කෘෂිකර්ම අමාත්‍යාංශය
Ministry of Agriculture
கமத்தொழில் அமைச்சு

ENVIRONMENTAL SCREENING REPORT

Subproject title:

Improved Dried Chilli Production and Value addition Cluster in Vavuniya District (Irattaperiyakulam)



Sri Lanka Agriculture Sector Modernisation Project (ASMP)

Prepared for Project Management Unit of the Agriculture Sector Modernization Project

Democratic Socialist Republic of Sri Lanka, Ministry of Agriculture (MOA)

Updated: February 2022

TABLE OF CONTENTS

FIGURES

ABBREVIATIONS

ASMP	Agriculture Sector Modernization Project
DSD	Divisional Secretary Division
EMP	Environmental Management Plan
GND	Grama Niladari Division
LKR	Sri Lanka Rupees
MOA	Ministry of Agriculture
PMU	Project Management Unit
WQI	Water quality index
RDS	Rural Development Society
WRDS	Women Rural Development Society

Agriculture Sector Modernization Project

Environmental Screening Report

1. PROJECT IDENTIFICATION

Project Title	Improved Dried Chilli Production and Value Addition Cluster in Vavuniya District (Irattaperiyakulam)
Project Proponent	Agriculture Sector Modernization Project (ASMP), Ministry of Agriculture

2. PROJECT LOCATION

Location

(*Relative to the nearest town, highway*)

The Vavuniya District is divided into 102 Grama Niladari Divisions and there are 550 villages in the District. This District is divided into five administration bodies including one Urban Council and four Pradeshiya Sabhas namely Vavuniya Urban Council, Vavuniya Tamil Pradeshiya Sabha, Vavuniya North Pradeshiya Sabha, Vavuniya South Sinhala Pradeshiya Sabha, and Vengalacheddikulam Pradeshiya Sabha.

The proposed dry chilli cluster is belonging to the Irattaperiyakulam GN division which is under Vavuniya south DS division. Irattaperiyakulam is one GN division out of the twenty in the DS division. In the Irattaperiyakulam GN division, there are three villages, namely they are Irattaperiyakulam, Navagama and Kurundankulama. The total area of the GN division is 10 Sq.Km. Farm lands of dry chilli cluster is scattered across the GN division and few selected farmlands are shown in Figure 1. All these farmlands are private farmlands having permits or deeds.

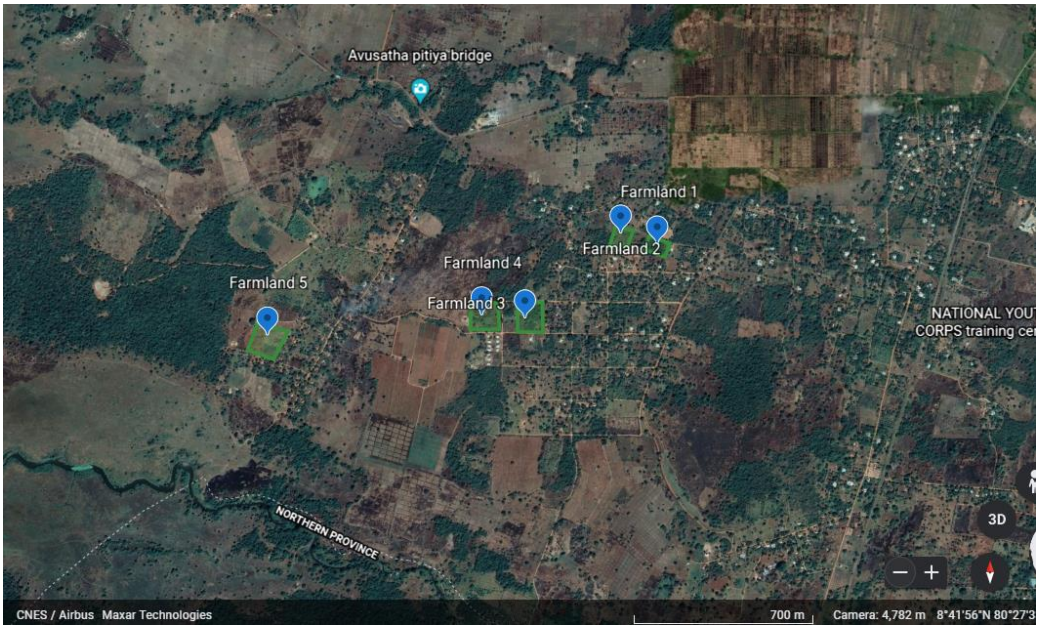
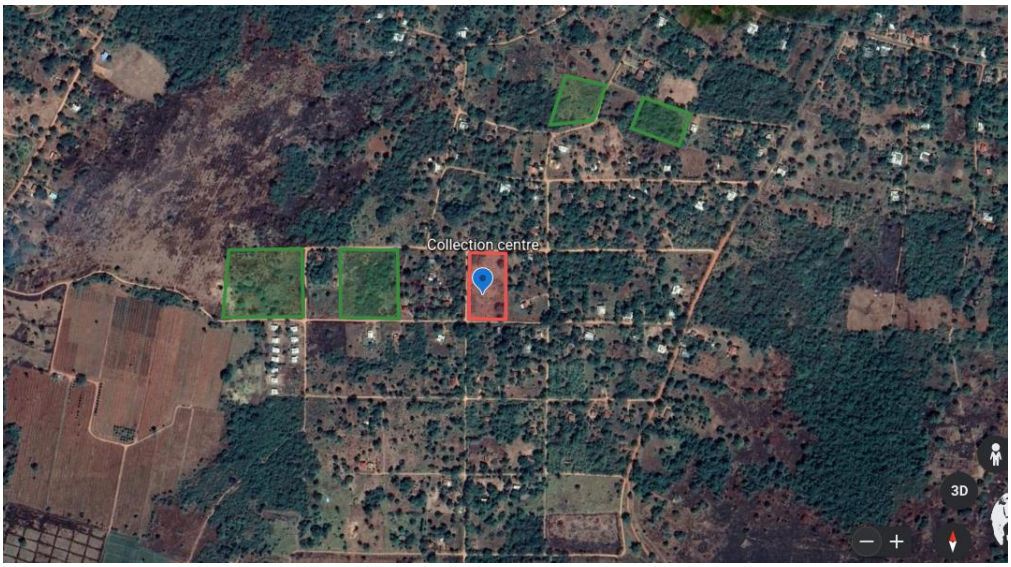


Figure 1: Few selected farmlands

Collection centre will be constructed at avusathapitiya which is also in the Irattaperiyakulam GN division. The proposed location is accessible through the

	Avusadapitiya main road and which is connected to the Kandy-Jaffna Hwy. Selected land is around 1.5 Km away from the Kandy-Jafna Hwy (A9) and around 2.5 Km away from the Nelukkulama -Neriyakulam road (B325). Selected land slot is shown in Figure 2. These cluster villages are located about 8km from the Vavuniya town. Proposed land is 0.5 acre and belongs to Department of Agriculture, Vavuniya South. Irattaperiyakulam is the last GND of Vavuniya bordered to Anuradhapura District.  **Figure 2: Proposed land for the collection centre**
Definition of Project Area *(The geographical extent of the project & areas affected during construction)*	Almost all farmers have both lowlands and uplands for their livelihood activities. Irattaperiyakulam farmers cultivate paddy on a lowland in one term (Maha Seasons) per year. During Yala season (May to August), cultivation activities are limited to paddy on lowlands and upland seasonal crop cultivation is dominant. Farmers use water from minor tanks and open well for cultivation purposes. Farmers have cultivated perennial crops such as coconut and mango on upland for their household consumption. Since it is receiving high rainfall during the Maha season (September to March), some farmers are cultivating seasonal crops on their uplands. During the Yala season, seasonal crops such as groundnuts, Chili, and various vegetables are cultivated by using open well/tube well water. However, open well/tube well water is not sufficient to cultivate their entire land and most of the time only around 1 acre is cultivated. The project will select about 250 potential chili cultivating farmers who are fulfilling the project criteria enabling the project to cluster the farmers into two groups for project intervention. The minimum requirement to be a beneficiary is having 1 acre land for the chili cultivation and the rest of the beneficiary selection criteria to be met as per the selection committee recommendations. The selected beneficiary list is shown in annexure 3. All these beneficiaries are entitled to the chili collection centre benefits as well. Selected farmlands are scattered across the GN division and it is not possible to demarcate affected boundaries and features. The selected location for the collection centre is accessible through a gravel road. The nearest house is around 30 m away from the location and there are six houses found within the 50 m boundary. All adjoining lands are private owned lands. The

	selected land is a bare land and surrounded lands of the proposed area contains both cultivated and bare lands. 50 m boundary is shown below.  **Figure 3: 50 m boundary of the collection centre** The project is aiming minimum of 250 acres of chili cultivation and farmlands are located across the GN division. All these 250 acres are scattered among the Avusathapitiya villages. Technological support including drip irrigation technology will be on the farmlands themselves. The proposed collection centre land is 2 Acre land belongs to Department of Agriculture, Vavuniya South. Compost yard and drier will also established in the same land.
Adjacent land and features	The proposed dry chili cluster is belonging to the Irattaperiyakulam GN division which is under the Vavuniya South DS division. Irattaperiyakulam is one GN division out of the twenty in the DS division. The boundaries of the division are not continuous. It is bisected by the Vavuniya DS division. Geographically the Vavuniya South DS division is two separate sections where 8 GN divisions are surrounded by Trincomalee. Vavuniya district border, Anuradhapura Vavuniya District, and Vavuniya DS division border. The other 12 divisions are bounded by the Anuradhapura Vavuniya district boundary, Vengalachedikulam DS division boundary, and Vavuniya DS division boundary. Paddy is cultivated under irrigation systems in both minor and major medium tanks. Mainly these tanks are belongs to Agrarian Development Department and Provincial Irrigation Department. In addition, vegetable cultivation, livestock and dairy are most common economic activities in the area. However, paddy and vegetables are cultivated on a narrow strip of lands either side of Avusathapitiya main Road as beyond that forest lands belongs to the Forest Department can be seen. In the Irattaperiyakulam GN division paddy and other crops like Chilli, Red onion, big onion, green gram, Cowpea, Groundnut, Black gram, Maize, Ginger, and Kurukkan. Vegetables are also grown in the Irattaperiyakulam GN division. Further, perennial crops such as coconut, mango are found within the selected area. All selected farmlands are in general cultivation lands which farmers used to cultivate upland varieties such as vegetable, cereals, onion, etc in addition to their paddy lands. All adjoining lands are private owned lands. Most of these cultivated

	lands contain perennial crops such as coconut and mango. However, around 6 houses are within the 50 m boundary. Socio-economic infrastructures in area such as schools, hospitals, temples, post offices, etc observed to be functioning. However, other than the main road, rural roads are not yet improved in the area. Railway station is also located about 1.75km away from the area.

3. PROJECT JUSTIFICATION

Need for the project **(*What problem is the project going to solve*)**	Chili production is very low in the drier months of May, June, July and again in the rainy days of November, December and January. During the dry period production is affected due to extreme heat causing stress to the plant which in turn reduces the fruit set. Further, the presence of a peak insect pest population during the months of May to July also makes the plants less productive. Flower drops are very high during the rainy season and the wet conditions are more favourable for many fungal diseases leading to loss of production. The technology package of the insect-proof net and poly mulching along with the drip irrigation technology system would overcome the losses caused by biotic and abiotic stresses, especially during drier months. The hybrid chili variety MICHHY1 introduced by the Department of Agriculture is fairly resistant to the leaf curl complex disease which is the major cause for production loss and also other technical constraints encountered in chili production. Further, it provides an enhanced yield of more than two to four times compared to other normal recommended chili varieties. Thus, the project will use this hybrid chili variety for dried chili production to enhance proactivity and reduce losses. The new technology package for dried chili production is more remunerative than conventional dried chili production. This will pave way for a chili-based agribusiness to commercialize agriculture in the Vavuniya district. However, this new technology package requires a high initial cost and also a farmer group with an entrepreneurship attitude. The project will assist to build up these physical and human capacities for the selected two farmer groups for intensive chili cultivation and marketing practices. Chili is one of the most important cash crops of Irattaperiyakulam farmers. However, farmer's chili cultivation is mainly meant for green chili production, and dried chili production is very much marginal. Thus self-reliance on dried chili production is important for the country. The immediate objectives of modernization are to increase productivity, decrease the cost of production, improve value addition and provide a steady market through buy-back agreement. The ultimate goal is increased income and employment opportunities in production and value addition. Irattaperiyakulam farmers have prior experiences in dried chili production and marketing and each farmer has adequate land for commercial cultivation. High-yielding Hybrid chili seeds are locally available, and Vavuniya district farmers have good market access than the other northern districts. Further Year-round water availability for continuous cultivation is a key factor to commence the dry chili cluster at Irattaperiyakulam GN division.

	With the dry chili cluster project will cultivation overlaps with offseason, a higher price may provide more margins to farmers. Farmers will be able to access the export market for the value-added products and prevailing dried chili import restrictions could provide a ready market for local production. All the above benefits are directed towards the sustainable income of the farmers. In addition, below objectives to be achieved to increase the economy of selected farmers. a) Create a competitive market for the value-added products b) Increase young generation involvement for seasonal crop cultivation c) To introduce and demonstrate efficient and effective water management in dried chili production d) To organize farmers for group marketing and value addition With the expansion of cultivation, high-quality products will have higher prices, and the main purpose of the construction of the collection center is to ensure competitive market price for Chili by adding economic values beyond the existing value. In addition, below objectives to be achieved to increase the economy of selected farmers. a) To introduce machinery to improve the quality of dry Chili b) To provide storage facilities prior to releasing to the market c) To introduce various value-added products to the market d) To increase direct marketing opportunities Further, Compost unit facilities with necessary machinery and equipment will be provided to the societies for them to produce their own compost. Since organic manure application envisages a large portion of the cost of cultivation. The said compost unit will help the societies to produce their own compost on a commercial basis and sell it to the membership for a fee making it a viable business.
Purpose of the project (*What is going to be achieved by carrying out the project*)	Dried Chili production and value addition under the lift irrigation schemes project in Vavuniya is driven to achieve below objects. a) To expand national dried chili production b) To introduce and demonstrate new technology for enhanced productivity and value addition in chili production c) To organize farmers for group marketing and value addition d) To disseminate modern technology in dried chili production and marketing among other surrounding farmers. e) To introduce an environment-friendly sustainable dried chili production system To achieve these objectives, Project will provide each selected farmer ½ ac technology package consisting of the insect-proof net, Drip Irrigation system, GI pipes to erect the insect-proof net surrounding farmer field, polymulch , seedling trays for raising nursery plants, and MICHHY1 variety hybrid chili seeds for the farmers to commence cultivation in November 2021. Electric

	dryers provided to the society will be used to dry the ripen fruit for uniform drying and appearance. This will reduce the cost of manual sun-drying while increasing the quality. With the above-mentioned technological support, the below benefits will be there in addition to the project objectives. a) In Chili cultivation, nearly 60% of the cost of production is spent on labor. Labour-intensive operations like land preparation, irrigation, weeding, spraying, harvesting, and drying. The use of modern technology like drip irrigation, insect-proof net poly mulch, the electric dryer will reduce the use of labor in labour-intensive operations b) Further fertilizer use can be minimized to 10-20 % due to drip irrigation. Drip irrigation will also help reduce the use of Irrigation water by more than 50% of the traditional cultivation practice requirement. c) As insect-proof net and poly mulch are physically keeping away insect pests from the chili fields, thus there is no necessity for intensive use of chemicals to control pests. d) Increased productivity can be achieved due to the use of hybrid MICHHY1 variety which performs well under drip irrigation and polymulching practice. A dried chili yield of 3,000 kg /ac can be harvested using this technology compared to the 1,000 kg/ ac yield usually obtained under conventional cultivation systems and varieties. Thus, the use of technology reduces the cost of production on one hand and increases the yield on the other thereby increasing margins to the farmer in chili cultivation. Further, there is a project in the pipeline to provide value addition and quality improvements during the post-harvesting processes. The dried Chili collection centre is driven to achieve below objects. a) To introduce machinery to improve the quality of Chili production b) To provide storage facilities prior to releasing to the market c) To introduce various value-added products to the market d) To increase direct marketing opportunities Simply, the ultimate purpose of the overall project is to have sustainable income generation by agricultural activities. Finally, products should have required value additions to be competitive in the market, and the proposed collection centre will full fill the requirements in different ways. Currently, open drying of Chilli is taking place, and required humidity levels are not possible to control by the farmers. Chili drying machines will make sure the relevant qualities are met and the same type of value additions to be done for the Groundnut as well. Wastage of these types of crops is higher due to the lack of acceptable storage conditions and providing a proper storage facility is also can be considered as a key purpose of the project. Further, different value-added products will be directly exposed to the market without any interference from intermediate buyers. In addition, below objectives to be achieved to increase the economy of selected farmers.

Alternatives considered (*Different ways to meet the project need and achieve the project purpose*)	The "site alternative" would mean the feasibility of meeting the project needs at the selected cluster. Chilli is an important cash crop to the farmers in the Vavuniya district. Annually about 1,000 acres of chili is being cultivated in the district mainly for green chili. There is potential to expand this further, as land and water resources are available in the district. Irattaperiyakulam GN division has well-established farmer organizations already and production of seasonal crops is available immediately. There are experienced ground nuts, chili, and vegetable farmers and all these upland cultivations rely on technological support. Most of the farmers have large-scale, low flat farmer-based lands with traditional cultivation practices. These farmers are capable of cultivating chili of their entire uplands if they are getting technological guidance during the cultivation and also support on value-added services during the post-harvesting processes. Further, an attitude and market-led vision of field staff are highly acceptable. Hence, the selected area is highly supportive to meet the project needs within a short period of time with the expected quality. The "technology alternative" would mean different technology applications to meet the project needs at the selected cluster. On-farm technological applications will be introduced by ASMP with the dry chili cluster development plan. Hence, these technological improvements will result in consistent dry chili production to meet the project objectives. Farmer assets such as Hybrid chili seeds, Seedling trays, Drip tape Irrigation system, Insect proof net, GI pipes(40 pipes), and Polymulch film will be provided and society assets will be provided to complete the project. Further, a project is in pipeline to provide value additional services during the post-harvesting processes. Hence, technological benefits will be there for the existing farmers. The "no-action" alternative would mean that no Dry chili cluster project was undertaken by the ASMP and hence no irrigational support for the existing cultivators in the selected area. That will lead the same agricultural activities and economy of farmers won't increase. Therefore, conventional farm practices, low productivity, low quality, and low income will continue to dominate the economy of the farmers, and the agriculture sector will not develop in the Irattaperiyakulam GN division.

4. PROJECT DESCRIPTION

Proposed start date	November 2021
Proposed completion date	June 2022
Estimated total cost	LKR 85.275 million
Present land ownership	Collection centre land – 2 Acres: Department of Agriculture (Annex 5)

	Farm Lands: - Private Farmlands, Lands with deeds and permits (Total minimum 250 acres)
Description of the project (*With supporting material such as maps, drawings etc. attached as required*)	Planned interventions of the project includes: • Installation of drip irrigation system • Laying GI pipes • Farmer exposure visits • Nursery management • Introduction of quality and Productive enhancing technologies ✓ Insect proof net ✓ Polymulch ✓ Electric dryer • Training, capacity building and extension • Cluster post-harvest facilities, organic fertiliser facilities and others Agriculture Sector Modernization Project identified dried chili also one of the markets competitive and remunerative crops with potential for value addition. Chili is one of the main spice ingredients in cooking. The proposed dry chilli cluster will be implemented in Irattaperiyakulam GN division and the project consist with introduction of technology package for the cultivational practices and construction of collection centre to improve post harvesting process. The technology package of the insect-proof net and poly mulching along with the drip irrigation technology system would overcome the losses caused by biotic and abiotic stresses, especially during drier months. The proposed dry chili cluster will be financed for the technological improvements including installation of drip irrigation system, providing hybrid chilies, providing of Insect proof net, GI Pipes, Polymulch, Electric drier and required training and construction of collection centre. The project will select about 250 potential chili cultivating farmers who are fulfilling the selection criteria enabling the project to cluster the farmers into two groups for project intervention. Project will be focused on few physical activities such as activities related to the construction of collection centre, installation of drip irrigation system and cultivational activities starting from the land preparation activities. Most of the cultivational activities are similar to the existing practices and technological improvements will be added such as introduction of insect proof nets and polymulch. Operation stage of collection centre will be equipped with electric dryers. The hybrid chili variety MICHHY1 introduced by the Department of Agriculture is fairly resistant to the leaf curl complex disease which is the major cause for production loss and also other technical constraints encountered in chili production. The new technology package for dried chili production is more remunerative than conventional dried chili production. However, this new technology package requires a high initial cost and also a farmer group with an entrepreneurship attitude.

	The project will provide each selected farmer ½ ac technology package consisting of the insect-proof net, Drip Irrigation system, GI pipes to erect the insect-proof net surrounding farmer field, polymulch, seedling trays for raising nursery plants, and MICHHY1 variety hybrid chili seeds for the farmers to commence cultivation in November 2021. Electric dryers provided to the society will be used to dry the ripen fruit for uniform drying and appearance. This will reduce the cost of manual sun-drying while increasing the quality. Before commencing chili cultivation farmers will cultivate a groundnut crop in the same land during this Maha season commencing in October 2021. The project will supply groundnut seeds for them to initiate the project activity. After the groundnut harvest in December 2021, chili will be established with this new technology in January 2022. This chili crop will remain up to August 2022. After the first cycle of chili, the land will be rotated with groundnut again in October 2022 before commencing the second cycle of chili in the same land. Thus there will be two cash crops namely chili and groundnut cultivated continuously on a rotational basis. This will help break the pest build-up and also regenerate the fertility of the soil in addition to the additional revenue from groundnut to the farmer. The construction of the Chilli collection centre is to add value for the Groundnut & Chilli produced by the surrounded farmers. It will provide Chilli drying facilities and also required machinery to process up to marketable varieties of groundnut. Further, maintaining storage conditions of seasonal crops is very difficult at home and this collection centre will provide facilities to store value-added products until getting market access. Once the operation is established, controls of the collection centre will be taken by the farmer society. There will be permanent employment opportunities and also daily paid employment opportunities attached to the activities involved.

Project Management Team	A PMU was established under the Ministry of Agriculture to implement proposed project activities. **Project Director** Agriculture Sector Modernization Project Ministry of Agriculture No. 123/2 Pannipitiya Road, Battaramulla Tel: +94 112 877 550, Fax: +94 112 877 546 Email: projectdirectorasmp2@hotmail.com Web: https://www.asmp.lk/ Deputy Project Director – Northern Province Agriculture Sector Modernization Project Ministry of Agriculture Tel: +94 773 876 364 **Environmental and Social Safeguards Specialist** Agriculture Sector Modernization Project Ministry of Agriculture No. 123/2 Pannipitiya Road, Battaramulla Tel: +94 112 877 550, Fax: +94 112 877 546 Email: sanjayadms@hotmail.com Web: https://www.asmp.lk/ **Nature of Consultations and Inputs Received** Consultations with Environmental and Social Safeguard Specialist/ PMU • Great potential to increase Farmer income with less labour and inputs. • adopt Good Agriculture Practices (GAP) in his cultivation operations • Effective mechanism to attract young farmers for commercial agriculture. • Guide farmers to shift from subsistence agriculture to commercial agriculture • All farmers are waiting till completion of the project to extend the land area for the cultivation

5. DESCRIPTION OF THE EXISTING ENVIRONMENT

5.1 PHYSICAL FEATURES – ECOSYSTEM COMPONENTS	
Topography and terrain	Geographically the Vavuniya District falls within the Northern lowlands. Commonly the topography pattern of the District consists of gently sloping (0-8%) and undulating terrain types. The elevation varies from 100 – 300 feet from the Mean Sea Level and this district can be called a plateau. However, elevation in the particular GND varies from 240-320 feet. The southeast part of the district forms by the ridge of the mountain which separates the Northern Province. This part has the highest elevation in the North of Sri Lanka. The rest part of the district is a gently sloping plain. The slope is between 0 – 8%. The topography of the plains is undulating. The Vavuniya District is categorized under the areas of the dry zone of Sri Lanka and it is divided into 3 Agro-Ecological Regions namely DL1b (Dry zone- Low country 1b), DL1e (Dry zone- Low country 1e), and DL1f (Dry zone- Low country 1f).
Soil (*type and quality*)	The soil types of selected area are Reddish Brown Earths, Low humic gley, and alluvial soils. At present Reddish-Brown Earth is used for cultivation for a number of cereals, pulses, and subsidiary food crops during Maha season under rain-fed conditions and Yala Season under irrigation. In addition, forests are located in these soils, and also shifting cultivation is practiced. Alluvial soils are under cultivation with rice, subsidiary food crops, vegetables and are also used for grazing or for forest Reddish-brown earth soil is a well-drained soil found on the crest, upper slope, and mid-slope physiographic positions within undulating and rolling landforms. Depth of soil varies according to the physiographic position of the landform. Low Humic Gley soil is a deep and poorly drained soil found in flat terrain. The texture is sandy clay loam throughout the profile. Available soil moisture content is medium. It has low organic matter content and low available nutrient. Soil is used mainly for irrigated paddy.
Surface water (*Sources, distance from the site, local uses and quality*)	Selected farmlands of the proposed project are scattered across the GN division and there are 58 minor tanks under this ASC. However, few Irattaperiyakulam tank beneficiaries were identified during the community engagement program. Water bodies of the Vavuniya district are shown in figure 1. Both Irattaperiyakulam and Pavatkulam tanks are around 2.5 Km away from the proposed collection centre and Pavatkulam tanks is in low elevate than the proposed land.
Ground water (*Sources, distance from the site, local uses and quality*)	Based on field investigations, it is not possible to exactly quantify the availability, yield, and capacity within the project area. However, the water levels of agro wells in the area observed at about 15-25 feet deep. The water table goes deeper during the dry season, however, it rises up during the rainy season. Groundwater is used for drinking purposes through dug wells, however, “hard water” is found in the project area.

	The irrigation tanks serve the groundwater level in the District. During the dry season, 95% of domestic water uses depend on the groundwater in the District. The upland irrigated agriculture uses the groundwater resources in the District. Agricultural wells are a common sight in the area which is used to extract groundwater to irrigate small areas of high-value crops or to provide a supplementary and secure source of water for the paddy crop.
Air quality (*Any pollution issues*)	Any major air pollution sources in the vicinity of the project site are not recorded. Small scale industries and traffic may cause air pollution within the area. However, https://www.breezometer.com/air-quality-map/air-quality/sri-lanka/bogahawewa that the Air Quality Index (AQI US) of Irattaperiyakulam is 22/500 and O_3 is the dominant pollutant.
5.2 ECOLOGICAL FEATURES – ECOSYSTEM COMPONENTS	
Vegetation (*Trees, ground cover, aquatic vegetation*)	This selected area can be considered as the main food growing area as most of the paddy and other cereal crops, fruits, and vegetables are cultivated. In the Irattaperiyakulam GN division paddy and other crops like Chilli, Red onion, big onion, green gram, Guava, Cowpea, Groundnut, Black gram, Maize, Ginger, and Kurukkan. Vegetables are also grown in the Irattaperiyakulam GN division. Further, perennial crops such as coconut, mango are found within the selected area. Palu, Weera, Dan, Ketakala, Wood apple, Adathoda, Siyambala, Ahu, Mango, Cashew, Palmyrah, Teak, Kohomba, etc trees observed within the cluster area. In addition to the tree types, scrublands with thorn bushes native to the area. There can be seen invasive species such as manan, Parthenium hysterophorus, Lantana camara, Wathu palu, etc However, in general, forest, homesteads, paddy, field crops, waterbodies, and scrublands can be seen in the cluster area. Coconut and cashew are the major plantation crops. Since there are number of minor tanks in the area, there can be seen aquatic associated vegetation in the area.
Presence of wetlands	There are no wetlands in the area other than tanks associated areas and abandoned paddy fields. There is one major tank, 22 medium tanks, and 674 minor irrigation tanks functioning in the district. These water bodies include major and minor tanks, natural ponds, and rivers and streams. Water bodies cover around 6% of the district land while Wetlands represent 0.01% of the total land area. There are 58 minor tanks under this ASC. Most of the benefitted farmlands are getting water from the abovementioned minor tanks.
Fish and fish habitats	There is a Fisheries (FCS) Cooperative Society in the GN division, and 108 fishing populations were registered under this FCS. They are using small canoes and hand nets for fishing. The total catch for the year was 22.5 tones. Irattaperiyakulam is a major tank maintained by the central Irrigation department with a command area of 204 Ha. The tanks provide important habitats for a wide range of species including migratory birds and waterfowl, amphibians, and fish. Since the selected farm lands are scattered across the GN division, it is difficult to identify the possible impacted fish habitats. The closest tanks for the collection centre is an around 2.5 Km away and Pavatkulam tank is in low elevate than the selected land.

Birds (*waterfowl, migratory birds, others*)	Most of the boundaries of selected farmlands are attached to the dense forest reserves. Hence, many bird species can be found. The Tank and associated vegetation, natural scrublands, and abandoned paddy fields can be potential bird habitats including migratory birds. Many large birds such as owls, eagles, and hawks hunt rodents. Also, aquatic bird species such as cranes, storks, and herons feed on insects and crabs that pose a threat to rice production.
Presence of special habitat areas (*special designations and identified sensitive zones*)	There are no special habitats/areas on or around the proposed area.
5.3 OTHER FEATURES	
Residential/Sensitive Areas (*E.g., Hospitals, Schools*)	Commonly, there are religious temples scattered in the GN division and distance will vary depending on the closest farmland. There are two educational zones in the district, and one is in the North and the other one is in the South. There are 20 schools, and all are Sinhala medium schools of which two are National and 18 are provincial schools. Both the national schools are 1AB type and in the provincial school one school is 1AB type, 2 schools are 1C type, four schools are Type II and 11 schools are Type III. GCE O/L and GCE A/L. V/Parakum MV in the GN division is a 1AB school having 35 teachers including the principal and a large student population There is a General Hospital in Vavuniya Town and two Divisional hospitals at Ulukulama and Mamaduwa for the DS division. One M.O.H office in Irattaperiyakulam is also available. These two hospitals have 22 beds. Medical and non-medical cadres have been almost filled and in the case of lower non-medical positions excess is seen.
Traditional, economic and cultural activities	In the GN division, there are three villages, namely, are Irattaperiyakulam, Navagama, and Kurundankulama. The total area of the GN division is 10 Sq.Km. The number of families in the GN division is 295 consisting of 820 members. The population density of the division is 82.0 per sq Km or 0.33 persons per Acre. The number of persons per acre is less than one. The total population in the GN division accounts for 5.1% of the DS division's total population. Madukanda GN division registers the highest percentage (8.6%) and Poomaduwa and Track 07 GN divisions record the lowest (1.2 %) percentage in the DS division. Out of the total population, 404 or 49.3% of the population is male and 414 persons or 50.7% is female.

Age and sex wise population in the GN division

Age Range (Yrs.)	0-4	5-9	10-14	15-19	20-24	25-44	45-60	>60	All ages
Irattaperiyakulam	16	62	74	45	58	288	147	130	820
Percentage (%)	2.0	7.6	9.0	5.5	7.0	35.1	17.9	15.9	100.0

	Source:- Statistical Handbook 2019- Vavuniya Divisional Secretary The population in the age group of 0-14 and over 60 years is 282 and the population in the age group of 15-60 Years is 538. The total population in the GN division is 820. Hence, the dependency rate is 52.4%. The number of families relocated and resettled in the division are 341 Permanent families and 18 subfamilies. There are 105 women-headed households and 83 widows in the GN division. There are two female and one male differently able people in the division. Out of the unemployed population of 65 persons, 40 of them are male and 25 persons are female. In the total number of persons (286) earning income from employment 97 people are self-employed, 130 of them are Government employees and 14 people are non-governmental employees and the remaining 45 are categorized as others. Out of the 1727 senior citizens in the Vavuniya South DS division, 130 or 7.5% of them are in the Irattaperiyakulam GN division. In the dissenting order of the senior citizen population, this GN division is in third place next to Maradamaduwa and Aushadapitiya. In the GN division, farmers cultivate paddy for two seasons. When the water is available in the tanks, they cultivate in the Yala. Maha season cultivation mainly depends on rain, and they cultivate more land area than the Yala. In addition to paddy farmers cultivate vegetables, yams, leafy vegetables, other field crops, and fruits in the GN division like in the district. In the year 2019, there were approximately 500 neat cattle. 93 goats 2,450 poultry in the GN division. From the cattle population, 143,000 litters of milk were collected and marketed in the division. Issue of on day-old chicks, breeding materials, artificial insemination, and vaccination programs are done promptly in the division by the Divisional Veterinary office in Irattaperiyakulam. The existence of water bodies in the DS division has influenced the development of freshwater fishing in the area. There is a Fisheries (FCS) Cooperative Society in the GN division, and 108 fishing populations were registered under this FCS. However, only 15 fishermen were active in 2019. They are using small canoes and hand nets for fishing. The total catch for the year was 22.5 tones. Irattaperiyakulam is a major tank maintained by the central Irrigation department with a command area of 204 Ha. There are two Agrarian Service Centres servicing the DS division farmers. One centre is at Mamaduwa and the other is in Ulkulama. Mamaduwa centre is servicing the farmers in the GN division. There are 58 minor tanks under this ASC. Fingerlings are stocked in perineal and seasonal tanks with funding from NAQDA. The Government Veterinary Surgeon office is functioning in the district providing services such as distributing day-old chicks, artificial inseminations, and vaccination for the animals. Milk, eggs, and meat are produced in the district and the Irattaperiyakulam GN division is also contributing to the district production. Value addition is very minimal in the livestock sector. Electricity is available in the division but only 2 houses and 2 industries, are connected to the main grid. Other energy sources such as firewood, kerosene, petrol, diesel, and LPG are available, and a filling station is located to serve the diesel, petrol, kerosene, and LPG for the area. Under the

	Provincial RDD, 09 C class roads and 02 D class roads of 89.3 and 7.6-kilometer length is being under the jurisdiction of the DS division. One such C-class road connecting Irattaperiyakulam and Puthoor of length 5.9 Km is within the GN division. Similarly, a section of the A9 road is also passing through this GN division. Motorcycles are the main vehicles for transport. Approximately there are 3,136 motorcycles, 578 three-wheelers, 231 Land vehicles, 226 dual purpose vehicles, and 155 cars have been registered up to December 2019 in the GN division. Transportation from the main roads to interior areas is expensive. Very few public transport facilities are available in the division. Banking services are available and 36 financial institutions with branches are functioning and mainly in Vavuniya Town. Mamaduwa Samurdhi Bank and Irattaperiyakulam Cooperative Bank are the nearest banks for the people in the division. There are carpentry workshops, food product businesses and saloons are functioning, and 12 males and 4 females are working in these small-scale or cottage industries. Cooperative Societies with different categories are being functioned in the DS division, However, the GN division information is not available. There are 248 permanent housing units in the GN division. Source of drinking water is available from pipe bone water supply, protected wells inside the premises, protected wells from outside the premises, unprotected wells, and rivers or tanks. 387 families, access to electricity, and 58 families use kerosene for lighting. 375 families have pit toilets while 20 families have flush toilets. Mainly people use firewood for cooking in the division. LPG is used by 20 families and Kerosene is used by 29 families for cooking purposes. There is a General Hospital in Vavuniya Town and two Divisional hospitals at Ulukulama and Mamaduwa for the DS division. One M.O.H office in Irattaperiyakulam is also available. These two hospitals have 22 beds. Medical and non-medical cadres have been almost filled and in the case of lower non-medical positions, the excess is seen. One PMCU is functioning in Bogeswewa. Dengue fever is a major illness treated in medical institutions. There is an Ayurvedic Dispensary in the division and 12,527 people have got treatment in 2019. There are two educational zones in the district, and one is in the North and the other one is in the South. There are 20 schools, and all are Sinhala medium schools of which two are National and 18 are provincial schools. Both the national schools are 1AB type and in the provincial school one school is 1AB type, 2 schools are 1C type, four schools are Type II and 11 schools are Type III. A high rate of student dropout has been registered in the DS division after year 9. GCE O/L and GCE A/L. V/Parakum MV in the GN division is a 1AB school having 35 teachers including the principal and a large student population. Samurdhi beneficiaries in the GN 65 and 12.3% of the beneficiaries are receiving Rs 3,500 per month, 18.6% of the families are receiving Rs 2,500 per month and the remaining 69.2%% of the beneficiaries are receiving Rs.1,500 per month. 53 people are receiving government financial assistance such as PAMA, kidney disease, and spinal cord problems in the GN division. Financial assistance for PAMA recipients ranges from Rs 250/= to Rs 500/= per month and 34 persons are receiving this assistance. In the division.

	Further, four cancer patients in the GN division also receive monthly assistance from the DS office. There are 38 differently able people, 62 widows, 17 women-headed families, 387 dependent, and 101 poor families in the GN division. Out of the 05 differently able people, 02 of them are affected by war. Three hundred and twenty-four families with 1065 members were resettled in all the villages from 2009 to 2011 in the GN division. Communication facilities of service providers are available in the GN. The details of community organizations are not available from the division. However, youth clubs and Cooperatives are actively involved in community work. WRDS and RDS societies must be working in the GN division but the information is not published in the Statistical Handbook or resource profile. Children club or youth club is not functioning in the division. Women involvement in development activities seems to be very limited farming works and family caring.
Archaeological resources (*Recorded or potential to exist)*	Vavuniya south DS division has approximately an area of 5.3 ha archaeological and historic value and one archaeological location is found in the Irattaperiyakulam GN division at Nawagama also known as Kiriwehera. There are few religious places scattered across the Irattaperiyakulam GN division and no historical places were found. However, any of these won't be affected by the project activities.

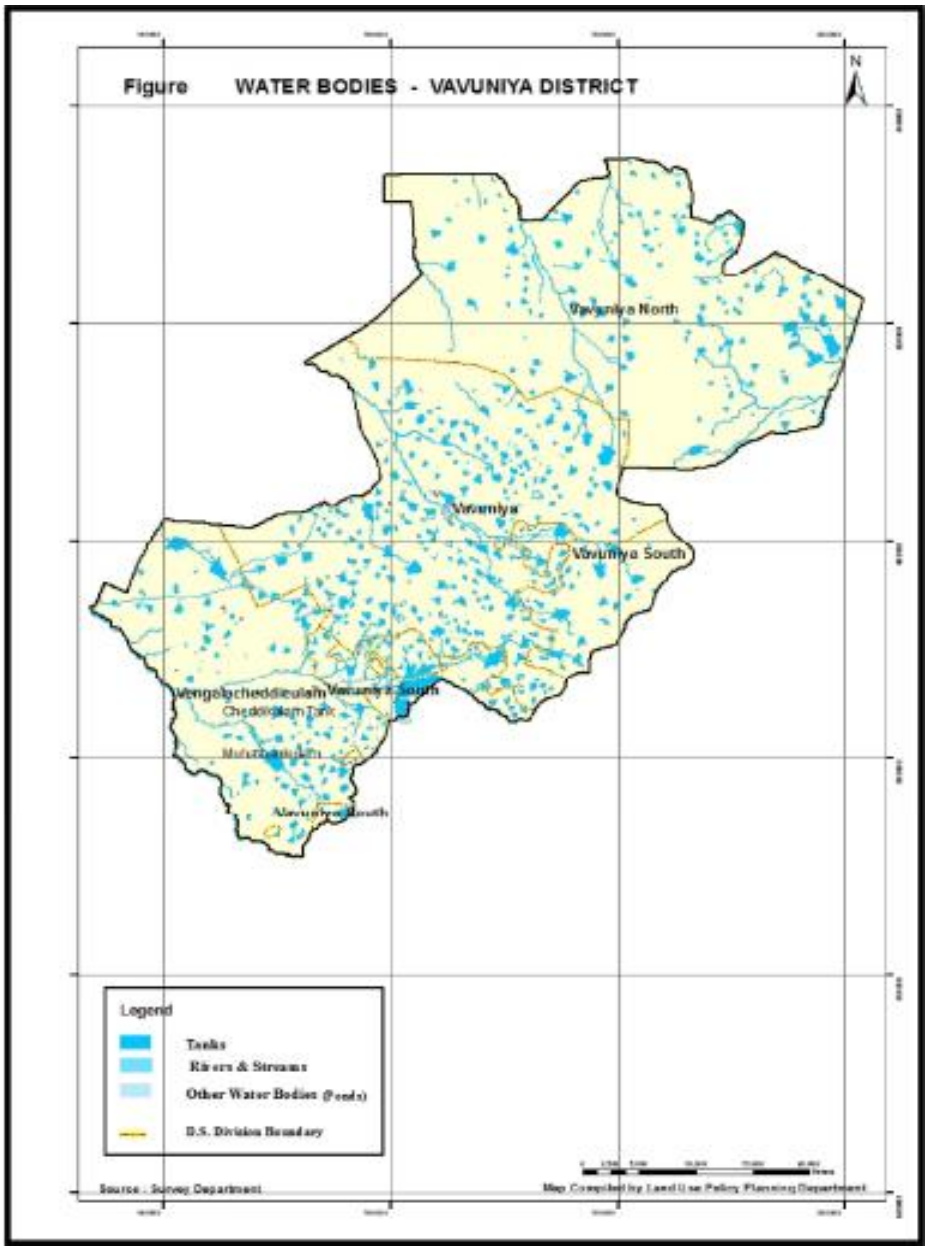


Figure 4: Water bodies of Vavuniya District (Source Land Use Policy Planning Department, Ministry of Lands, 2016

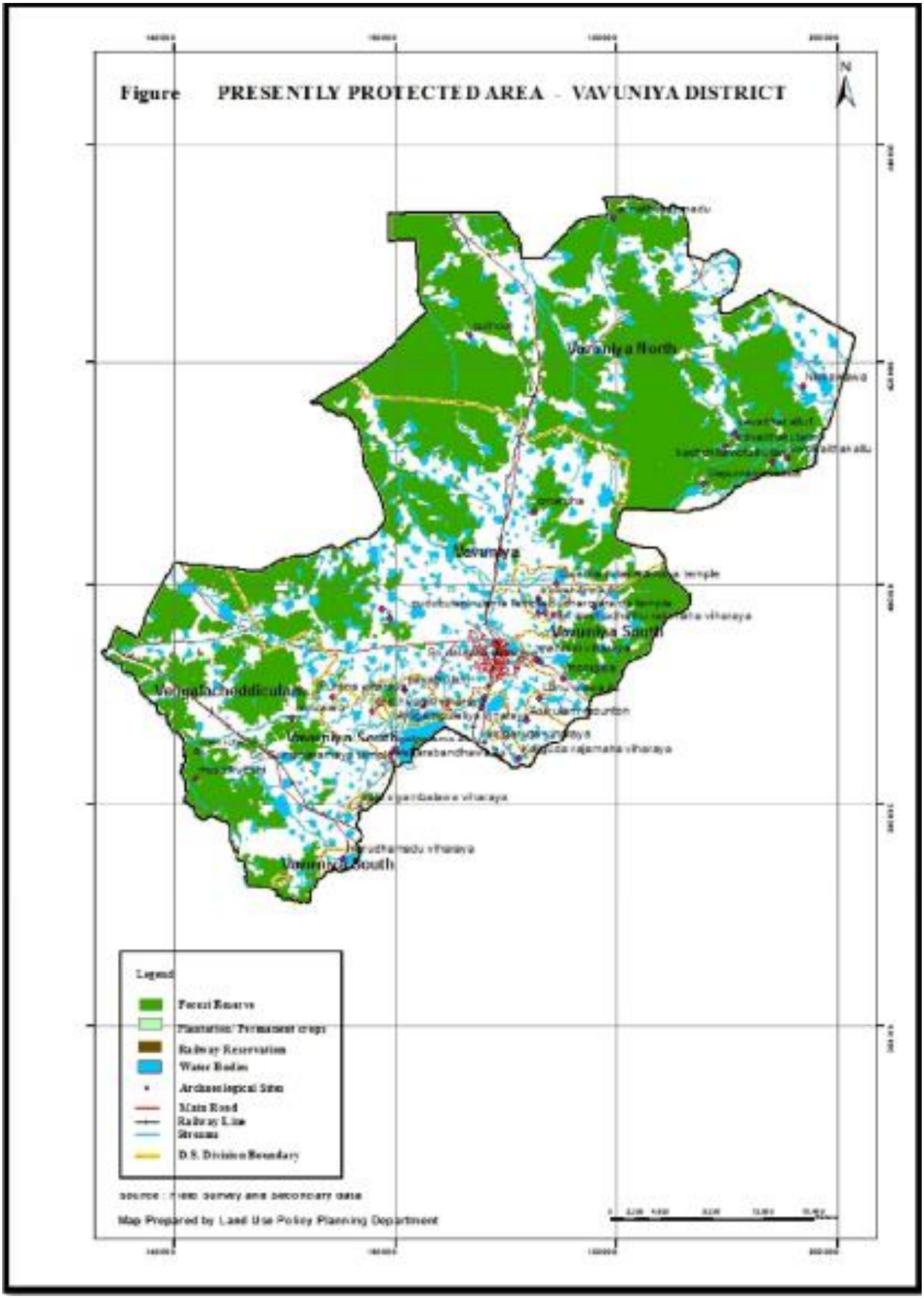


Figure 5: Protected areas – Vavuniya District

6. DESCRIPTION OF PROPOSED AGRICULTURAL ACTIVITIES

6.1 Cultivation	
Existing Condition of the Crop	The subproject concerns the introduction of new technology for the farmers who are practising the traditional irrigation system for Chilli cultivation. The screening revealed that the existing watering system is a high-cost method and it increases water losses and wastes more time. The selected farmers will be encouraged to obtain high yield with more quality from their cultivations with improved irrigation system and it will be indirectly benefitted for customers too since they have the opportunity to buy high-quality fruit products at the local market. Annually about 1,000 acres of chilli is being cultivated in the district mainly for green chilli. Presently, there are some farmers cultivating chilli and used land slots are low compared to the other crops. This is mainly due to the lack of technological applications. Farmers were further discouraged due to low yield due to pests and diseases, moisture stress, shortage of availability of quality seeds, high inputs costs, the unstable market situation with the Government import policy. As a result, farmers withdrew themselves from the chilli cultivation. The land area that is being used for chilli cultivation in this area is an average of 0.5-1 acre. Marketing and all other activities related to Chili cultivation are at present attended by farmers individually with no collective bargaining for sales. The closest market for these selected farmers is Vavuniya and the Price fluctuation is the major issue faced by Farmers. At the present market price of 1 kg of dried chilli is about 550 LKR. Furthermore, a short supply is direct to the retail market, mainly to the local boutiques. Chilli cultivation has always been associated with inappropriate and indiscriminate use of pesticides and high labour input for weed control, both of which have significantly contributed to increasing the cost of cultivation. The continuous and indiscriminate use of pesticides has major drawbacks such as adverse effects on human beings and other non-target organisms, development of pest resistance, an outbreak of secondary pests and environmental pollution. However, agrochemicals have not shown successful results for controlling the leaf curl complex. At present farmers prefer to produce green chilli than dry red chilli due to high price, ready market, high return, lack of availability of drying facilities, high labour input for drying etc. For dry chilli, production harvesting should be done at the proper stage with more than 80% red coloured pods and the use of tarpaulins when dryers are not available. This subproject encourages Chilli crop production in the dry zone of Sri Lanka. The introduction of a drip irrigation system will save the water and it will be benefited to conserve the groundwater table of the area. Further, the current watering system (Irrigation) encourages spreading diseases since the irrigated water flows over the total cultivation land.
Polluting Processes (point source)	
In cultivation, some key polluting steps, although limited, take place; mainly in the cultivating and post-harvesting phases.	

Land preparation for cultivation	In general, farmers prepare nursery beds width of almost 0.9m (3ft) in well-drained virgin soil. Farmers sterilized soils before sowing by burning the nursery bed with rice husk and rice straw. At present some farmers use seed treatment with fungicides recommended by the DOA or chemical companies. Usually, nursery beds are prepared a few days before seeding. Application of compost or any other organic manure is a common practice. In addition, the application of recommended fungicide for control of damping-off and anthracnose is also practiced. After seeding seeds are covered with a layer of soil and straw. Thereafter, remove the mulch 7-10 days after sowing before the seedlings overgrow through the mulch. To avoid hot sunlight and heavy rain cover the bed with Cajon leaves or transparent polythene. Then almost one week before transplanting control water application. When the seedlings are ready for transplanting planting will be done with the onset of rain. Land preparation is done by using agricultural machinery such as ploughing or disking for the cultivation of OFCs and vegetables. In general, raised beds are prepared width of 0.9 m (3ft) to facilitate proper drainage due to high clay in paddy soils. Some farmers make farrows without making beds. The majority of farmers make planting holes approximately with the spacing of 50x50cm or 60cm x50cm. In general, compost and chili chemical fertilizer mixture are applied in the hole.
Water requirement[1]	Water is applied immediately after transplanting. After planting, they apply different chemical fertilizers every 3-4 weeks. Though flood irrigation is popular among farmers it has created many problems due to poor drainage of soils found in the area. Excess water use due to flood irrigation could be considered as the main reason for the increase of diseases and subsequent low yield. New low-pressure drip irrigation systems that conserve water and prevent laminar erosion; precise application of fertilizers using the low-pressure irrigation systems and based on soil and foliar analyses. Drip irrigation will also help reduce the use of Irrigation water by more than 50% of the traditional cultivation practice requirement.
Use of fertilizer and pesticides and weedicides	Farmers use chemical fertilizer for Chilli cultivation. Urea is used as the nitrogen source, Rock Phosphate and Triple Super Phosphate are used as the phosphate source and Mutreate of Potash is the Potassium source. However, the proposed project will not provide chemical fertilizers and is also not encouraged to do so. Further, the chemical fertilizer to cultivate 0.5-acre slots will be low and farmers will be used their own space to store if required. Leaf Curl Complex (LCC) was identified in the 1980s considered a major threat for chili cultivation particularly in the dry zone of Sri Lanka. Chilli leaf curl complex is prominent especially in Yala season than in Maha season. Therefore, the objective of the chili hybridization and selection program of the DOA targeted to develop new chili varieties with tolerance/resistance to leaf curl complex (LCC), Choanephora blight (Choanephora spp.), Anthracnose (Colletotrichum capsicum), Leaf spot (Cercospora capsicum), etc. In addition, insect pests are also major constraints to the production of chili in Sri Lanka. It

[1] https://doa.gov.lk/FCRDI/index.php/en/crop/42-green chili-e

	reduces not only the production but also the quality of pods. Important pests reported in chili are Trips (Scirtothrips dorsalis), Mites (Hemitarsonemous latus), Aphids (Aphis gossypii, Myzus persicae), Whitefly (Bemisia tabaci), Pod borer (Spodopetera litura / Helicoverpa armigera), etc. Chilli leaf curl complex identified as due to damage by thrips (Scirtothrips dorsalis), mites (Hemitarsonemous latus), and aphids (Aphis gossypii, Myzus persicae), and viruses transmitted by whitefly (Bemisia tabaci). Therefore, farmers apply various agrochemicals available in the market. Chili cultivation has always been associated with inappropriate and indiscriminate use of pesticides and high labor input for weed control, both of which have significantly contributed to increasing the cost of cultivation. The continuous and indiscriminate use of pesticides has major drawbacks such as adverse effects on human beings and other non-target organisms, development of pest resistance, an outbreak of secondary pests, and environmental pollution. The project proposed by the DOA is a selection of quality seeds, use appropriate nursery management techniques, early planting, use of barrier crops, use of recommended fertilizer, use of sticky traps, use of mulches, spraying of water, control weeds, adequate irrigation, and use of insect-proof net.
Harvesting	At present farmers prefer to produce green chili than dry red chili due to high price, ready market, high return, lack of availability of drying facilities, high labor input for drying, etc. For dry chili, production harvesting should be done at the proper stage more than 80% red coloured pods and use of tarpaulins when dryers are not available.
Post-harvest storage and transportation	This Chili is mainly used as dry chili and a quality drying process is important. Therefore, the harvest should be transported to the collection center after harvesting. Grading, drying, and packing of the dried chili is an essential part during the post-harvest period as it helps to cut down the losses and increase the high quality and value. Therefore grading, drying, packing, and transporting should be undertaken with improved technology. These technology facilities will be available for farmers.
Other factors	
Solid waste	The solid organic waste is generated as crop residuals and at the post-harvest period. All the crop residuals and post-harvest waste should be burnt or buried under soil to keep the hygienic condition of the farmlands.
Wastewater	Due to the application of an integrated pest management mechanism, soil and ground/surface water pollution will be minimalized. ASMP will conduct the awareness creation and training programs for both farmers as well as the officers regarding integrated pest management as per the Pest Management Plan (PMP). Application of IPM during implementation of Chilli cluster is given below:

7. APPLICATION OF AN INTEGRATED PEST MANAGEMENT PRACTICES FOR DRY CHILLI CLUSTER

SN	Crop stages	IPM Practice/ practices	Impacts of IPM Practices	Benefits
1	Pre-Land preparation stage	• Proper removal of debris, residues, and host plants (Burring, dumping, compost making) - Keep land clean. • Deep ploughing during dry seasons • Field sanitation by burning straw or paddy husk or spreading transparent polythene cover	• Fewer incidents of pests, diseases, and weeds, • Improvements in aeration in the soils	Farmers maintain pest and disease-free fields
2	Land preparation stage	• Deep ploughing and making soils into fine tilth using a rotavator. • Removal of weeds and their residual parts (tubers and rhizomes etc.) • Sun drying, adding cow dung and compost	• Destructions of pests (eggs and cocoon and adult) • Control weeds growth • Good drainage	• The low incident of pest attack • Low water stagnation leads to healthy plants and low virus wilt diseases
3	Planting stage	• Growing resistance variety, using disease-free seeds, seed treatments, and carrying out good nursery management (Sanitation of nursery by burning of paddy husk and straw). • Removal of unhealthy plants	Healthy plants	Fewer incidents of pests, diseases attack
4	Seedling stage/ Planting stage	• Using appropriate spacing and timely planting (Collective planting by all farmers at a particular time frame in early in the season) • Border planting (selecting insect-repelling plants)	Pest and disease-free fields	Fewer incidents of pests, diseases attack

SN	Crop stages	IPM Practice/ practices	Impacts of IPM Practices	Benefits
5	Juvenile stage	• Identifying pest, disease – Proper Removal of unhealthy plants. • Controlled watering by using a drip irrigation system • Using insect protective net or clothes • Proper manual weeding	• Pest and disease-free fields • Weeds free fields	Fewer incidents of pests, diseases attack
6	Flowering stage	• Identifying pest, disease – Proper Removal of unhealthy plants. • Removal of the larva (hand collection) • Controlled watering by using drip irrigation system	• Pest and disease-free fields • Weeds free fields	Fewer incidents of pests, diseases attack
7	Maturity stage	• Identifying pest, disease – Proper Removal of unhealthy plants. • Removal of the larva (hand collection) • Controlled watering by using drip irrigation system	• Pest and disease-free fields • Weeds free fields	Fewer incidents of pests, diseases attack
9	Harvesting stage	• Removal of infected/ affected chili pod • Controlled watering by using sprinkler system	• Pest and disease-free fields • No pest and diseases spreading	Fewer incidents of pests, diseases attack
10	Post Harvesting stage	No post-harvest	----------	----------
11	Storage stage	No storage	----------	----------
12	Transport stage	Proper packing in hygienic gunny bags and transport	No pest and diseases spreading	Low incidents of pest and disease attack
13	Marketing stage	No	No	No
14	Any others	Inorganic fertilizer and chemical are used when there is necessity only	Pest and disease-free fields	Fewer incidents of pests, diseases attack

8. PUBLIC CONSULTATION

The consultation was held with the support of the project director, project engineer, agricultural scientist of the Northern Province, and the project coordinator of the selected DS division. Overall project implementation and future plan were discussed with them and deep level information was collected. They were trying hard to rehabilitate and distribute water as soon as possible to the beneficiaries.

Farmer gatherings were not conducted due to the pandemic situation. However, on-field discussions were conducted with benefitted farmers while ensuring COVID 19 safety precautions. The conclusion of the consultation was clear, and it was to rehabilitate the pump house and provide water immediately starting from next season onwards. Further, the following comments were taken during the discussions held with farmers in the selected area. A summary of the matters discussed is shown below.

Name	Details	Matter Discussed/ Suggestions
Duminda Sampath	He is a young farmer living with his wife and altogether there are five family members.	He has 6 acres of high lands and currently cultivating seasonal crops in these lands. His main crop is chili and water is used from the agro well. Manual weed control is adopted for his cultivation practices and monkeys are the main wild animal threat for his crops. He is very interested to get the benefits from the project since it includes technological guidance to maintain high yield and the quality.
Thushara Tharanga	He is the agricultural instructor of the selected project area.	Presently, he is working on selecting beneficiaries and the location to establish the Collection center, and compost yard

- **Water availability and accessibility**

All above-selected farmlands are uplands and open wells are the main water source for the water. These lands will be fed by pumping water from the open wells and flood irrigation is used for the cultivation. Drip irrigation technology will be provided through the ASMP project and it hopes to reduce water usage by 50% compared to the traditional water usage. All most all beneficiaries have their own open wells/agro wells or tube wells for the cultivation and maximum utilization ensure 1-1.5 acres of different crops. They cultivate two seasons per year using these resources and maximum land usage is limited to 1-1.5 acres. The water level is 6-7 m below the ground level and it goes deeper with the dry season.

- **Issues bound with flood irrigation system**

Excessive flood irrigation creates many problems such as waterlogged conditions, poor crop performances, high disease incidence and waste of water, high soil erosion due to prolonged flood irrigation were identified in underwater conservation and management discussions. Bringing water to inaccessible lands was a prioritized question raised by farmers and the introduction of water-conserving and low-pressure drip and the mini sprinkler systems was highlighted during the discussion. However, technical knowledge on implementation and continuity of mini sprinkler systems needed to be given.

- **Failure on export market**

One of the main objectives of the project is to full fill the local market-based production and doubt were highlighted that what will happen if local market demand is lower than the supply. Are there any options available in the local market for excessive production?

- **Infrastructure development**

Some farmers looking to bring water to lands that are not flooded by the existing irrigation systems. Hence water and drainage work is required to bring water to farms and to avoid flooding and waterlogging. Further construction of the post-harvesting collection centre and the elephant fence were highlighted during the discussions.

Further, there were points highlighted during the discussions such as the use of weedicide, poor and inefficient land utilization patterns, attention for micronutrient fertilizers, and knowledge of farmers for pest management mechanisms for better crop production. There is a high tendency of using organic fertilizers and most of them are producing compost on their own. Further, livestock farming is found at each beneficiary.

The majority of the community is willing to support the project activities as they will benefit from the proposed sub-project directly. Extensive social screening has been covered under the Social Safeguard component.

Figure 6: Existing environment of land selected for the collection centre


Figure 7: Existing lands for Chili cultivation

Figure 8 : Onsite discussions with farmers

- **Existing environmental issues**

Some farmlands are accessible through gravel roads and most of these are eroded during rainy seasons. All these roads are to be developed to ensure the smooth transportation of goods. Further, it was highlighted that elephants are damaging the crops 3, 4 times per year. In addition, crop damages from monkeys were highlighted by a few farmers. Farmers are aware that there is a project under ASMP to build an elephant fence. However, the type of the elephant fence and the how and covering what area is not finalized yet.

9. ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

8A. SCREENING FOR POTENTIAL ENVIRONMENTAL IMPACTS

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
1	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?)	√		1) Low-moderate	The existing land preparation and flood irrigation system will be changed. Land preparation techniques will focus on reducing the effects of flood irrigation. No significant disturbances for any existing land use or waterbodies and no negative impact causes are anticipated. Construction of the chili collection centre will take place on bare land and construction activities will slightly change the topography. Debris/unsuitable excavated or clearing material should not be disposed of improperly.
2	Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	√		Moderate	Pesticides, weedicides, fertilizers, and some additional chemicals will be used and there is a possibility to have chronic impacts due to the long-term usage. However, proposed techniques will reduce the number of chemicals and fertilizers used and modern techniques/methods will be introduced to increase productivity by other means. In terms of the construction of the building will have substances that could harm human health and the environment such as cement? During the construction transport of material and construction activities including vegetation removal, site preparation, and material piles will emit dust and fugitive particles. However, as

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
					the affected area is small, and mitigation is straightforward; therefore the significance of the effect can be considered as low.
3	Will the Project produce solid wastes during construction or operation?	√		Low	Lands clearing and preparation stage there can be an insignificant solid waste generation. During the operation, solid organic waste will be produced as crop residuals. During the construction of the building, excavated material and debris will be generated and the contractor is responsible to manage this waste properly until it is disposed of properly. Solid waste collected on the site should be disposed of by the contractor himself at a suitable location. During the operation, solid waste will be generated such as residual crops from the value addition process. Since it is an operation centre having machinery, there will be disposable machinery or related parts with less frequency. Solid waste collected on the site should be disposed of by the farmer societies themselves at a suitable location.
4	Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	√		Moderate - high	Pesticides, weedicides will be used and released into the air. Possibility to have significant impacts on other flora & fauna.
5	Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	√		Low	There will be an insignificant noise generation from machinery during land preparation and crops transportation

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
					During the construction of the collection centre, noise and vibration impacts can be anticipated. Site clearing, excavation, backfilling, compaction, loading, and unloading of materials are potential sources of noise and vibration during construction. Further, Noise and vibration impacts can be anticipated during operational activities of the collection centre.
6	Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater or coastal wasters?	√		Moderate	All chemicals used, including pesticides and weedicides during cultivation, may contaminate land or water. It will have an impact on surface and groundwater in surrounding areas if not properly managed
7	Will the project cause localized flooding and poor drainage during construction Is the project area located in a flooding location?		√		The project will not cause localised flooding. However, the drip irrigation system will be introduced under the project to prevent flood irrigation
8	Will there be any risks and vulnerabilities to public safety due to physical hazards during construction or operation of the Project?	√		Low	No severe health and safety hazard was identified. Better hazard identification and prevention and corrective measures during operation will eliminate the risk associated. All the safety measures deployed in "Best Engineering Practices" need to be adopted during the construction period.

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
					Safety issues in terms of injuries due to construction work, using heavy machinery could be anticipated. However, such incidences can be avoided with proper precautions exercised on health and safety aspects.
9	Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	√		Low	Chili transportation from cultivated lands to post-harvesting storages and transportation from post-harvesting storages to shipments/or any other location will be taken place. No creation of significant environmental problems.
10	Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?		√	N/A	
11	Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?		√		No areas or features with high landscape or scenic value on or around the location.
12	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 water bodies, the		√		No important or sensitive areas identified on the project location affected by the project.

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
	coastal zone, mountains, forests which could be affected by the project?				
13	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?		√		No such identified areas
14	Is the project located in a previously undeveloped area where there will be loss of green field land		√		No such Greenfields are encountered.
15	Will the project cause the removal of trees in the locality?		√		No removal of trees foreseen.
16	Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?		√		No features of historic importance identified
17	Are there existing land uses on or around the location e.g. home gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or		√		

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
	quarrying which could be affected by the project?				
18	Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?		√		No densely populated or built-up areas affected by the project.
19	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 sensitive land-uses in the vicinity affected by the project.
20	Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?		√		
21	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 be affected by the project?		√		No location where any environmental standards exceeded or have environmentally polluted.

8B. Environmental Management Plan

Contractor's responsibility for mitigating adverse environmental issues raised during agricultural activities

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
1	Public complaints and lack of community support for the project implementation	• Information Disclosure among Stakeholders • Community Outreach activities including training	• Discussions should be conducted with the beneficiary farmers including women, and youth • The beneficiary farmers selection based on the criteria which were developed at stakeholders meeting and identifying of beneficiary farmers were undertaken transparently • Residents in the area will be briefed on the project, purpose and design, and outcomes with a comprehensive discussion • Communication and training activities focusing on women, youth, and farmers who are poor in communication • The contractor should take note of all impacts, especially temporary issues and safety hazards that will be of concern to the cropping pattern of the farmers. All possible impacts will be mitigated as stipulated in the EMP to mitigate them • The contractor will maintain a log of any grievances/complaints and actions taken to resolve them • A copy of the EMP should be available at all times at the project supervision office on site
2	Spreading COVID 19 virus	• All activities	• The contractor must ensure that all workers, including managers, are well trained on COVID 19 safety precautions published by the health ministry. • Follow general health guidelines issued by Ministry of Health, Sri Lanka on COVID-19
3	Lack of knowledge on basic harvest and post-harvest practices lead to low quality of	• Mechanical scarring and bruising quality defects	• Maintain good hygiene and good housekeeping

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
	product and high amount of waste	• Cleaning the selected product • Storing the harvested product before delivery to the drying facility • Discarding poor quality Chili and other waste organic materials in the field	• Practical training for the selected farmers on basic harvest and post-harvest practices to protect the quality of the product and to assure the packing facility receives only clean and viable product • Avoiding mechanical scarring and bruising quality defects • Provide packaging materials and storage facilities
4	Activities related to installation of drip irrigation systems	• Installation of drip irrigation systems • Fixing water pumps and electricity supply • Plumbing works	• Carry out installation works during off cultivation seasons • Solid waste generation during installation should be minimized and disposed generated waste with care • Potential damages to pipe system should be minimized by burying or covering the pipe distribution
5	Spreading of Invasive Alien Species	• Vegetation clearing • Cultivation of Chili	• Provide DOA certified Chilli variety only to farmers • Good housekeeping • Manual and integrated weed control • Prevent weed spreading via organic manure (Compost) by periodic inspection and manual removal after application
6	Noise Pollution & Vibration that can affect nearby structures	• Use of tractors and agricultural equipment/ machineries • Transportation of products from farmlands to post harvesting storages	• Working time for noise/vibration generation activities should be restricted and carried out only from 6 am to 6 pm. • Noise related to all agricultural improvement activities should not exceed 55 dB (daytime) and 45dB (night time) as practicable as possible. • Equipment and machinery should be maintained in good condition. • It is highly recommended to do transportation during the daytime only

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
7	Contamination of water, land and air during usage of chemicals (pesticides, weedicides.)	• Land preparation • Vegetation clearing • Use of fertilisers • Use of chemicals for specific requirements	• Introduce technological methods to reduce dosage amounts • Awareness of usage time, handling, and storage • Guidance on a suitable time for the usage of chemicals • Promote organic fertilizers • Formulation of fertilizer regimes based on complete soil tests and foliar analysis
8	Water Quality	• Cultivation of Chilli	• Excess water extraction is to be cut down to preserve the ground water table • Proper introduction of drip irrigation practices instead of flood irrigation to preserve water and use of modern techniques to reduce water consumption • Proper irrigation practice to avoid excess water drain back to the RB canal
9	Solid Waste Disposal	• Organic materials in the field • Waste from weed control activities	• Burnt to maintain the farmlands' hygienic condition • Use post-harvest waste for compost production
10	Spread of crop related diseases among other flora species	• Throughout the cultivation period	• Provide technical guidance on application of chemicals including dosage, suitable time and frequency • Pest population and pest damage surveys to assess pest threshold status for application of pesticides
11	Health hazard	• Use of agrochemicals (fertilizers, pesticides, weedicides etc.)	• Carry out proper hazardous identification and risk assessment of all proposed activities • Training and awareness on safe chemical handling • Implement proper health and safety protocols by elimination, substitution, engineering controls, administrative control, and providing personal protection equipment (PPEs). Provided

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
			necessary PPEs (basic should include gloves, goggles, masks, and protective clothing) • A safety inspection checklist should be prepared to take into consideration what the workers are supposed to be wearing and monitored • Pest and disease control according to the international standard and pest management action plan prepared by ASMP • Formulation of fertilizer regimes based on complete soil tests and foliar analysis • Pest population and pest damage surveys to assess pest threshold status for application of pesticides
12	Temporary loss of livelihood due to inability to grow crops during Installation works	• Installation of dripirrigation systems	• Implement project activities during the off-season of upland cultivation. • Carry out sub project activities to a strict timetable to prevent excessive losses to the farmers

Contractor's responsibility for mitigating adverse environmental issues raised during construction of collection centre which should be included in the Tender Document

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
1	Public complaints and lack of community support for the project implementation	• Information Disclosure among Stakeholders • Community Outreach activities including training	• Discussions should be conducted with the beneficiary farmers including women, and youth • The beneficiary farmers selection based on the criteria which were developed at stakeholders meeting and identifying of beneficiary farmers were undertaken transparently

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
			• Residents in the area will be briefed on the project, purpose and design, and outcomes with a comprehensive discussion • Communication and training activities focusing on women, youth, and farmers who are poor in communication • The contractor should take note of all impacts, especially temporary issues and safety hazards that will be of concern to the cropping pattern of the farmers. All possible impacts will be mitigated as stipulated in the EMP to mitigate them • The contractor will maintain a log of any grievances/complaints and actions taken to resolve them • A copy of the EMP should be available at all times at the project supervision office on site
2	Spreading COVID 19 virus	• All activities	• The contractor must ensure that all workers, including managers are well trained on COVID 19 safety precautions published by health ministry. • Follow WB Interim Guidelines on Construction activities given in Annex 4.
3	Water Quality	• Spill out of fuels and lubricants from machinery • Vegetation removal	• Avoid stockpiling of earth fill especially during the monsoon season unless covered by tarpaulins or plastic sheets • Prioritize re-use of excess spoils and materials in the construction works. • Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies; • Place storage areas for fuels and lubricants away from any drainage leading to water bodies; • Dispose of any wastes generated by construction activities in designated sites.

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
			• Irrigation works must be planned to be carried out during times of lowest flow
4	Exposing and damaging of physical cultural resources (PCR)	• Site preparatory work • Vehicle and machinery movements	• Upon discovery of physical cultural material during project implementation work, the following should be carried out • Immediately stop construction activities • With the approval of the resident engineer delineate the discovered site area. • 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. • Through the Resident Engineer, notify the responsible authorities, the Department of Archaeology, and local authorities within 24 hours. • Submit a brief chance to find a report, within a specified time period, with the date and time of discovery, location of discovery, description of finding, estimated weight and dimension of PCR, and temporary protection implemented. • Responsible authorities would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out. • An evaluation of the finding will be performed by the Department of Archaeology who may decide to either remove the 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.

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
			• 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.
5	Spreading of Invasive Alien Species	• Vegetation clearing • Material transportation • Desilting	• Close monitoring of transportation, storage of borrowing material for the spread of any invasive species must be done. • Vehicles should be covered during transportation of cleared vegetation to and from the construction site. • 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 burrowing material. • Washing the vehicles should be conducted periodically to prevent carrying any invasive species • The construction site should be inspected periodically to ensure that no invasive species are establishing themselves at the site. • Good housekeeping
6	Noise Pollution & Vibration that can affect nearby structures	• Operation of equipment and machinery. • Material storage and transport • Use of hammer type pile driving will generate high noise and vibration.	• Working time for noise/vibration generation activities should be restricted and carried out only from 6.00 am to 6.00 pm. • 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. • Use of mechanically driven saw blades for tree felling will make the noise levels restricted to only a short period of time.

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
			• Construction equipment and machinery should be maintained in good condition. The contractor shall submit the list of high noise/vibration generating machinery & equipment to the PE for approval
7	Air Pollution including dust generation that can affect nearby vegetation and households	• Site Preparation activities setting up of material storage yards, and removal of vegetation • Transport of construction material and storage on site	• In the construction method statement, the contractor should clearly designate areas for maintaining material stockpiles, waste stockpiles, labor camps, and vehicle maintenance yards. These dust-emitting sources should be located away from human activity and natural drainage paths as much as possible. • All heavy equipment and machinery shall be fitted in full compliance with the national and local regulations. • Stockpiled soil and sand shall be slightly wetted before loading, particularly in windy conditions. • The site should be wetted at least 2/3 times a day during dry weather to keep dust levels low. • Vehicles transporting soil, sand, and other construction materials shall be covered. Limitations to the speeds of such vehicles are necessary. Transport through densely populated areas should be avoided. • Regular and proper maintenance of construction vehicles and machinery to avoid air emissions. • There should be no burning of wastes on-site. • 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.

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
8	Solid Waste Disposal	• Site clearing • Construction waste • Waste from labour resting areas	• 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. • Any hazardous type of waste shall be dealt with special care and instructions from the LA. • The contractor shall document all types and quantities of waste generated and removed from the site and the disposal locations. • The contractor shall remove waste from the site each day and dispose of the waste in the LA approved site/s.
9	Blocking of surface drainage paths leading to localized flooding and ponding of water	• Site Preparation including provision of access roads, material/waste piles	• Until transported out to arranged disposal sites, debris and waste from site preparation work and desilting 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. • The stockpiles should be suitably covered to minimize wash-offs to nearby waterways. • If impacts to surface drainage cannot be avoided leading to ponding of rainwater and inconvenience to people, the contractor must provide an adequate surface drainage system to safely remove water from the site to the nearby drainage network to avoid on-site ponding or flooding. • Proper planning to avoid construction during the rainy season. • Preventing total blockage of streams / providing alternative drainage paths during construction.
10	Public/occupational safety hazard	• Site clearing, storage of equipment, material etc. • Increased traffic of heavy vehicles for material	**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.

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
		transportation • Noise and vibration of construction machinery	**Personal Protective Equipment** 2. All workers will be provided with necessary PPEs (basic should include a safety helmet, protective footwear, and high visibility jackets). 3. In addition, the contractor shall maintain in stock at the site office, gloves, ear muffs, goggles, dust masks, safety harness, and any other equipment considered necessary. 4. A safety inspection checklist should be prepared to take into consideration what the workers are supposed to be wearing and monitored. **Site Delineation and Warning Signs** 5. The entire construction site should be delineated using devices such as cones, lights, tubular markers, orange and white stripes, and barricades to inform oncoming vehicular traffic and pedestrians in the area about work zones. 6. All digging and installation work items that are not accomplished should be isolated and warned of by signposts and flash lamps in the nighttime. 7. Dangerous warning signs should be raised to inform the public of particular dangers and to keep the public away from such hazards. 8. Trenches should be progressively rehabilitated once work is completed. 9. Overloading of vehicles with materials should be controlled 10. Construction wastes should be removed as much as possible within 24 hours from the site to ensure public safety. 11. 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

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
			Equipment safety 12. 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** 13. An emergency aid service must be in place at the worksite. 14. 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. **Construction camps** 15. Construction camps should have adequate sanitation facilities for construction workers to control the transmission of infectious diseases. 16. 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 labor camps with adequate sanitation, waste disposal, and health facilities according to labor laws. Clear work campsites after use and reinstate vegetation. Conduct programs to raise worker awareness of HIV/AIDS. **Information management**

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
			17. Develop and establish the contractor's own procedure for receiving, documenting, and addressing complaints from the affected public and nearby communities. 18. Provide advance notice to local communities by way of information boards or leaflets about the schedule of construction activities, interruption to services and access, etc.
11	Damage to Flora and Fauna	• Vegetation clearing	• Speed limits and operating times for the construction vehicles should be imposed. • Due consideration should be given to carefully clearing of vegetation avoiding the destruction of habitats of fauna. • The de-silted matter shall immediately be disposed of off to pre-decided disposal sites. • The contractor will take reasonable precautions 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. • 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. • 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. • It is recommended to do the project work day time only.

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
12	Soil erosion, sedimentation of nearby waterbodies and low-lying areas	• Construction work • Removal of topsoil • Vegetation clearance	• Soil stockpiles and other construction material should not be placed within the bed or banks of the tanks or canal. • Installing and maintaining permanent erosion and sediment control measures such as silt traps to avoid sediment runoff into the tank and nearby waterways.
13	Access restrictions and public inconvenience	• Material transportation and storage • Noise, vibration, dust and waste piling from demolition and construction	• If any temporary interruptions to house access take place, the contractor should inform the concerned houses prior to breaching access. • Provision of access during designated times of the day or where possible provides temporary access paths for pedestrians on the downstream side of the bund. • If the road is closed completely for a period, signage to be put up at both ends.
Post construction phase			
14	Clearing/Closure of Construction Site/Labor Accommodations		• Contractor to prepare site restoration plans for approval by the engineer. The plan is to be implemented by the contractor prior to demobilization. This includes burrowing sites and storage yards as well • On completion of the works, all temporary structures will be cleared away, all rubbish cleared, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left clean and tidy, at the contractor's expenses, to the entire satisfaction of the engineer.
15	Solid waste	• Operational stage crops related waste, general household waste & machinery parts.	• Any hazardous type of waste shall be dealt with special care and instructions from the LA. • The farmer societies shall document all types and quantities of waste generated and removed from the site and the disposal locations. • The farmer societies shall remove waste from the site each day and dispose of the waste in the LA approved site/s.

№	**Potential Environmental Impacts and Risk Level**	**Key project activities causing the impact**	**Mitigation Measures proposed and action to be implemented by the Contractor**
16	Environmental Enhancement/ Landscaping		• Landscape plantation, including turfing shall be taken up as per either detailed design or typical design guidelines given as part of the Bid Documents. • The contractor also shall remove all debris, piles of unwanted earth, spoil material, away from the site and disposed at locations designated or acceptable to the Engineer or as per the stipulated waste management criteria of this EMP

10.COST OF MITIGATION

№	**Environmental mitigation measure**	**Cost (LKR)**	**Remarks**
1	Information Boards, leaflets	35,000	Diversion of roads, Safety signage, awareness leaflets & COVID 19 sign boards
2	On site first aid facilities	15,000	
3	Safety equipment	70,000	Basic should include sanitizers, safety helmet, protective footwear and high visibility jackets.
4	Site delineation and barricading material and equipment	15000	
4	Dust suppression	20,000	Need to be done during road and canal renovation activities
5	Waste removal from site	20,000	Desilted material, waste from vegetation clearing, labor camps (amount is only for construction phase)
6	Training of Farmers and Village level stakeholders on new technological applications	20,000	Should be scheduled to a few sessions

11.CONCLUSION AND SCREENING DECISION

Summary of environmental effects:

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

Key project activities	Potential Environmental Effects	Significance of environmental effect with mitigation in place2
DURING AGRICULTURAL ACTIVITIES		
➢ Land preparation.	Solid waste generation	NS
➢ Introduction of basic flood prevention and drainage field techniques	Less water consumption, less soil erosion	SP
➢ Use of fertilisers and chemicals	Land, water an air contamination	NS
➢ Manual weed control	Solid waste generation	NS
➢ New and improved quality enhancing technologies • Introduction of water conserving and drip irrigation systems • Insect proof net • Polythene mulch	• No such harm, less use of water and Less contamination of agro-chemicals on Land, air and water • Less insect impact	SP
DURING CONSTRUCTION ACTIVITIES		

[2] NS - 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

Key project activities	Potential Environmental Effects	Significance of environmental effect with mitigation in place2
Material transportation and storage	Emission of dust, generation of noise and disturbance to community including farmers, and households	NS
Vegetation clearing	Clearing of vegetation will collect significant amount of waste which will lead to several environmental issues such as blockage of drainage, siltation of downstream, damage to habitats, spreading of invasive species etc.	NS
Construction of building	Emission of dust, generation of noise and disturbance to community including farmers, and households	NS
Collection activities	Solid waste generation from crop related value addition and machinery parts will lead minor environmental issues.	NS

12. EMP IMPLEMENTATION RESPONSIBILITIES AND COSTS

The overall responsibility of ensuring compliance with safeguard requirements lies with PMU while the contractor will be responsible for implementing the provisions of the EMP. In addition, the PMU will be directly responsible for reviewing the proposed design to ensure that all design-related mitigation measures mentioned herein are implemented with the support and supervision of the PMU. The overall supervision will be carried out by the in-house staff of the PMU supported by the Provincial Deputy Project Director who is responsible for the overall supervision of the proposed project. Any consequent design modification will be reflected in the project cost.

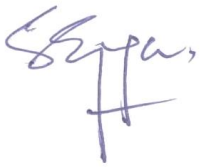
Environmental monitoring will be carried out largely through visual observations and compliance monitoring using the checklist provided in the EMF by the Provincial project engineer of the PMU and the contractor jointly. The Environmental and Social Safeguards Specialist will need to visit the site on a monthly or quarterly and report on issues and performance on EMP implementation to the PMU.

13. SCREENING DECISION RECOMMENDATION

The majority of the potential adverse effects can be classified as general cultivation-related impacts and construction related impact which can be mitigated on-site with proper engineering interventions. These potential construction impacts are temporary in nature. It is recommended to start the project work off-season for upland cultivation and avoid night-time work. However, it should be noted that EPL is not required for the collection centre as per the CEA direction since the collection centre does not have a grinding operation. This collection centre is more likely a collection centre with no grinding activities or processing activities. Implementation of the Environmental Management Plan is sufficient to mitigate the identified impacts.

It is recommended that if any groundwater wells are going to be established, obtain the Water Resources Board Yield test report and follow their recommendations before excavations.

14. DETAILS OF PERSONS RESPONSIBLE FOR THE ENVIRONMENTAL SCREENING

Screening conducted and reviewed by **D.M. Sanjaya Bandara** **Environment and Social Safeguard Specialist** **Agriculture Sector Modernization Project** **Name/Designation/Contact information**	**Date** **February 2022**  **Signature**
Screening report recommended by **Dr. Rohan Wijekoon** **Project Director** **Agriculture Sector Modernization Project** **Name/Designation/Contact information**	**Date** **February 2022**  **Signature**

Annexure 1: List of References

1) https://luppd.gov.lk/images/content_image/downloads/pdf/llrc_vavunia.pdf
2) https://unhabitat.lk/wp-content/uploads/2015/01/DRRVavuniya.pdf
3) https://biwta.portal.gov.bd/sites/default/files/files/biwta.portal.gov.bd/page/f3ca1ff6_95b0_4606_849f_2c0844e455bc/2020-10-01-11-04-ad9ef55c947057f54b4f4f76f5be54ff.pdf

Annexure 2: Project Location Map

Annexure 3: Beneficiary list

SN	Name of the Farmer	Gender	NIC No	Residential Address	Field Address	Contact No	Land Extent (ac)
1	Neel Manoj	M	812152183V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	770347678	0.5
2	P K Suwarnapriya	F	837428564V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	704207070	0.5
3	K L Sarath Anura Bandara	M	752932719V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	781821043	0.5
4	T A Wimaladasa	M	195531910013	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
5	S P Somasri	M	700792722V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	772819550	0.5
6	Sarath Wimalasri	M	702262208V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	714886083	0.5
7	Sarath Dharmadasa	M	197315802602	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	719866429	0.5
8	V S S Senanayake	M	670924947V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
9	J Jeyathunga	M	550532190V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	712701057	0.5
10	Rasika Kumara Dharmadasa	F		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	768379032	0.5
11	S Pathmalatha	F		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	717056868	0.5
12	Sarath Bandara	M		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	715311570	0.5
13	W Rathnayake	M	531043502V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
14	P B Gnanasena	M	642863576V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	772819550	0.5
15	S Sithawathi	F	685033844V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	712024513	0.5
16	J Gnanasena	M	621363883V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	781124601	0.5
17	Renuka Jeyathilake	F		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
18	Nihal Wickramasiri	M	721523217V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	761389246	0.5
19	T B Piyasili	F	625233380V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	768858524	0.5
20	A Surapala	M	700332748V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	712815382	0.5
21	R Nawarathne	M	641723924V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
22	Anusha Priyadarshani	F	865583320V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	714120150	0.5
23	A Suwinitha Lalani	F	657333476V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	713313300	0.5
24	S R Piyasiri	M		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	777715317	0.5
25	R D Rajapaksha	M		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
26	Thusika Kumari	F	797041718V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	713294652	0.5
27	Anoja Subhashini	F	198376902431	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	764319923	0.5

SN	Name of the Farmer	Gender	NIC No	Residential Address	Field Address	Contact No	Land Extent (ac)
28	Anoma Dayarathne	F	817655416V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	719866451	0.5
29	S Intrawathi	F	607103267V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	768355843	0.5
30	T B Somawathi	F	496330102V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	761389246	0.5
31	Chathuranga Kumara	M	199432201081	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	716974766	0.5
32	Sampath Silva	M	841141580V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
33	Iresha Kumari	F	906743400V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	710696075	0.5
34	B A Sudammika	M	198079405793	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	773621905	0.5
35	Nawarathne Weerakoon	M		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
36	P B Suriyapala	M	592813360V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
37	T B Kumarihami	F	575104860V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	719855546	0.5
38	P Niranjala Kumari	F	937754779V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	788499219	0.5
39	U B Chandrasena	M	682082354V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	712702070	0.5
40	H Nanthawathi	F		Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
41	Lasantha Hewage	M	783180308V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	770044549	0.5
42	H A Karunarathne	M	543612952V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	242225697	0.5
43	Kalyani Dasanayake	M	758580245V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	712704543	0.5
44	U Sriyawathi	F	196965310044	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	719607956	0.5
45	Anura Senevirathne	M	601612070V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	772808636	0.5
46	Renuka Sudarshani	F	765802083V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
47	Nirasha Priyadarshani	M	798643550V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	789898523	0.5
48	Sakura Dilhani	F	928412806V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam		0.5
49	Chandana Priyantha	M	761032119V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	761499702	0.5
50	Ranjani Sugathapala	F	767242697V	Ausadapitiya, Iratperiyakulam	Ausadapitiya, Iratperiyakulam	766783173	0.5
	Total						**25.0**

Annexure 4: Interim Guidelines on COVID-19 of World Bank

ESF/SAFEGUARDS INTERIM NOTE: COVID-19 CONSIDERATIONS IN CONSTRUCTION/CIVIL WORKS PROJECTS

This note was issued on April 7, 2020 and includes links to the latest guidance as of this date (e.g. from WHO). Given the COVID-19 situation is rapidly evolving, when using this note it is important to check whether any updates to these external resources have been issued.

1. INTRODUCTION

The COVID-19 pandemic presents Governments with unprecedented challenges. Addressing COVID-19 related issues in both existing and new operations starts with recognizing that this is not business as usual and that circumstances require a highly adaptive responsive management design to avoid, minimize and manage what may be a rapidly evolving situation. In many cases, we will ask Borrowers to use reasonable efforts in the circumstances, recognizing that what may be possible today may be different next week (both positively, because more supplies and guidance may be available, and negatively, because the spread of the virus may have accelerated).

This interim note is intended to provide guidance to teams on how to support Borrowers in addressing key issues associated with COVID-19, and consolidates the advice that has already been provided over the past month. As such, it should be used in place of other guidance that has been provided to date. This note will be developed as the global situation and the Bank's learning (and that of others) develops. This is not a time when 'one size fits all'. More than ever, teams will need to work with Borrowers and projects to understand the activities being carried out and the risks that these activities may entail. Support will be needed in designing mitigation measures that are implementable in the context of the project. These measures will need to take into account capacity of the Government agencies, availability of supplies and the practical challenges of operations on-the-ground, including stakeholder engagement, supervision and monitoring. In many circumstances, communication itself may be challenging, where face-to-face meetings are restricted or prohibited, and where IT solutions are limited or unreliable.

This note emphasizes the importance of careful scenario planning, clear procedures and protocols, management systems, effective communication and coordination, and the need for high levels of responsiveness in a changing environment. It recommends assessing the current situation of the project, putting in place mitigation measures to avoid or minimize the chance of infection, and planning what to do if either project workers become infected or the work force includes workers from proximate communities affected by COVID-19. In many projects, measures to avoid or minimize will need to be implemented at the same time as dealing with sick workers and relations with the community, some of whom may also be ill or concerned about infection. Borrowers should understand the obligations that contractors have under their existing contracts (see Section 3), require contractors to put in place appropriate organizational structures (see Section 4) and develop procedures to address different aspects of COVID-19 (see Section 5).

2. CHALLENGES WITH CONSTRUCTION/CIVIL WORKS

Projects involving construction/civil works frequently involve a large work force, together with suppliers and supporting functions and services. The work force may comprise workers from international, national, regional, and local labor markets. They may need to live in on-site accommodation, lodge within communities close to work sites or return to their homes after work. There may be different contractors

permanently present on site, carrying out different activities, each with their own dedicated workers. Supply chains may involve international, regional and national suppliers facilitating the regular flow of goods and services to the project (including supplies essential to the project such as fuel, food, and water). As such there will also be regular flow of parties entering and exiting the site; support services, such as catering, cleaning services, equipment, material and supply deliveries, and specialist sub-contractors, brought in to deliver specific elements of the works.

Given the complexity and the concentrated number of workers, the potential for the spread of infectious disease in projects involving construction is extremely serious, as are the implications of such a spread. Projects may experience large numbers of the work force becoming ill, which will strain the project's health facilities, have implications for local emergency and health services and may jeopardize the progress of the construction work and the schedule of the project. Such impacts will be exacerbated where a work force is large and/or the project is in remote or under-serviced areas. In such circumstances, relationships with the community can be strained or difficult and conflict can arise, particularly if people feel they are being exposed to disease by the project or are having to compete for scarce resources. The project must also exercise appropriate precautions against introducing the infection to local communities.

3. DOES THE CONSTRUCTION CONTRACT COVER THIS SITUATION?

Given the unprecedented nature of the COVID-19 pandemic, it is unlikely that the existing construction/civil works contracts will cover all the things that a prudent contractor will need to do. Nevertheless, the first place for a Borrower to start is with the contract, determining what a contractor's existing obligations are, and how these relate to the current situation.

The obligations on health and safety will depend on what kind of contract exists (between the Borrower and the main contractor; between the main contractors and the sub-contractors). It will differ if the Borrower used the World Bank's standard procurement documents (SPDs) or used national bidding documents. If a FIDIC document has been used, there will be general provisions relating to health and safety. For example, the standard FIDIC, Conditions of Contract for Construction (Second Edition 2017), which contains no 'ESF enhancements', states (in the General Conditions, clause 6.7) that the Contractor will be required:

- to take all necessary precautions to maintain the health and safety of the Contractor's Personnel
- to appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site and to take protective measures to prevent accidents
- to ensure, in collaboration with local health authorities, that medical staff, first aid facilities, sick bay, ambulance services and any other medical services specified are available at all times at the site and at any accommodation
- to ensure suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics

These requirements have been enhanced through the introduction of the ESF into the SPDs (edition dated July 2019). The general FIDIC clause referred to above has been strengthened to reflect the requirements of the ESF. Beyond FIDIC's general requirements discussed above, the Bank's Particular Conditions include a number of relevant requirements on the Contractor, including:

- to provide health and safety training for Contractor's Personnel (which include project workers and all personnel that the Contractor uses on site, including staff and other employees of the Contractor and Subcontractors and any other personnel assisting the Contractor in carrying out project activities)
- to put in place workplace processes for Contractor's Personnel to report work situations that are not safe or healthy
- gives Contractor's Personnel the right to report work situations which they believe are not safe or healthy, and to remove themselves from a work situation which they have a reasonable justification to believe presents an imminent and serious danger to their life or health (with no reprisal for reporting or removing themselves)
- requires measures to be in place to avoid or minimize the spread of diseases including measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent contract-related labor
- to provide an easily accessible grievance mechanism to raise workplace concerns

Where the contract form used is FIDIC, the Borrower (as the Employer) will be represented by the Engineer (also referred to in this note as the Supervising Engineer). The Engineer will be authorized to exercise authority specified in or necessarily implied from the construction contract. In such cases, the Engineer (through its staff on site) will be the interface between the PIU and the Contractor. It is important therefore to understand the scope of the Engineer's responsibilities. It is also important to recognize that in the case of infectious diseases such as COVID-19, project management – through the Contractor/subcontractor hierarchy – is only as effective as the weakest link. A thorough review of management procedures/plans as they will be implemented through the entire contractor hierarchy is important. Existing contracts provide the outline of this structure; they form the basis for the Borrower to understand how proposed mitigation measures will be designed and how adaptive management will be implemented, and to start a conversation with the Contractor on measures to address COVID-19 in the project.

4. WHAT PLANNING SHOULD THE BORROWER BE DOING?

Task teams should work with Borrowers (PIUs) to confirm that projects (i) are taking adequate precautions to prevent or minimize an outbreak of COVID-19, and (ii) have identified what to do in the event of an outbreak. Suggestions on how to do this are set out below:

- The PIU, either directly or through the Supervising Engineer, should request details in writing from the main Contractor of the measures being taken to address the risks. As stated in Section 3, the construction contract should include health and safety requirements, and these can be used as the basis for identification of, and requirements to implement, COVID-19 specific measures. The measures may be presented as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures. The measures may be reflected in revisions to the project's health and safety manual. This request should be made in writing (following any relevant procedure set out in the contract between the Borrower and the contractor).

- In making the request, it may be helpful for the PIU to specify the areas that should be covered. This should include the items set out in Section 5 below and take into account current and relevant

guidance provided by national authorities, WHO and other organizations. See the list of references in the Annex to this note.

- The PIU should require the Contractor to convene regular meetings with the project health and safety specialists and medical staff (and where appropriate the local health authorities), and to take their advice in designing and implementing the agreed measures.

- Where possible, a senior person should be identified as a focal point to deal with COVID-19 issues. This can be a work supervisor or a health and safety specialist. This person can be responsible for coordinating preparation of the site and making sure that the measures taken are communicated to the workers, those entering the site and the local community. It is also advisable to designate at least one back-up person, in case the focal point becomes ill; that person should be aware of the arrangements that are in place.

- On sites where there are a number of contractors and therefore (in effect) different work forces, the request should emphasize the importance of coordination and communication between the different parties. Where necessary, the PIU should request the main contractor to put in place a protocol for regular meetings of the different contractors, requiring each to appoint a designated staff member (with back up) to attend such meetings. If meetings cannot be held in person, they should be conducted using whatever IT is available. The effectiveness of mitigation measures will depend on the weakest implementation, and therefore it is important that all contractors and sub-contractors understand the risks and the procedure to be followed.

- The PIU, either directly or through the Supervising Engineer, may provide support to projects in identifying appropriate mitigation measures, particularly where these will involve interface with local services, in particular health and emergency services. In many cases, the PIU can play a valuable role in connecting project representatives with local Government agencies, and helping coordinate a strategic response, which takes into account the availability of resources. To be most effective, projects should consult and coordinate with relevant Government agencies and other projects in the vicinity.

- Workers should be encouraged to use the existing project grievance mechanism to report concerns relating to COVID-19, preparations being made by the project to address COVID-19 related issues, how procedures are being implemented, and concerns about the health of their co-workers and other staff.

5. WHAT SHOULD THE CONTRACTOR COVER?

The Contractor should identify measures to address the COVID-19 situation. What will be possible will depend on the context of the project: the location, existing project resources, availability of supplies, capacity of local emergency/health services, the extent to which the virus already exist in the area. A systematic approach to planning, recognizing the challenges associated with rapidly changing circumstances, will help the project put in place the best measures possible to address the situation. As discussed above, measures to address COVID-19 may be presented in different ways (as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures). PIUs and contractors should refer to guidance issued by relevant authorities, both national

and international (e.g. WHO), which is regularly updated (see sample References and links provided in the Annex).

Addressing COVID-19 at a project site goes beyond occupational health and safety, and is a broader project issue which will require the involvement of different members of a project management team. In many cases, the most effective approach will be to establish procedures to address the issues, and then to ensure that these procedures are implemented systematically. Where appropriate given the project context, a designated team should be established to address COVID-19 issues, including PIU representatives, the Supervising Engineer, management (e.g. the project manager) of the contractor and sub-contractors, security, and medical and OHS professionals. Procedures should be clear and straightforward, improved as necessary, and supervised and monitored by the COVID-19 focal point(s). Procedures should be documented, distributed to all contractors, and discussed at regular meetings to facilitate adaptive management. The issues set out below include a number that represent expected good workplace management but are especially pertinent in preparing the project response to COVID-19.

(a) ASSESSING WORKFORCE CHARACTERISTICS

Many construction sites will have a mix of workers e.g. workers from the local communities; workers from a different part of the country; workers from another country. Workers will be employed under different terms and conditions and be accommodated in different ways. Assessing these different aspects of the workforce will help in identifying appropriate mitigation measures:

- The Contractor should prepare a detailed profile of the project work force, key work activities, schedule for carrying out such activities, different durations of contract and rotations (e.g. 4 weeks on, 4 weeks off).
- This should include a breakdown of workers who reside at home (i.e. workers from the community), workers who lodge within the local community and workers in on-site accommodation. Where possible, it should also identify workers that may be more at risk from COVID-19, those with underlying health issues or who may be otherwise at risk.
- Consideration should be given to ways in which to minimize movement in and out of site. This could include lengthening the term of existing contracts, to avoid workers returning home to affected areas, or returning to site from affected areas.
- Workers accommodated on site should be required to minimize contact with people near the site, and in certain cases be prohibited from leaving the site for the duration of their contract, so that contact with local communities is avoided.
- Consideration should be given to requiring workers lodging in the local community to move to site accommodation (subject to availability) where they would be subject to the same restrictions.
- Workers from local communities, who return home daily, weekly or monthly, will be more difficult to manage. They should be subject to health checks at entry to the site (as set out above) and at some point, circumstances may make it necessary to require them to either use accommodation on site or not to come to work.

(b) ENTRY/EXIT TO THE WORK SITE AND CHECKS ON COMMENCEMENT OF WORK

Entry/exit to the work site should be controlled and documented for both workers and other parties, including support staff and suppliers. Possible measures may include:

- Establishing a system for controlling entry/exit to the site, securing the boundaries of the site, and establishing designating entry/exit points (if they do not already exist). Entry/exit to the site should be documented.
- Training security staff on the (enhanced) system that has been put in place for securing the site and controlling entry and exit, the behaviors required of them in enforcing such system and any COVID - 19 specific considerations.
- Training staff who will be monitoring entry to the site, providing them with the resources they need to document entry of workers, conducting temperature checks and recording details of any worker that is denied entry.
- Confirming that workers are fit for work before they enter the site or start work. While procedures should already be in place for this, special attention should be paid to workers with underlying health issues or who may be otherwise at risk. Consideration should be given to demobilization of staff with underlying health issues.
- Checking and recording temperatures of workers and other people entering the site or requiring self-reporting prior to or on entering the site.
- Providing daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough etiquette, hand hygiene and distancing measures, using demonstrations and participatory methods.
- During the daily briefings, reminding workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor or the COVID-19 focal point if they have symptoms or are feeling unwell.
- Preventing a worker from an affected area or who has been in contact with an infected person from returning to the site for 14 days or (if that is not possible) isolating such worker for 14 days.
- Preventing a sick worker from entering the site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days.

(c) GENERAL HYGIENE

Requirements on general hygiene should be communicated and monitored, to include:

- Training workers and staff on site on the signs and symptoms of COVID-19, how it is spread, how to protect themselves (including regular handwashing and social distancing) and what to do if they or other people have symptoms (for further information see WHO COVID-19 advice for the public).
- Placing posters and signs around the site, with images and text in local languages.
- Ensuring handwashing facilities supplied with soap, disposable paper towels and closed waste bins exist at key places throughout site, including at entrances/exits to work areas; where there is a toilet, canteen or food distribution, or provision of drinking water; in worker accommodation; at waste stations; at stores; and in common spaces. Where handwashing facilities do not exist or are not adequate, arrangements should be made to set them up. Alcohol based sanitizer (if available, 60-95% alcohol) can also be used.
- Review worker accommodations, and assess them in light of the requirements set out in IFC/EBRD guidance on Workers' Accommodation: processes and standards, which provides valuable guidance as to good practice for accommodation.
- Setting aside part of worker accommodation for precautionary self-quarantine as well as more formal isolation of staff who may be infected (see paragraph (f)).

(d) CLEANING AND WASTE DISPOSAL

Conduct regular and thorough cleaning of all site facilities, including offices, accommodation, canteens, common spaces. Review cleaning protocols for key construction equipment (particularly if it is being operated by different workers). This should include:

- Providing cleaning staff with adequate cleaning equipment, materials and disinfectant.
- Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas.
- Where it is anticipated that cleaners will be required to clean areas that have been or are suspected to have been contaminated with COVID-19, providing them with appropriate PPE: gowns or aprons, gloves, eye protection (masks, goggles or face screens) and boots or closed work shoes. If appropriate PPE is not available, cleaners should be provided with best available alternatives.
- Training cleaners in proper hygiene (including handwashing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials).
- Any medical waste produced during the care of ill workers should be collected safely in designated containers or bags and treated and disposed of following relevant requirements (e.g., national, WHO). If open burning and incineration of medical wastes is necessary, this should be for as limited a duration as possible. Waste should be reduced and segregated, so that only the smallest amount of waste is incinerated (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19).

(e) ADJUSTING WORK PRACTICES

Consider changes to work processes and timings to reduce or minimize contact between workers, recognizing that this is likely to impact the project schedule. Such measures could include:

- Decreasing the size of work teams.
- Limiting the number of workers on site at any one time.
- Changing to a 24-hour work rotation.
- Adapting or redesigning work processes for specific work activities and tasks to enable social distancing, and training workers on these processes.
- Continuing with the usual safety trainings, adding COVID-19 specific considerations. Training should include proper use of normal PPE. While as of the date of this note, general advice is that construction workers do not require COVID-19 specific PPE, this should be kept under review (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- Reviewing work methods to reduce use of construction PPE, in case supplies become scarce or the PPE is needed for medical workers or cleaners. This could include, e.g. trying to reduce the need for dust masks by checking that water sprinkling systems are in good working order and are maintained or reducing the speed limit for haul trucks.
- Arranging (where possible) for work breaks to be taken in outdoor areas within the site.
- Consider changing canteen layouts and phasing meal times to allow for social distancing and phasing access to and/or temporarily restricting access to leisure facilities that may exist on site, including gyms.

- At some point, it may be necessary to review the overall project schedule, to assess the extent to which it needs to be adjusted (or work stopped completely) to reflect prudent work practices, potential exposure of both workers and the community and availability of supplies, taking into account Government advice and instructions.

(f) PROJECT MEDICAL SERVICES

Consider whether existing project medical services are adequate, taking into account existing infrastructure (size of clinic/medical post, number of beds, isolation facilities), medical staff, equipment and supplies, procedures and training. Where these are not adequate, consider upgrading services where possible, including:

- Expanding medical infrastructure and preparing areas where patients can be isolated. Guidance on setting up isolation facilities is set out in WHO interim guidance on considerations for quarantine of individuals in the context of containment for COVID-19). Isolation facilities should be located away from worker accommodation and ongoing work activities. Where possible, workers should be provided with a single well-ventilated room (open windows and door). Where this is not possible, isolation facilities should allow at least 1 meter between workers in the same room, separating workers with curtains, if possible. Sick workers should limit their movements, avoiding common areas and facilities and not be allowed visitors until they have been clear of symptoms for 14 days. If they need to use common areas and facilities (e.g. kitchens or canteens), they should only do so when unaffected workers are not present and the area/facilities should be cleaned prior to and after such use.
- Training medical staff, which should include current WHO advice on COVID-19 and recommendations on the specifics of COVID-19. Where COVID-19 infection is suspected, medical providers on site should follow WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected.
- Training medical staff in testing, if testing is available.
- Assessing the current stock of equipment, supplies and medicines on site, and obtaining additional stock, where required and possible. This could include medical PPE, such as gowns, aprons, medical masks, gloves, and eye protection. Refer to WHO guidance as to what is advised (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- If PPE items are unavailable due to world-wide shortages, medical staff on the project should agree on alternatives and try to procure them. Alternatives that may commonly be found on constructions sites include dust masks, construction gloves and eye goggles. While these items are not recommended, they should be used as a last resort if no medical PPE is available.
- Ventilators will not normally be available on work sites, and in any event, intubation should only be conducted by experienced medical staff. If a worker is extremely ill and unable to breathe properly on his or her own, they should be referred immediately to the local hospital (see (g) below).
- Review existing methods for dealing with medical waste, including systems for storage and disposal (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19, and WHO guidance on safe management of wastes from health-care activities).

(g) LOCAL MEDICAL AND OTHER SERVICES

Given the limited scope of project medical services, the project may need to refer sick workers to local medical services. Preparation for this includes:

- Obtaining information as to the resources and capacity of local medical services (e.g. number of beds, availability of trained staff and essential supplies).
- Conducting preliminary discussions with specific medical facilities, to agree what should be done in the event of ill workers needing to be referred.
- Considering ways in which the project may be able to support local medical services in preparing for members of the community becoming ill, recognizing that the elderly or those with pre-existing medical conditions require additional support to access appropriate treatment if they become ill.
- Clarifying the way in which an ill worker will be transported to the medical facility, and checking availability of such transportation.
- Establishing an agreed protocol for communications with local emergency/medical services.
- Agreeing with the local medical services/specific medical facilities the scope of services to be provided, the procedure for in-take of patients and (where relevant) any costs or payments that may be involved.
- A procedure should also be prepared so that project management knows what to do in the unfortunate event that a worker ill with COVID-19 dies. While normal project procedures will continue to apply, COVID-19 may raise other issues because of the infectious nature of the disease. The project should liaise with the relevant local authorities to coordinate what should be done, including any reporting or other requirements under national law.

(h) INSTANCES OR SPREAD OF THE VIRUS

WHO provides detailed advice on what should be done to treat a person who becomes sick or displays symptoms that could be associated with the COVID-19 virus (for further information see WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected). The project should set out risk-based procedures to be followed, with differentiated approaches based on case severity (mild, moderate, severe, critical) and risk factors (such as age, hypertension, diabetes) (for further information see WHO interim guidance on operational considerations for case management of COVID-19 in health facility and community). These may include the following:

- If a worker has symptoms of COVID-19 (e.g. fever, dry cough, fatigue) the worker should be removed immediately from work activities and isolated on site.
- If testing is available on site, the worker should be tested on site. If a test is not available at site, the worker should be transported to the local health facilities to be tested (if testing is available).
- If the test is positive for COVID-19 or no testing is available, the worker should continue to be isolated. This will either be at the work site or at home. If at home, the worker should be transported to their home in transportation provided by the project.
- Extensive cleaning procedures with high-alcohol content disinfectant should be undertaken in the area where the worker was present, prior to any further work being undertaken in that area. Tools used by the worker should be cleaned using disinfectant and PPE disposed of.
- Co-workers (i.e. workers with whom the sick worker was in close contact) should be required to stop work, and be required to quarantine themselves for 14 days, even if they have no symptoms.

9

- Family and other close contacts of the worker should be required to quarantine themselves for 14 days, even if they have no symptoms.
- If a case of COVID-19 is confirmed in a worker on the site, visitors should be restricted from entering the site and worker groups should be isolated from each other as much as possible.
- If workers live at home and has a family member who has a confirmed or suspected case of COVID-19, the worker should quarantine themselves and not be allowed on the project site for 14 days, even if they have no symptoms.
- Workers should continue to be paid throughout periods of illness, isolation or quarantine, or if they are required to stop work, in accordance with national law.
- Medical care (whether on site or in a local hospital or clinic) required by a worker should be paid for by the employer.

(i) CONTINUITY OF SUPPLIES AND PROJECT ACTIVITIES

Where COVID-19 occurs, either in the project site or the community, access to the project site may be restricted, and movement of supplies may be affected.

- Identify back-up individuals, in case key people within the project management team (PIU, Supervising Engineer, Contractor, sub-contractors) become ill, and communicate who these are so that people are aware of the arrangements that have been put in place.
- Document procedures, so that people know what they are, and are not reliant on one person's knowledge.
- Understand the supply chain for necessary supplies of energy, water, food, medical supplies and cleaning equipment, consider how it could be impacted, and what alternatives are available. Early pro-active review of international, regional and national supply chains, especially for those supplies that are critical for the project, is important (e.g. fuel, food, medical, cleaning and other essential supplies). Planning for a 1-2 month interruption of critical goods may be appropriate for projects in more remote areas.
- Place orders for/procure critical supplies. If not available, consider alternatives (where feasible).
- Consider existing security arrangements, and whether these will be adequate in the event of interruption to normal project operations.
- Consider at what point it may become necessary for the project to significantly reduce activities or to stop work completely, and what should be done to prepare for this, and to re-start work when it becomes possible or feasible.

(j) TRAINING AND COMMUNICATION WITH WORKERS

Workers need to be provided with regular opportunities to understand their situation, and how they can best protect themselves, their families and the community. They should be made aware of the procedures that have been put in place by the project, and their own responsibilities in implementing them.

- It is important to be aware that in communities close to the site and amongst workers without access to project management, social media is likely to be a major source of information. This raises the importance of regular information and engagement with workers (e.g. through training, town halls, tool boxes) that emphasizes what management is doing to deal with the risks of COVID-19. Allaying fear is an important aspect of work force peace of mind and business continuity. Workers should be given an opportunity to ask questions, express their concerns, and make suggestions.

- Training of workers should be conducted regularly, as discussed in the sections above, providing workers with a clear understanding of how they are expected to behave and carry out their work duties.
- Training should address issues of discrimination or prejudice if a worker becomes ill and provide an understanding of the trajectory of the virus, where workers return to work.
- Training should cover all issues that would normally be required on the work site, including use of safety procedures, use of construction PPE, occupational health and safety issues, and code of conduct, taking into account that work practices may have been adjusted.
- Communications should be clear, based on fact and designed to be easily understood by workers, for example by displaying posters on handwashing and social distancing, and what to do if a worker displays symptoms.

(k) COMMUNICATION AND CONTACT WITH THE COMMUNITY

Relations with the community should be carefully managed, with a focus on measures that are being implemented to safeguard both workers and the community. The community may be concerned about the presence of non-local workers, or the risks posed to the community by local workers presence on the project site. The project should set out risk-based procedures to be followed , which may reflect WHO guidance (for further information see WHO Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response). The following good practice should be considered:

- Communications should be clear, regular, based on fact and designed to be easily understood by community members.
- Communications should utilize available means. In most cases, face-to-face meetings with the community or community representatives will not be possible. Other forms of communication should be used; posters, pamphlets, radio, text message, electronic meetings. The means used should take into account the ability of different members of the community to access them, to make sure that communication reaches these groups.
- The community should be made aware of procedures put in place at site to address issues related to COVID-19. This should include all measures being implemented to limit or prohibit contact between workers and the community. These need to be communicated clearly, as some measures will have financial implications for the community (e.g. if workers are paying for lodging or using local facilities). The community should be made aware of the procedure for entry/exit to the site, the training being given to workers and the procedure that will be followed by the project if a worker becomes sick.
- If project representatives, contractors or workers are interacting with the community, they should practice social distancing and follow other COVID-19 guidance issued by relevant authorities, both national and international (e.g. WHO).

6. EMERGENCY POWERS AND LEGISLATION

Many Borrowers are enacting emergency legislation. The scope of such legislation, and the way it interacts with other legal requirements, will vary from country to country. Such legislation can cover a range of issues, for example:

- Declaring a public health emergency

- Authorizing the use of police or military in certain activities (e.g. enforcing curfews or restrictions on movement)
- Ordering certain categories of employees to work longer hours, not to take holiday or not to leave their job (e.g. health workers)
- Ordering non-essential workers to stay at home, for reduced pay or compulsory holiday

Except in exceptional circumstances (after referral to the World Bank's Operations Environmental and Social Review Committee (OESRC)), projects will need to follow emergency legislation to the extent that these are mandatory or advisable. It is important that the Borrower understands how mandatory requirements of the legislation will impact the project. Teams should require Borrowers (and in turn, Borrowers should request Contractors) to consider how the emergency legislation will impact the obligations of the Borrower set out in the legal agreement and the obligations set out in the construction contracts. Where the legislation requires a material departure from existing contractual obligations, this should be documented, setting out the relevant provisions.

ANNEX

WHO Guidance

Advice for the public

WHO advice for the public, including on social distancing, respiratory hygiene, self-quarantine, and seeking medical advice, can be consulted on this WHO website:
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

Technical guidance

Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected, issued on 19 March 2020

Coronavirus disease (COVID-19) outbreak: rights, roles and responsibilities of health workers, including key considerations for occupational safety and health, issued on 18 March 2020

Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response, issued on 16 March 2020

Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19), issued on 19 March 2020

Operational considerations for case management of COVID-19 in health facility and community, issued on 19 March 2020

Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19), issued on 27 February 2020

Getting your workplace ready for COVID-19, issued on 19 March 2020

Water, sanitation, hygiene and waste management for COVID-19, issued on 19 March 2020

Safe management of wastes from health-care activities issued in 2014

Advice on the use of masks in the community, during home care and in healthcare settings in the context of the novel coronavirus (COVID-19) outbreak, issued on March 19, 2020

ILO GUIDANCE

ILO Standards and COVID-19 FAQ, issued on March 23, 2020 (provides a compilation of answers to most frequently asked questions related to international labor standards and COVID-19)

MFI GUIDANCE

IDB Invest Guidance for Infrastructure Projects on COVID-19: A Rapid Risk Profile and Decision Framework

KfW DEG COVID-19 Guidance for employers, issued on 31 March 2020

CDC Group COVID-19 Guidance for Employers, issued on 23 March 2020

Annexure 5: Consent Letter for the Proposed Land for Collection Centre

Office of Deputy Provincial Director
Department of Agriculture
Vavuniya
09.02.2022

Deputy Project Director
Agriculture Sector Modernization Project (ASMP)
Northern Province,

Dear Sir,

Chilli Processing Center, Stores and Compost Yard in Vavuniya District Under the ASMP

According to the above subject, ASMP is going to establish Chilli Processing center and Stores in Vavuniya. Following lands will be allowed for this establishing tom the ASMP Project.

Land No – 1 (1/2 acres) - Pahala aluth wava, avusathapittiya, Vavuniya

Land No – 2 (1/2 acres) – Omanthai high Technology – Agriculture farm, Navvi, Palamoddai, Omanthai

We do not have any objection to implement this scope of the works in the above lands by Agriculture Sector Modernization Project (ASMP) under Ministry of Agriculture through Department of Agriculture.

Thanking you.

Sincerely,

K.Mathanaraj Kulas
Deputy Provincial Director of Agriculture
Deputy Provincial Director of Agriculture (Ext) Office
Vavuniya

Mathanaraj kulas

Deputy Provincial Director - Agriculture

Copied to : Provincial Director - Agriculture – NP (For your information.)