√		There will be no changes to design levels of the dam crest, spill crest or any other structure. Hence there will be no inundation of additional areas.
8	Will the rehabilitated scheme serve new areas of paddy under its command?		√		Paddy lands available in the command area of the Meda Oyamaduwa Wewa will remain as the same, therefore extent of paddy cultivation in the command area will remain the same .
9	Will there be construction of new irrigation or drainage canals or widening of existing canals?		√		New irrigation canals or canal rehabilitation is not proposed for the tank.
9(i)	If yes, will new/modified canal trace/alignments interfere with existing land uses (habitats, home		N/A		

	Screening question	Yes	No	Significance of the effect	Remarks
	gardens) in a negative way?				
9(ii)	If yes, will the trace interfere with other sensitive infrastructure such as roads, pedestrian paths, schools and temples?		N/A		
Project Construction					
10	Will construction and operation of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)		√		The existing structures will be rehabilitated,. Interventions will not cause any physical changes to the locality.
11	Will construction of the project cause soil erosion within the site due to steep grade or soil content?		√		Moderately exposed areas of the bund and slopes are susceptible to erosion during construction. Stripping top soil on bund slope will increase the chances of soil

	Screening question	Yes	No	Significance of the effect	Remarks
					erosion due to wind and rain. However, the general terrain is flat and since the construction work is under taken during the dry season soil erosion is expected to be controlled. Operation of borrow pits in hillock would increase the chances of erosion of sides in borrow areas. Burrow pits need to be properly sloped and once over properly closed to avoid loss of topsoil, vegetation and habitat. Borrow material once brought to the site has to be unloaded and stockpiled. This might contribute to erosion onsite and block existing run – on and off paths which may create erosion problems elsewhere. Work on the breaching section in the slope and correcting the breaching section with borrow materials will induce soil erosion. Shrub removal of within the areas to be rehabilitated will

	Screening question	Yes	No	Significance of the effect	Remarks
					also lead to soil erosion. However, these impacts are expected to be temporary and mitigatable with proper construction planning and management.
12	Will the Project involve dredging and disposal of dredge material as well as other solid wastes during construction?	√			De-silting estimate to remove 10,000 cum of silt from the tan bed. De-silting depth is not estimated by the DAD. During the Dredging activity generate large quantities of silt and debris, others will be mostly earth and rubble .The contracture is instruct with a proper drying and disposal plan .
13	Will the Project release pollutants or any hazardous, toxic or noxious substances to air?		√		There will be no hazardous, toxic or noxious substances released into the air, other than fumes emanated by a few construction vehicles. Further, construction activities that would produce airborne dust are temporary and limited to short durations and will be restricted to a small area.
14	Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	√		less	Low Noise and vibration is expected to be very low due to the small-scale nature of construction activities and the largely rural setting. There can be insignificant levels

	Screening question	Yes	No	Significance of the effect	Remarks
					of noise produced during material transportation and construction work, but due to heavy machinery there may be temporary disturbances to the animals (especially birds) inhabiting the tank area .
15	Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater?		√		Irrigation rehabilitation works generally do not have any waste water discharges . Sanitation units in labour camps? can cause pollutants if they arepoorly sited, But this risk can be mitigated with good planning and supervision. Servicing of construction vehicles can lead to release of pollutants. Such activities is needed to monitor.
16	Will the project cause localized flooding and poor drainage during construction? Is the project area located in a flooding location?		√		During construction obstruction of natural drainage path may lead to temporary flooding unless managed, but this is highly unlikely to be an issue. Proper site selection and good construction practices can avoid these issues. Meda Oyamaduwa there was no such incidents of flooding.

	Screening question	Yes	No	Significance of the effect	Remarks
17	Are there any areas or features of high landscape or scenic value on or around the location which could be affected by construction activity?		√		No such location has been identified in the project area.
18	Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests which could be affected by the project?		√		No such location has been identified in the project area.
19	Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, migration, which could be affected by the project?		√		The trees existing along the bund inhabits are likely to be roosting sites for many of the avifauna in the area. However, no sensitive species have been recorded .Tree removal is not estimated and therefore no possibility of los of roosting sites.
20	Will any part of the project's		√		This is a rehabilitation project, hence no new areas will

	Screening question	Yes	No	Significance of the effect	Remarks
	construction activities be located in a previously undeveloped area where there will be loss of greenfield land?				be opened up.
c. Land related impacts					
21	Will the sub-project require acquisition of land and or other assets?		√		Identified land belongs to the Department of Agrarian Development which is the implementing agency.
22	Is the land for material mobilization, vehicular movement, transport for the civil work available within the identified work site / Right of way?		√		Land is available for the contractor to park its machinery, to load or store materials and setup labor camps. Also People proposed that they will give the land to park the machinery and vehicle if land is needed further. However, road access is a serious issue in most places, hence transportation of material & equipment for the construction will be a challenge.
23	Is the site chosen for this work free from any encumbrances (e.g. squatters, encroachers)?	√			
	Is the site choosen for this work in possession of the implementing	√			Department of Agrarian Development, Anuradapura which is the implementing agency.

	Screening question	Yes	No	Significance of the effect	Remarks
	agency?				
	If the is owned by other government agencies, has action taken to transfer these lands to CSIAP manageing entity? (Attach the evidence of transfer)				The identified land belongs to the Department of Agrarian Development, Anuradapura
	Does the subproject intervention require acquisition of private land?		√		
	If the site is privately owned, can this land be purchesd through negotiated settlement?				Not Applicable
24(i)	If the land parcel is to be acquired, is the actual plot size and ownership status known? If so, how much?				Not Applicable
24(ii)	Will the affected land/structure owners likely to lose less than 10% of their land/structures area?		-		Not Applicable
24(iii)	If any land required for the work is	√			

	Screening question	Yes	No	Significance of the effect	Remarks
	privately owned, will this be purchased or obtained through voluntary donation?				
24(iv)	Are the land/structure owners willing to voluntarily donate the required land for this sub - project?	√			Community members are willing to donate land, if necessary. So far, there is no such requirement for this project
	Are there any previous land acquisition where the identified land has already been acquired?		√		
25	Is the project likely to cause partially or fully damage to, or loss of housing, shops, or other resource use?		√		Settlements area is elsewhere (750m away from the construction site) and the paddy lands are downstream which are not affected.
	If yes, are these damages likely to be full or partial (Ex: entire structure having to be demolished versus part of the structures being damaged?)				Not applicable
26	Are there any routes or facilities on or around the location which are used by		√		There are no such sites, facilities or routes with main access through the tanks and its village

	Screening question	Yes	No	Significance of the effect	Remarks
	the public for access to recreation or other facilities, which could be affected by the project?				
d.					
27	Are there any non-titled people (squatters) who are living/ or doing business who may be partially or fully affected because of the civil works?		√		
28	Will there be damage to agricultural lands, standing crops, trees, etc.?		√		
29	Will there be any permanent or temporary loss of income and livelihoods as a result of the civil works? If so, for what period?		√		If the construction works are carried out during the dry/off season, there will not be any livelihood impacts and farmers will not be required to forego a cultivation season.
29(i)	Have these people/ businesses who may suffer temporary loss of incomes or livelihoods been surveyed and identified for payment of any financial		√		

	Screening question	Yes	No	Significance of the effect	Remarks
	assistance?				
	Will there be any impacts on cultural, community properties or facilities?		√		
	Have measures been planned to mitigate temporary impacts including ease of access? Give the details	√			Temporary impacts will be addressed or mitigated according to the SIMP.
29(ii)	Are there any vulnerable people or groups (poorest/ women headed households/ elderly families/ single parents/ families with disable persons) living in the proposed locations or affects or benefitted by the project interventions? (give the numbers)	√			Vulnerable people or community will not be negatively affected by these project interventions. Directly or indirectly they will be benefited because of this intervention.
	Are there any indigenious people living in the proposed location or affected/ benifited by the project interventions? (give the number)		√		There are no any indigenous people identifies.
	Does this project involve resettlement		√		

	Screening question	Yes	No	Significance of the effect	Remarks
	of any person? If yes, give details.				
	Is there any physical displacement of persons due to project construction?		√		
	Does this project cause any temporary relocation of people during construction?		√		
	Is there any economic displacement (possibilities to move out, close of business/ commercial/ livelihood activities of persons) during the construction?		√		
29(iii)	Will people permanently or temporarily lose access to facilities, services, or natural resources?		√		There are alternative roads to reach the Tanthirimale road .Therefore no loss of access facilities to reach the resources.
e. Impacts on community resources, public services, cultural/historical sites, etc					
30	Are there any areas on or around the location which are densely populated or built-up, which could be affected by		√		The project site is in a rural setting with sparse populations and spaced out dwellings with generally large homesteads.

	Screening question	Yes	No	Significance of the effect	Remarks
	the project?				
31	Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?		√		No such historical places are found within the project area. But in the tank bund there is a religious statue was identified during the field visit. Without damage that statue, contractor should work.
32	Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project		√		No such sensitive areas within 1 km radius from project site such as hospitals or schools etc.
33	Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could		√		Not as per the information available and site observations

	Screening question	Yes	No	Significance of the effect	Remarks
	be affected by the project?				
34	Will the project cause the removal of trees in the locality?		√		Tree removal is not estimated.
35	Are there existing land uses or socio-economic activities on or around the location which could be affected by the project?		√		Since water level drop down is not anticipated, the normal patterns in livelihood are expected to continue.
35(i)	Are there bathing spots that will be unusable during the construction period?	√		low	The tank and its associated system are used by the people for bathing. During the de-silting period tank is dry Also community informed that during the dry period people use wells for bathing purpose .
35(ii)	Is there subsistence fishing taking that will get disturbed due to canal rehabilitation		√		
35(iii)	Are there any home gardening and other industrial, agricultural activities that will get disturbed due to		√		

	Screening question	Yes	No	Significance of the effect	Remarks
	construction activity				
35(iv)	Are there drinking water supply sources located in the project are that may be rendered unusable during construction period?		√		There are no intakes in the tank for drinking water schemes. People use wells as their source of drinking water.
35(v)	Are there tourism activities taking place in the project area that will get disturbed by construction activity?		√		NA
a. Construction related impacts (labor influx, community health and safety, etc)					
36	Will there be any risks and vulnerabilities to public safety due to physical hazards during construction of the Project?	√		Low-	There will be a slightly elevated risk of safety with operation of heavy machinery in the project area and with material haulage along transport routes. There is an alternative access route via the ihala oyamaduwa tank for villagers to use and the area is very sparsely populated, hence the risk is considered low. However, this issue can be managed by adopting safety regulations at construction sites Allocations for sign boards are given in the BOQ estimates and community

	Screening question	Yes	No	Significance of the effect	Remarks
					awareness programes are to be conducted .
37	Are there local village roads that will become unsafe due to contractor's usage	√		Low impact	Transportation routes of the borrow material are via Anuradhapura- Rambewa road (A20) via Puttlam road and Oyamaduwa road to reach the tank bund. This will cause increased vehicular passage and related airborne dust and noise that will cause some disturbance to the existing community around the tank area and along the road. In addition, the bund road will be only partially closed during rehabilitation work so that the road can be still used by the people. Also, in case the bund road becomes impassable during construction people mentioned that, they have an alternative road via Ihala Oyamaduwa during the construction which they can use.
38	Are there any transport routes on or around the location which are susceptible to congestion or which because social and environmental		√		This is not a large rehabilitation work. therefore cannot expect harm to environment or congestion of road. Also there are alternative road to use .

	Screening question	Yes	No	Significance of the effect	Remarks
	problems, which could be affected due to construction work?				
39	Will the project require significant number of workers (skilled and unskilled)		√		The rehabilitation will not require a large number of workers. Average labour requirement will be around 7 skilled and 20 unskilled labourers, but the number of labourers may vary according to the contactor's work programme .
39(i)	Can the project hire workers from the local workforce?	√			PMU can request the contractors to give priority to local force especially female workers when hiring. Local workers are available in this area. Most of them are going to the work outside for the daily wage works as unskilled labours. If this project will give the employment opportunity to these people, just we can reduce some social issues by providing the job in their native place. So far nearly 30 unskilled labourers are available and 6 masons area available in this area.

	Screening question	Yes	No	Significance of the effect	Remarks
39(11)	Will a camp be required to house these incoming workers?	√			Quite Likely. To avoid the elephant human conflict, it will be better if they establish a labour camp. In this are all of them are Sinhala Buddhist people in this village
39(iii)	Will the project attract significant number of migrant workers to the area?		√		skill labor may come from the outside the village however the project will encourage to utilized the local laborers available in the village. For the skilled work it will be better to bring the workforce from outside. In this are all of them are Sinhala Buddhist people in this village.
39(iv)	Are there any adverse impacts that may be anticipated due to labour influx?		√		Minor labour influx can be anticipated. Since outside labourers would also be from similar ethnic/religious background adverse social impacts may not be anticipated.
40	Will construction activity lead to burrowing of earth, gravel and sand? And/or quarrying for rock?	√			Borrow sites will be decided after the soil test of the tank bund and the tank bed form the Department of Agrarien Service, Also the Department expect the burrow sites will be from the Tank itself. If the

	Screening question	Yes	No	Significance of the effect	Remarks
					Department select borrow sites from outside place it will be a permitted place .The contractors need to make sure that burrow sites sites are operated with proper management as per the instruction given in the EMP
41	Will the project increase the risk of introduction of alien invasive species to the locality	√			The earth, burrowing site for slope corrections is located on the right bank side (eastern part of the tank) of Medaoyamaduwa tank. These slopes are submerged during the wet season. Thus, spreading of invasive species due to extraction of earth from the tank bed is unlikely. If the Gravel will be brought from outside place it will be from a permitted land nominated by the Agrarian services after the soil test and checking for potential invasive species of the gravel site. The dam site, as highlighted earlier, is already invaded by several common terrestrial and aquatic invasive species. Therefor care should be take in dumping of the silt.

	Screening question	Yes	No	Significance of the effect	Remarks
Operational Impacts					
42	Will the project lead to stagnant water and drainage problems causing increased mosquito breeding.		√		
43	Will the project involve removal and disposal of aquatic invasive species?		√		This will be minimal if at all.
44	Will the project involve regular maintenance dredging of the canal network		√		
45	Will the scheme after rehabilitation serve a larger command area?		√		Command area will remain as the same.
46	Has the project received community consent and support?	√			Community is fully supportive.
47	Are there any CBOs or others that Exist in the selected locations?	√			Following CBOs are present: FO, WFO, RDS, Women society & Maranadhara Society
48	Will the project mobilize these CBOs for GRM/ Social Audit/ etc activities?	√			- focal point will be identify to collect the complaints and maintain the registry and to provide the necessary solutions at village level immediately. If it is not solved

	Screening question	Yes	No	Significance of the effect	Remarks
					the person inform to GN anf conmplints will be taken to divisional level GRC. Social audit committee will be establishing at the cascade level, and the member of the social audit will be the CBOs member. Village level monitoring team they will look at the Construction management issues, environmental and social issues.
49	If CBOs are involved, do these organizations have prior experiences in GRM/ Social Audit/ etc practices?		√		They have to be trained and guided.
50	Do the CBOs identified for the CSIAP activities transparent and accountable and free from any form of corruption/ abuse?	√			So far no issues identified. They are involved the community activities and sharing with each other in this Meda Oyamaduwa village. Also they have done the rehabilitation work for their community centre.
51	Will the project expect any counterpart contribution from the beneficiary households? (if yes, what is the	√			Community can support with Shramadana activities (e.g. unskilled voluntary work).

	Screening question	Yes	No	Significance of the effect	Remarks
	expected contribution)				
	Gender Based Violence				
52	Is the subproject in an area of the district with a humanitarian or emergency situation?		√		
53	Undertaken consultations with women's groups?	√			Interviews were conducted with the women development officer in the divisional secretariat.
54	Issues related to GBV and GBV-related concerns about the project have arisen in the community engagement discussions?	√			During the interview with women development officer, she pointed out that, there were cases of GBV recorded in Meda Oyamaduwa area. Teen age precgnency and usage of alcohol and drugs are major problem in this area.
55	Are military or paid security forces being contracted as part of the project? (Having military or paid security forces contracted as part of a project can increase the risk of GBV.)		√		

	Screening question	Yes	No	Significance of the effect	Remarks
56	Is the project district in lowest poverty quartile of country? (Regions in the lowest poverty quartile of a country may be underserved and the most vulnerable to neglect)	√			
57	Is the subproject in hard-to-supervise areas? (Lower risk is easily accessed project areas. Higher risk is hard-to-supervise areas)		√		
58	Is the subproject construction near school route or other pedestrian access that women and girls use for their daily activities?		√		There is no sensitive area identified near to the subproject site.
59	Will the subproject be able to monitor implementation across the full span (both in terms of geographic spread and duration) of the work	√			

	Screening question	Yes	No	Significance of the effect	Remarks
60	Will female workers be in close proximity to male workers with limited supervision?	√			If female workers are hired, they would be working in close proximity however the type of work may differ as women may mostly engage in unskilled work.

Significance of impact = Low, Moderate, High

5. Estimate of Specific Impacts and Information on Affected Persons

Estimates of specific impacts	Number/ Amount/ Ha
- Private land required (Sq. m)	0
- Total number of households affected	0
- Number of individuals losing more than 10% of land area	0
- Government land required	Yes (and available)
- Number of shops affected	0
- Number of utilities affected	0
- Number of workers to be brought from outsides	7 skilled labourers are needed. (Approximate number)

6. Decision on Categorization, After reviewing the answers above, it is determined that the sub project will have:

Decision on Categorization, After reviewing the answers above, it is determined that the sub project will have:	
High/ substantial impacts	
Moderate impacts	
Low/ no impacts	√

7. Impact Categorization

Conclusion and Screening Decision (to be filled by the PMU)
Social impacts of the proposed sub project • No Impacts: there is no land acquisition because these are permit lands and no loss of livelihoods if the works are completed during the dry/off season , Social Screening

Report (SSR), Environmental & Social Impact Management Plan (ESIMP) [required if civil works involved]…√…..

- Minor Impacts: Less than 200 individuals affected; no physical displacement; & affected persons lose less than 10% of their productive assets, SSR, Abbreviated Resettlement Action Policy (ARAP), SIMP……Temporary impacts only. SSR with SMP submitted…….
- Significant Impacts: More than 200 individuals affected; cause physical displacement; affected persons lose more than 10% of productive assets, SSR, SIA, census survey, RAP with R&R assistance & income restoration measures…….

Environmental & Social Management Plan (ESMP)

Contractor's Responsibility for Mitigating Adverse Environmental Issues

Potential Environmental Impacts and Risk Level	**Key project activities causing the impacts**	**Mitigation Measures proposed and action to be implemented by the Contractor**	**Mitigation Cost**	**Implementation**	**Compliance Monitoring**
Public complaints and lack of community support for the project implementation	Information Disclosure among Stakeholders	1. Discussions should be conducted with the project affected persons. 2. Residents in the area have to be briefed of the project, purpose and design and outcomes via a documented community consultation session ***-This should be done immediately once the contractor is mobilized.*** 3. The contractor should take note of all impacts, especially access issues and safety hazards that will be of concern to the residents and take necessary measures as stipulated in	Engineering Cost	Contractor	Provincial DPD Office NCP

		the ESMP to mitigate them. 4. The contractor will maintain a log of any grievances/complains (suggestion box) and actions taken to resolve them. 5. A copy of the ESMP should be available at all times at the project supervision office on site. 6. Contractor's Environment and Social Officer to review construction schedule to manage and monitor restriction issues, and ensure that safeguards related mitigation measures are implemented effectively and in a timely manner			

Exposing and damaging of physical and cultural resources	Site preparatory work	Upon discovery of physical cultural materials of Archaeological importance during project implementation work, the following should be carried out; 1. Immediately stop construction activities. 2. With the approval of the resident engineer delineate the discovered site area. 3. Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remains, a night guard should be present until the responsible authority takes over. 4. Through the Resident Engineer, notify the responsible authorities, the Department of Archaeology and local authorities within 24 hours. 5. Submit a brief chance find report, within a	Engineering Cost	Contractor	Provincial DPD Office NCP

		specified time period, with date and time of discovery, location of discovery, description of finding, estimated weight and dimension of PCR and temporary protection implemented. 6. Responsible authorities would be in charge of protecting and preserving the site before deciding on the proper procedures to be followed. 7. An evaluation of the finding will be performed by the Department of Archaeology who may decide to either remove the Physical Cultural Resources (PCR) deemed to be of significance, further excavate within a specified distance of the discovery point and conserve on-site, and/or extend/reduce the areas demarcated by the contractor etc. This should ideally take place within about 7 days. 8. Construction work could resume only when permission is given from the Department of			

		Archaeology after the decision concerning the safeguard of the heritage is fully executed.			
Over extraction of natural resources	Material Sourcing	1. The contractor is required to ensure that sand, aggregates and other quarry material is sourced from licensed sources or the instructions given by the tank ownership (The Department of Agrarian Services) The contractor is required to maintain the necessary licenses and environmental clearances for all burrow and quarry material they are sourcing –including soil , fine aggregate and coarse aggregate.	Engineering Cost	Contractor	Provincial DPD Office NCP

		2. Sourcing of any material from protected areas and/or designated natural areas, , are strictly prohibited. 3. If the contractor uses a non-commercial burrow/quarry sites, the sites should be remediated accordingly once material sourcing has been completed. 4. The contractor should submit in writing all the relevant numbers and relevant details of all pre-requisite licenses etc. and report of their status accordingly. 5. Burrow pits need to finish with slant edges to reduce ay possible accident .Not to let the humns orAnimals in to the danger.			
Loss of cultivation	In case construction extend beyond the	1. Plan construction schedule in consultation with community to complete construction during dry & and Yala season. If required advance cultivation season by requesting	Compensation to be calculated based on	Contractor & PMU, Social Audit	Contractor & PMU, Social Audit Committee

	dry season	irrigation department to issue water ahead of schedule. 2. Provide compensation in case the farmers need to forgo a cultivation season due to construction extending beyond the dry season.	the EM. Compensation to be paid from Government budget.	Committee (SAC) / Farmer Organization (FO)	(SAC) / Farmer Organization (FO)
Construction and rehabilitation work on tank during high water levels could provide a serious threat to the safety and functioning of the bund.	De-silting, dredging Work Removal of vegetation especially those with deep roots Repair the sluice and tank bund	1. Carry out rehabilitation work during low water levels in tank. Timing of rehabilitation works to avoid the rainy season. 2. Vegetation removal to be carried out carefully and completely in order to prevent decomposing roots, etc. from being left behind. 3. Proper compaction to be followed after such removal 4. Carry out all activities on the tank bund under a site Supervisor's supervision	Engineering Cost	Contractor	Provincial DPD Office NCP

Impact on existing habitats, trees	Vehicle and machinery movements	1. The contractor shall make every effort to avoid removal and/or destruction of trees, including those of religious, cultural and aesthetic significance. 2. If such action is unavoidable, the Engineer together with the environment Officer and Social Safeguard shall be informed in advance to verify and report on the technical justification for the trees that will be required to be removed and the lack of technical alternatives 3. The following steps are to be followed if trees are identified for removal during the rehabilitation of the tank sluice and supply canal. • Identify and document the number of trees that will be affected with girth size & species type.	Engineering Cost	Contractor	Provincial DPD Office NCP

		• Trees shall be removed from the construction sites before commencement of construction with prior permission from the concerned department Local Authority (LA). • Compensatory plantation by way of Re-plantation of at least twice the number of trees cut should be carried out in the project area. • The contractor shall adhere to the guidelines and recommendations made by the Central Environmental Authority (CEA), if any with regard to felling of trees and removal of vegetation. • Removed trees of economic value must be handed over to the State Timber Corporation.			
Spreading of Invasive species	Vegetation clearing Material	1. Close monitoring of transportation, storage of borrowing material for the spread of any invasive species must be done.	Engineering Cost	Contractor	Provincial DPD Office NCP

	transportation De-silting	2. Invasive plants species removed should be disposed onsite without transporting to another place. 3. Vehicles should be covered during transportation of cleared vegetation to and from the construction site. 4. Borrow material to be brought from properly identified borrow pits and quarry sites, the sites should be inspected in order to ensure that no invasive plant species are being carried with the burrow material. As much as possible locate burrow sites within a radius of 10Km to the site 5. Washing the vehicles should be conducted periodically to prevent carrying any invasive species 6. The construction site should be inspected periodically to ensure that no invasive species			

		are established themselves at the site.			
Air Pollution including dust generation that can affect nearby vegetation and households	Setting up of material storage yards, and removal of vegetation Transport of construction material and storage on site De-silting Improvements to sluice, spill and bund Setting up of	1. In the construction method statement, the contractor should clearly designate areas for maintaining material stock piles, waste stock piles, labour camps and vehicle maintenance yards. These dust emitting sources should be located away from human activity and natural drainage paths as much as possible. Negotiate with landowners to agree on terms and conditions for land use. Park heavy machinery upstream where possible. 2. All heavy equipment and machinery shall be fitted in full compliance with the national and local regulations. 3. Stockpiled soil and sand shall be slightly wetted before loading, particularly in windy conditions. 4. The site should be wetted at least 2/3 times	Engineering Cost	Contractor	Provincial DPD Office NCP

	material storage yards, and removal of vegetation Transport of construction material and storage on site De-silting Improvements to sluice, spill and bund	a day during dry weather to keep dust levels low. 5. Vehicles transporting soil, sand and other construction materials shall be covered. Limitations to speeds of such vehicles necessary. Transport through densely populated area should be avoided. 6. Regular and proper maintenance of construction vehicles and machinery to avoid air emissions. 7. There should be no burning of wastes on site. 8. Until removal to arranged disposal sites, waste from demolition shall be held stockpiled in a place with minimal interference with local drainage paths and obstruction to traffic, local residents.			

High Noise & Vibration levels that can affect nearby structures and wildlife	Operation of equipment and machinery. Material storage and transport	1. Working time for noise/vibration generation activities should be restricted and carried out only from 6.00 am to 6.00 pm. 2. All equipment and machinery should be operated of noise not to exceed 75 dB (during construction) as practical as possible. Regularly maintenance of all construction vehicles and machinery to meet noise control regulations stipulated by the CEA in 1996 (Gazette Extra Ordinary, No 924/12). If the construction activities happen during the night time, it is necessary to maintain the noise level at below 50 dB. 3. Use of mechanically driven saw blades for tree felling will make the noise levels restrict to only a short period of time. Tree removal is not estimated , therefore if a tree removal is suggested, the contract will be required to inform the Engineer, and follow the replanting	Engineering Cost	Contractor	Provincial DPD Office NCP

		programme. Minimum 02 trees per 1 removed tree expected to plant. 4. Construction equipment and machinery should be maintained in good condition. Contractor shall submit the list of high noise/vibration generating machinery & equipment to the PE for approval.			
Blocking of surface drainage paths leading to localized flooding and ponding of water	Site Preparation including provision of access roads, Material/waste piles De-silting Repair sluice, spill and bund	1. Until transported out to arranged disposal sites, debris and waste from site preparation work and de-silting shall be stockpiled in a place with minimal interference with local drainage paths and obstruction to traffic and local residents. The contractor shall identify areas for stockpiling material and waste. 2. The stockpiles should be suitably covered to minimize wash-offs to nearby waterways. 3. If impacts to surface drainage cannot be avoided leading to ponding of rain water and	Engineering Cost	Contractor	Provincial DPD Office NCP

		inconvenience to people, the contractor must provide an adequate surface drainage system to safely remove water from the site to canal to avoid on site ponding or flooding. 4. Proper planning to avoid construction during rainy season. 5. Preventing total blockage of streams/ providing alternative drainage path during construction.			
Soil erosion, sedimentation of nearby water bodies and low lying areas	Construction work including de-silting, canal bund strengthening Removal of top soil	1. Soil stockpiles and other construction material should not be placed within the bed or banks of the tanks or canal. 2. Installing and maintaining permanent erosion and sediment control measures such as silt traps to avoid sediment runoff into tank and nearby waterways. All stockpiles should be covered so as not to be exposed to rain and wind.	Engineering Cost	Contractor	Provincial DPD Office NCP

De-silted matter may reduce the fertility of the native soil and productivity of soil.	Disposal of de-silted matter	1. Silt Disposal Plan which should be made available to contractor's representative well in advance. 2. Such a plan should clearly spell the disposal sites with quantum of de-silted matter to be disposed. 3. If the de-silted matter to be disposed on site, the consent of villagers for disposal of de-silted matter onto their land is mandatory. 4. The de-silted matter needs to be tested and analysed to assure the suitability of material for agricultural lands.	Engineering Cost	Contractor	Provincial DPD Office NCP
12 Damage to Flora and wildlife Specially impacts to elephants roaming	Vegetation clearing	1. Speed limits and operating times for the construction vehicles should be imposed. 2. Due consideration should be given to carefully clearing of vegetation avoiding destruction of habitats of fauna.	Engineering Cost	Contractor	Provincial DPD Office NCP

in the area		3. The de-silted matter shall immediately be disposed off to pre-decided disposal sites. 4. The contractor will take reasonable precaution to prevent workmen or any other persons from removing and damaging any flora (plant/vegetation) and fauna (animal) including fishing in any water body and hunting of any animal. 5. If any wild animal is found near the construction site at any point of time, the contractor will immediately upon discovery thereof acquaint the Engineer and carry out the Engineer's instructions for dealing with the same. 6. The Engineer will report to the nearby Forest Department /Department of Wild Life Conservation (range office or divisional office) and will take appropriate steps/ measures, if			

		required in consultation with the forest officials. 7. It is recommended to do the project work day time only. 8. The contractor should ensure elephant access to water is not blocked during construction.			
13 Impaired water quality	Spill out of fuels and lubricants from machinery Vegetation removal Repair sluice, spill and bund	1. Avoid stockpiling of earth fill especially during the monsoon season unless covered by tarpaulins or plastic sheets 2. Prioritize re-use of excess spoils and materials in the construction works. 3. Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies; 4. Place storage areas for fuels and lubricants away from any drainage leading to water	Engineering Cost	Contractor	Provincial DPD Office NCP

		bodies; 5. Dispose any wastes generated by construction activities in designated sites. 6. Irrigation works must be planned to be carried out during times of lowest flow			
14 Solid Waste Disposal	Site clearing Waste from labour camps	1. The contractor shall make a list of all types of waste resulting from the construction activity, and obtain direction from the LA on possible disposal sites for each waste type. 2. Any hazardous type of waste shall be dealt with special care and instructions from the LA. 3. The contractor shall document all types and quantities of waste generated and removed from the site and the disposal locations. 4. The contractor shall remove waste from the site each day and dispose of the waste in the	Engineering Cost	Contractor	Provincial DPD Office NCP

		LA approved site/s.			
15 Public/occupational safety hazard - including labour Influx related issues (e.g. GBV)	Site clearing, storage of equipment, material etc. Increased traffic of heavy vehicles for material transportation Noise and vibration of construction machinery	**Training** 1. The contractor must ensure that all workers, including managers are trained on occupational health and public safety risks and mitigation measures for the site, prior to commencement of construction. **Personal Protective Equipment (PPE)** 2. All workers will be provided with necessary PPEs (basic should include safety helmet, protective footwear and high visibility jackets). Any visitors to the worksite also need to be provided with PPE 3. Gloves, ear muffs, goggles, dust masks, safety harness and any other equipment considered necessary should be maintained in stock at the site office.	Engineering Cost	Contractor	Provincial DPD Office NCP

		4. A safety inspection checklist should be prepared taking into consideration what the workers are supposed to be wearing and monitored. **Safety from wildlife** The contractor will educate his staff about possible attacks from wildlife such as elephants and snakes. Strict instructions and monitoring to be done on worker activities after 6 pm, they should not roam into the wild. PPEs are essential in land clearing as snakes are present. **Site Delineation and Warning Signs** 5. The entire construction site should be delineated using devices such as cones, lights, tubular markers, orange and white strips and			

		barricades to inform oncoming vehicular traffic and pedestrians in the area about work zones. 6. Dangerous warning signs should be raised to inform public of particular dangers and to keep the public away from such hazards. 7. Overloading of vehicles with materials should be controlled 8. Construction wastes should be removed as much as possible within 24 hours from the site to ensure public safety. 9. The safety inspection checklist must look to see that the delineation devices are used, whether they are appropriately positioned, if they are easily identifiable and whether they are reflective. **Equipment safety**			

		10. Work zone workers use tools, equipment and machinery that could be dangerous if used incorrectly or if the equipment malfunctions. Inspections must be carried out to test the equipment before it is used, so that worker safety can be secured. Inspections should look for evidence of wear and tear, frays, missing parts and mechanical or electrical problems. **Emergency Procedures** 11. An emergency aid service must be in place in the work site. 12. During health and safety training, site staff should be properly briefed as to what to do in the event of an emergency, such as who to notify and where to assemble in an emergency. This information must be conveyed to employees by the site manager on the first occasion a worker visits the site.			

		The contractor shall always maintain a first aid kit on site **Construction camps** 13. Construction camps should have adequate sanitation facilities for construction workers to control transmission of infectious diseases. 14. Avoid housing workers in camps and provide socio- economic benefits locally by employing local people. If there is no alternative to employing workers from elsewhere, locate accommodation camps away from communities on land acquired from willing sellers. Provide labour camps with adequate sanitation, waste disposal and health facilities according to labour laws. Clear work camp sites after use and reinstate vegetation. Conduct programs to raise worker awareness of HIV/AIDS.			

		Information management 15. Develop and establish contractor's own procedure for receiving, documenting and addressing complaints from the affected public and nearby communities, including those that relates to GBV. 16. Provide advance notice to local communities by way of information boards or leaflet, during village committees about the schedule of construction activities, interruption to services and access etc. **Managing Labour Influx related issues (e.g. GBV)** • Hire local labour as possible to minimise labour influx – Contractor to give priority for women when hiring. • Include Worker Code of Conduct as part of the employment contract – this should			

		define workers' commitment in attitudes and behaviour to preventing, combating and responding GBV. • Contractors to implement robust measures to prevent sexual harassment/GBV including training of workforce and sanctions for non-compliance (e.g. termination).			
	Camp site management	**Construction camps** 01. Construction camps should have adequate sanitation facilities for construction workers to control transmission of infectious diseases. 02. Avoid housing workers in camps and provide socio- economic benefits locally by employing local people. If there is no alternative to employing workers from elsewhere, 03. Locate accommodation camps away from communities on land acquired from willing	Engineering Cost	Contractor	Provincial DPD Office NCP

		sellers. Provide labor camps with adequate sanitation, waste disposal and health facilities according to labor laws. Clear work camp sites after use and reinstate vegetation.			

8. Cost of Mitigation

	Environmental and social safeguard mitigation measures	Cost (LKR)	Remarks
1	Information , boards , leaflets, GRM implementation	10,000.00	Diversion of roads, Safety signage, awareness leaflets
2	Safety equipment	50,000.00	Basic safety equipment include safety helmet, protective foot wear, and high visibility jacket
3	Site delineation and barricading material and equipment	20,000.00	
4	On site first aid facilities	10,000.00	
5	Waste removal from site	30,000.00	De-silted material, waste from vegetation clearing, labour camp
6	Dust suppression	10,000.00	Watering of roads during dry spell

9. Conclusions

Assuming that all mitigation measures are implemented as proposed, the following effect can be predicted

Conclusions		
key	environment and social issues	Rating
Material transportation & storage	Emission of dust, generation of noise and disturbance to community including farmer house hold and users of tank and bund road	**N/S**
Vegetation clearing	Clearing of vegetation' and plant residue	**N/S**

	will collect significant amount of waste will lead to several environmental issues. Such as blockage of drainage, siltation of downstream, damage to habitats, spreading of invasive species	
De-silting of Tank	Damage to the habitats, alter natural drainage paths, soil erosion De-silting will be done after the soil test and that has to be done by the DAD . Those test results based de-silting will be done with care.	**N/S**
Stabilization of canal embankment Soil erosion	Soil erosion	**N/S**
Rehabilitation of Tank bund	Soil erosion	**N/S**
Repair sluice	Soil erosion ,limits the access of the bund road	**N/S**
Repair Spill	Water pollution , siltation of tank	**N/S**
Disposal of de-silt material	Siltation of water ways and low lying areas blocking of drainage path, soil contaminate	**N/S**
Occupation health and safety	Threats from wildlife can be significant	**SN**
N/S - Effect not significant, or can be rendered insignificant with mitigation SP - Significant positive effect SN - Significant negative effect U - Outcome unknown or cannot be predicted, even with mitigation		

10. Screening Decision and Recommendation

All potentially adverse effects can be classified as general construction related impacts and are mitigatable with proper construction managemen and safety practices. These potential impacts are temporary in nature. It is recommend starting the project work in the off season for paddy cultivation and avoiding night time work.

The Kattakaduwa area and its ecosystem of the Medaoyamaduwa tank have been damaged by the farmers due to the removal of trees and encroachment of this area by farmers for paddy cultivation. During the environment screening visit the farmers suggested to restore the Kattakaduwa are. Therefore, as part of the Environment Management Plan, this could be done by planting shady trees and the trees that absorb the excess salinity of the of the soil.

11. Public Consultation and Disclosure

Community consultations were conducted by the Environmental and Social Safeguard team of CSIAP. Following concerns were arisen during the discussions had with farmers and tank users in the area

Public consulted/ Location	Consultation method	Date	Details/Issues raised
Meda Oyamaduwa Wewa	Department of Agrarian Development(NCP)	2019.08 21	Discuss with the DAD to get the tank surveys expedited.
Meda Oyamaduw	Community consultations	5th and 6Th September	The water supply to agricultural lands can be

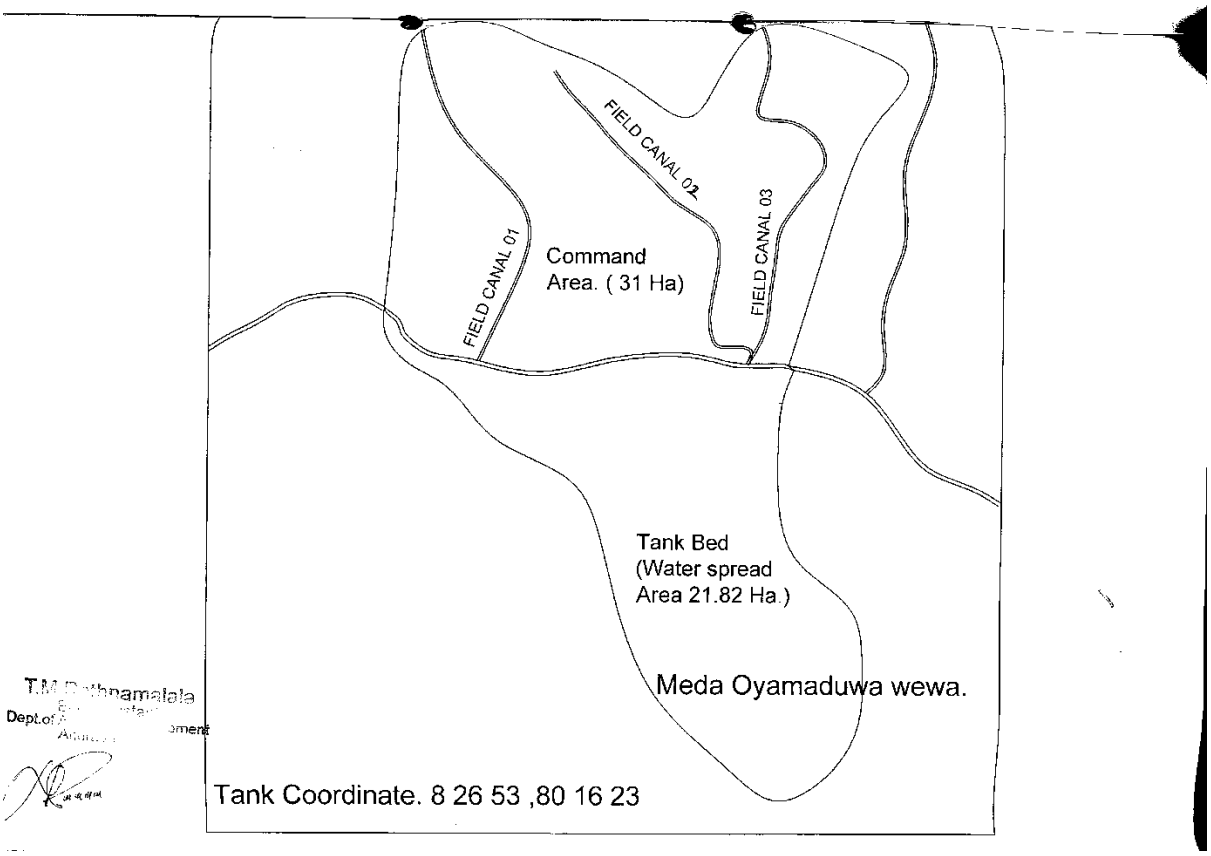
a Wewa	were conducted The stakeholders such as Irrigation Department, farmer organizations, fishing-community, Grama Niladhari, affected people, beneficiaries and other direct and indirect users of water including women in the reservoir were consulted to obtain data and their concerns related to the proposed project. The farmers were met in groups and as individuals	2019	affected and therefore suggested to do constructions during off-season. Community request to start the activities quickly before next Maha Season rains. Soil generated in desilting of the tank is asked to put along the bund , as farmers feel thet soil is fertility may also help their agriculture lands. Tank bund is the road use by farmers and they need to widen the bund . Tank bund strengthening , repair of slues, canals , extension of spill was requested by the villages. Improper disposal of construction debris in agricultural lands along the canals . Migratory measures to minimize these identified issues are given in EMP.

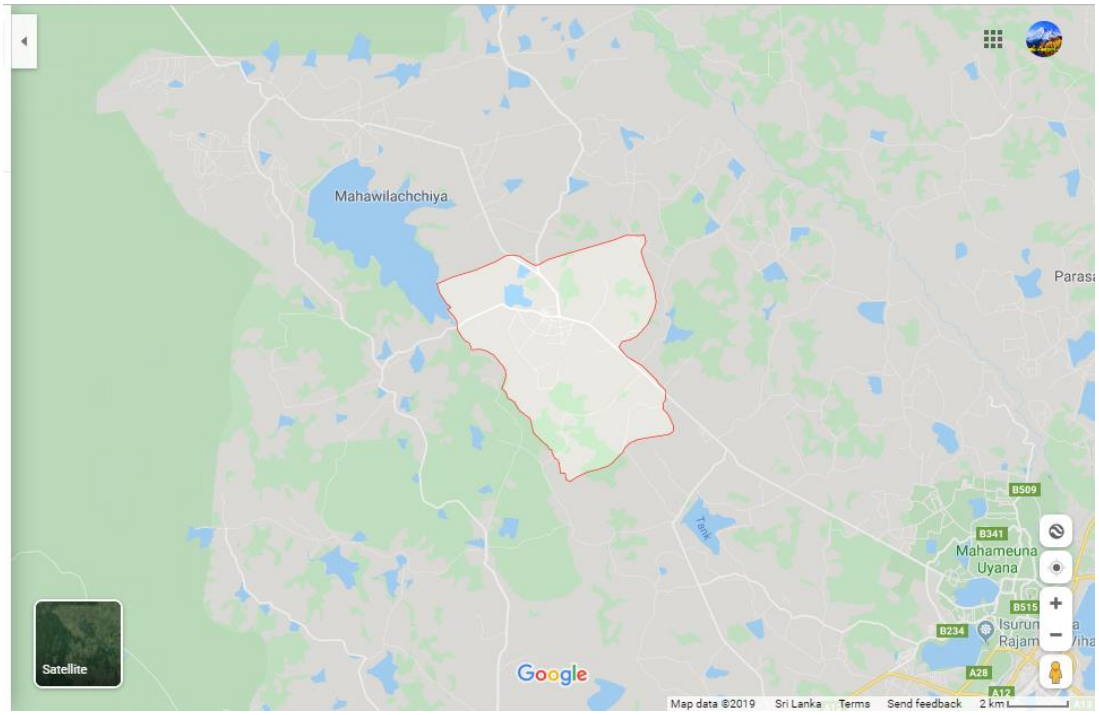
The contractor will maintain a log of any grievances/complains and actions taken to resolve them. A copy of the ESMP will be available always at the project supervision office on site.

Annex 1: Activity Plan for Meda Oyamaduwa Tank in Oyamaduwa Cascade

SN	Activities	December -January				February-March				April-May				June				July				August			
1	IEC Campaign																								
2	Selection of tanks																								
3	Data Collection for Screening																								
4	Writing the Screening Check list																								
5	Write the SSR																								
6	Submit to PD																								
7	Get the clearance from WB																								
8	Bid calling																								
9	Bid opening																								
10	Start the construction (Civil Work)																								
11	Monitoring																								
12	Training and skills development, formation of groups under CSIAP																								
13	End of construction works																								

Annex: 02 Location map

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Terms
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Annex: 03 Attendance Sheets of the participants during the meetings and discussions

MINISTRY OF AGRICULTURE, LIVESTOCK DEVELOPMENT, IRRIGATION AND FISHERIES AND AQUATIC RESOURCES DEVELOPMENT

CLIMATE SMART IRRIGATED AGRICULTURE PROJECT (CSIAP)

PROJECT MANAGEMENT UNIT

Date : 21/08/2019

Tim : 4.00 p.m -

Venue: Agrarian Develop District office ~~Govijana Seva District~~ Anuradhapura

Subject: Discussion on Crash programme Tanks.

No.	Name of the Participant	Designation	Institute	Signature
	Darshika Seneviratne.	Agrarian Development Officer	Department of Agrarian Development	
	S.R.H.N. Perera	"	"	
	G.U.S. Hewawitharana	Technical Officer.	Dept. of Agrarian Develop	
	L.P.N. Dilhani	Agrarian Development Officer.	"	
	Asela Jayalal	A.S - CSIAP	CSIAP	
	Rajkumar	DPD	CSIAP	
	R.D.K. Jayasekara.	DAD - EA (TA)	DAD	0718097121
	Nimal B Wanninayaka	APRA	APRA	
	T.M. Rathnayaka	DAD - E/A	DAD	
	G Tennakoon (0718123234)	D.T.O	DAD	
	P.G. Somaratne	Deputy Commissioner	DAD (Agrarian Dev)	Fax 025 2053838
	P.B.L Premarathna	D.P.D/CSIAD/Irrig	CSIAP	

MINISTRY OF AGRICULTURE, LIVESTOCK DEVELOPMENT, IRRIGATION AND FISHERIES AND AQUATIC RESOURCES DEVELOPMENT

CLIMATE SMART IRRIGATED AGRICULTURE PROJECT (CSIAP)

PROJECT MANAGEMENT UNIT

Date : .... **Venue:** ....

Tim : .... **Subject:** ....

No	Name of the Participant	Designation	Institute	Signature
13	[illegible]	ගොවිතැන	[illegible]	
14	[illegible]	"	"	
15.	[illegible]	"	"	
16	[illegible]	"	"	
17	[illegible]	"	"	
18	[illegible]	"	"	
20	H.B [illegible]	"	"	
21	N. [illegible]	"		
22	[illegible]	"	"	
23	N. [illegible]	"	"	
24	m. [illegible]	"	"	
25	w. [illegible]	"	"	

Field Exposure Visit on Environment Safeguard, Gender Issues, Marketing and Climate Smart Practices

27th & 28th of June 2019

Name	Designation	Institute	Signature	
Sharmila Shanmuganathan	Gender Development officer	CSIAP/MOA.	S.Shil..	
K. Udala J. Sedera	Environmental Officer	CSIAP/MOA	[signature]	
G.A. Kumarasinghe	S.M.O.	DOA. NCP.	[signature]	
S. Amal Aravapriya	Specialist	CSIAP	[signature]	
B.M. Sisira Bicanayaka	Asst. Dir	MOA	[signature]	
Y.B.L Premamark	D.PD/NCP	CSIAP	[signature]	
D.G.M.N. Upul Kumara	S.M.O	DOA - NCP	[signature]	
M G Ajith Pushpakum	Director (Agri...)	M.O.A	[signature]	
T.V.S. [illegible]	Driver	M.O.A.	[signature]	
C.R. [illegible]	Grower	Ethakada.	[signature]	0771015 513
				071-9786 917
A.H.N.U. Hettiarachchi	nilanga@janathakshan.lk.	Janathakshan	[signature]	0714822 -75
S.R. Lalith	lalith.rajapaksha@janathakshan.lk	Janathakshan	[signature]	0718281921 0766566431
M.C Ajith Pushpakum	Director	M.O.A	[signature]	

MINISTRY OF AGRICULTURE, LIVESTOCK DEVELOPMENT, IRRIGATION AND FISHERIES AND AQUATIC RESOURCES DEVELOPMENT

CLIMATE SMART IRRIGATED AGRICULTURE PROJECT (CSIAP)

PROJECT MANAGEMENT UNIT

Date : 19/08/2019 **Venue:** CSIAP - PMU office

Tim : 9.00 – 11.00 a.m. **Subject:** Environmental social safeguard with WB Specialist

No	Name of the Participant	Designation	Institute	e-mail	Signature
1	Nadeesa Rajapakse	Env. Sp.	WB		[signature]
2.	M. Udula Sedera	Env. Offi. CSI	CSIAP		[signature]
3.	M. G. Ajith Pushpakumara	En. Sp.	CSIAP		[signature]
4	S Anul Anupuriya	Sf. (I) + CB	CSIAP		[signature]
5	Mr Sarath Wickramarathne	Consultant	W/B	–	✓
6	Eng N Sivalingam	PD	CSIAP	–	✓
7.	S Manoharan	Consultant	W/B	–	–
8.	S.G.G. Bandusiri	P/S	W/B		[signature]

MINISTRY OF AGRICULTURE, LIVESTOC_ DEVELOPMENT, IRRIGATION AND FISHERI_ AND AQUATIC RESOURCES DEVELOPMENT

CLIMATE SMART IRRIGATED AGRICULTURE PROJECT (CSIAP)

PROJECT MANAGEMENT UNIT

Date : 22/08/2019 **Venue:** Mahatalkuda Wewa, Villacchiya DS Dunumadalawa

Tim : 10.00-12.30 a.m – p.m **Subject:** Environmental social safeguard screening & Community consultation.

No.	Name of the Participant	Designation	Institute	Signature
	[illegible]	[illegible]	[illegible]	
	[illegible]	[illegible]	"	
	K.B [illegible]	"	"	
	H.B [illegible]	[illegible]	"	
	H.B [illegible]	[illegible]	"	
	E.B.S.B. manike	GN	Mahavikachchiya	0712448475
	N B [illegible]	APRA	APRA	0772192562
	Asoka Jayathilake	A.S.	CSIAP	0714175295
	K.B.L Pramanik [illegible]	DPD / NCP	CSIAP	
	R.A.A. [illegible]	[illegible]		

MINISTRY OF AGRICULTURE, RURAL ECONOMI AFFAIRS, IRRIGATION AND FISHERIL AND AQUATIC RESOURCES DEVELOPMENT

CLIMATE SMART IRRIGATED AGRICULTURE PROJECT (CSIAP)

Province / PMU.. North Central Province .

Date: 20.09.2019..... **Time:** ..... **Venue:** .....

Subject/ Name of the Training:.....

No	Name of the Participant	Male/ Female	Designation/ Institution	Email	Phone No	Signature
01.	Ms. S. Sharmila	F.	GDO/PMU.	shanmuganathansharmi@gmail.c	077-2437310	S Shih.
02.	S.Sisira Ricanayaka	M	SSO/MMU			
03	KBSS Bandara	F	WDO/DS office Mahaeila chahiya	Sandunibandara20@gmail.com	071-3681654	
04.	H.D.H.K. Hewanadugala.	M.	ADP.	nadugala15gmail.com	0714394153	

කෘෂිකර්ම, ග්‍රාමීය ආර්ථික කටයුතු, වාරි මාර්ග සහ ධීවර හා ජලජ සම්පත් සංවර්ධන අමාත්‍යාංශය

දේශගුණ සුහුරු වාරි කෘෂිකර්ම ව්‍යාපෘතිය

පළාත : North Central Mahawilachchiya, Meda Oya Maduwa.

දිනය: 20.09.2019 **වේලාව :** 10.30 a.m. **ස්ථානය:**

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01.	සංඛනා කුමාරි		මැදඔයාමඩුව	0785154470	[signature]
02.	S. චමානි සිරිසේන		"	0712013623	[signature]

MINISTRY OF AGRICULTURE, LIVESTOCK DEVELOPMENT, IRRIGATION AND FISHERIES AND AQUATIC RESOURCES DEVELOPMENT

CLIMATE SMART IRRIGATED AGRICULTURE PROJECT (CSIAP)

PROJECT MANAGEMENT UNIT

Date : 21/08/2019

Tim : 4.00 p.m.

Venue: ~~Govijana Seva District~~ Agrarian Develop District office Anuradhapura

Subject: Discussion on Crash programme Tanks.

No.	Name of the Participant	Designation	Institute	Signature
	Darshika Seneviratne.	Agrarian Development Officer	Department of Agrarian Development	(signed)
	S.R.H.N. Perera	"	"	(signed)
	G.G.U.S. Hewavitharana	Technical Officer.	Dept. of Agrarian Develop.	(signed)
	L.P.N. Dilhani	Agrarian Development Officer	"	(signed)
	Asela Jayasinghe	A.S - CSIAP	CSIAP	(signed)
	Rajkumar	DPD	CSIAP	(signed)
	R.D.K. Jayasekara.	DAD - EA (TA)	DAD	(signed) 0718097121
	Nimal B Illangasinghe	APRA	APRA	(signed)
	T.M. Rathnayake	DAD - E'A	DAD	(signed)
	G Tennakoon (0718123234)	DTO	DAD	(signed)
	P.G. Somaratne	Deputy Commissioner	DAD (Agrarian Service Dept.)	(signed) Fax 025 2053838
	P.B.L Premanath	D.P.D/CSIAP/Mg	CSIAP	(signed)

Annex: 03 Field visit's date

Field Visit Date	Visited Places
21.08.2019	ASC - Ranorawa and DS -
27 & 28. 06. 2019	Dunumadalawa GND, WFOs
19, 20 & 21. 08. 2019	Field visits to Oyamaduwa and Ranorawa Cascades and taks
20. 09.2019	Nochchiyagama DSD, Mahawilachchiya DSD

Annex: 04 Pictures during the meetings, discussions and field visits in Meda Oyamaduwa Cascade area

Source: CSIAP Launching Ceremony, Meda Oyamaduwa in August, 2019

Source: Field Visit - Discussion with Officials from ASC, DSD, GND and Key members of FOs at DS Division, September- 2019

Source: Discussion with Women headed farm families from Meda Oyamaduwa village, September, 2019

Source: Discussion with Women Development Officer Mahawilachchiya DS Division, September, 2019

Source: Field visit to Meda oyamaduwa tank with PMU Staffs and specialist from WB in September, 2019

Source: Field Visit to Oyamaduwa Cascade area, Anuradapura District September, 2019

DETAILS OF PERSONS RESPONSIBLE FOR THE ENVIRONMENTAL/SOCIAL/ GENDER SCREENING REPORT

Screening report completed and reviewed by 01. Social and Gender section Prepared and Completed by: S. Sharmila. **Ms. Sharmila Shanmuganathan** Gender Development Officer and Acting Social Safeguard Officer Project Management Unit – CSIAP **Email:** Shanmuganathansharmi@gmail.com **Date: 15 September, 2019** **Seal:** Ms. Sharmila Shanmuganathan Social Safeguard & Gender Development Officer Project Management Unit Climate Smart Irrigated Agriculture Project Ministry of Agriculture	02. Environmental section Prepared and Completed by **M. Udula J. Sedera** Environmental Safeguard Officer Project Management Unit – CSIAP **Email:** jeny.usedera@gmail.com **Date: 15 September, 2019** **Seal:** M. U. J. Sedera Environmental Safeguard Officer Project Management Unit Climate Smart Irrigated Agriculture Project (CSIAP) Ministry of Agriculture
Clearance Given By: **Shanek Fernando** Social Development Specialist The World Bank Date: 09 December, 2019	 **Nadeera Rajapaksha** Environmental Safeguard Specialist The World Bank Date: 09 December, 2019