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Ministry of Agriculture
கமத்தொழில் அமைச்சு

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விவசாய நவீனமயமாக்கல் திட்டம்
Agriculture Modernization Project

Social Screening Report

Strengthening Capacity to Enhance the Laboratory Research Facility by Supplying Lab Equipment, Accessories, and Glassware for PGRC- Gannoruwa

Sri Lanka Agriculture Sector Modernization Project (ASMP)

Prepared for Project Management Unit of the Agriculture Sector Modernization Project

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

February 2022

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ABBREVIATIONS

AI	Agriculture Instructor
ASMP	Agriculture Sector Modernization Project
ASC	Agrarian Service Center
ATDP	Agricultural Technology Demonstration Park
CBO	Community-Based Organization
DSD	Divisional Secretary Division
EMF	Environmental Management Framework
EMP	Environmental Management Plan
ESR	Environmental Screening Report
ESS	Environmental and Social Standards
FO	Farmers Organization
FPO	Farmers' Production Organization
GAP	Good Agricultural Practices
GND	Grama Niladhari Division
GoSL	Government of Sri Lanka
HORDI	Horticultural Crops Research and Development Institute
IDA	International Development Association
IEE	Initial Environmental Examination
LGA	Local Government Authority
MOA	Ministry of Agriculture
MOPI	Ministry of Primary Industries
NIRP	National Involuntary Resettlement Policy
NGO	Non-Governmental Organization
OP	Operational Policy
PAP	Project Affected Persons
PCR	Physical Cultural Resources
PGRC	Plant Genetic Resources Centre
PMP	Pest Management Plan
PMU	Project Management Unit
SCS	Seed Certification Service
SIA	Social Impact Assessment
SIMP	Social Impact Mitigation Plan
SLRs	Sri Lanka Rupees
SSR	Social Screening Report

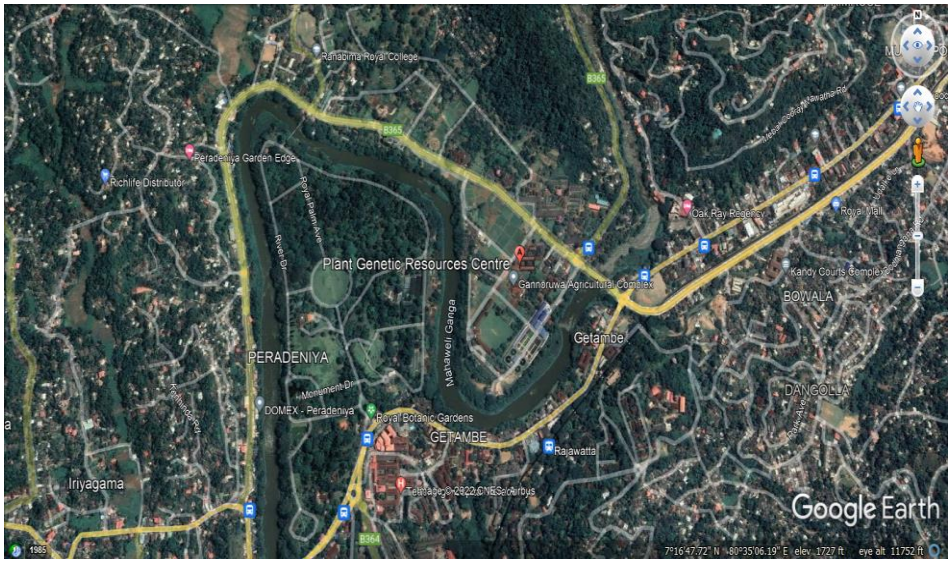
A. SUBPROJECT IDENTIFICATION

Subproject Title	Strengthening Capacity to Enhance the Laboratory Research Facility by Supplying Lab Equipment, Accessories, and Glassware for PGRC-Gannoruwa
Parent Project Objectives (briefly)	The World Bank Funded **Agriculture Sector Modernization Project** is aligned with the Country Partnership Strategy (CPS) 2013-2016. The project seeks to contribute to two CPS focus areas, namely: "Supporting structural shifts in the economy" and "Improved living standards and social inclusion" through: (a) improving agricultural productivity and competitiveness to strengthen the links between rural and urban areas and facilitate Sri Lanka's structural transformation; (b) providing and strengthening rural livelihood sources, employment opportunities in agriculture and along agriculture value chains, as well as market access for the poor, bottom 40 percent, and vulnerable people, thereby improving income sources and livelihood security in lagging rural areas; and (c) contributing to improved flood and drought management, through project's linkages to the water and irrigation sectors and a climate-smart agriculture approach. The project is also to promote diversification, value addition and increased competitiveness in the agriculture sector. **The project has three components.** (01) Agriculture Value Chain Development (02) Productivity Enhancement and Diversification Demonstrations (03) Project Management, Monitoring and Evaluation The Ministry of Agriculture (MOA) is responsible for the implementation of Component 2: **Productivity Enhancement and Diversification Demonstrations**. The component aims at supporting smallholder farmers to produce competitive and marketable commodities, improve their ability to respond to market requirements, and move towards increased commercialization. Component 2 comprises the following sub-components: 2.1: Farmer Training and Capacity Building 2.2: Establishment of Modern Agriculture Technology Parks 2.3: Production and Market Infrastructure Supporting; (i) Rehabilitation of small-scale irrigation infrastructures (ii) Improvement of selected production and market access roads and construction of new field access tracks to improve transportation, access to markets and accessibility for agricultural machinery (iii) Village level storage and product handling facilities 2.4: Analytical and Policy Advisory Support- Activities to be supported under this sub-component would include technical assistance to: (i) Evaluate policies and regulations and recommend adjustments, reforms or new policies needed to make agriculture more competitive, responsive to market demand, gender sensitive, sustainable, and resilient; (ii) Undertake strategic market analysis for promoting new and high value exports, and analyze the changes needed in the policy, regulatory and institutional framework, or public investments needed to address the binding constraints to the evolution of high impact value chains;

	(iii) Evaluate the social and economic impact of policies and public expenditures and make recommendations on course corrections to improve the efficiency and effectiveness of public expenditures. (iv) Undertake external and independent monitoring and evaluation functions, including formal impact evaluations of government programs and investments, to provide the critical learning and feedback loop into the ministries' decision-making processes. It would also support: (v) Annual conferences on Sri Lanka's agricultural policy; (vi) Equipment, office furniture, and communications technology for MOA's proposed Center of Excellence The development objectives of Agriculture Sector Modernization Project for Sri Lanka are to support increasing agriculture productivity, improving market access, and enhancing value addition of smallholder farmers and agribusinesses in the project areas. Up to now, ASMP has launched its activities in nine districts of seven provinces of the country. Project Management Unit (PMU) and Provincial Project Management (PPMUs) directly implement the two kinds of subproject activities that mainly consist of Productivity Enhancement and Diversification Demonstrations and the infrastructure development programs. The Department of Agriculture (DOA) acts as the main project partner agency of Productivity Enhancement and Diversification Demonstrations. DOA's activities consist of designing subprojects, training farmers, monitoring subprojects' activities, and involving the troubleshooting of the program. The agricultural research stations play a remarkable role in ASMP's activities by providing technical inputs and introducing new hybrid varieties to the farmers. Further, analyzing soil & crop samples of the farmers and giving recommendations for the fertilizer usage, investigating pest and disease attacks of the crops, and giving viable mitigation measures to overcome the issues timely are services provided by the agricultural research stations**.** Strengthening the capacities of Agricultural Research Stations, seed production farms, and seed certification service is identified as the subcomponent of ASMP. Inventing new crop varieties and expansion of hybrid seed production is one of the main sustainable factors of the ASMP's activities to achieve its development objectives. Meantime, it will facilitate supply the of high-quality hybrid seed requirements and finally contribute to enhancing the productivity of the field crops, vegetable, and fruit farming sector in Sri Lanka
Project proponent	Project Management unit, Agriculture Sector Modernization Project (ASMP), Ministry of Agriculture (MOA)
Implementing agency	Agriculture Sector Modernization Project (ASMP) implementing through Department of Agriculture
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/ **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, DOA officials and field visits to the project

B. SUBPROJECT LOCATION

Location PGRC-Gannoruwa $7^0$16'22.74" N $80^0$36'05.75" E	The subproject's activities will be totally implemented in the office premises belong to Plant Genetic Resource Center (PGRC) at Gannoruwa. The institute is located at Gannoruwa 8 km away from Kandy city in Yatinuwra DS division of Kandy district in the Central Province. Under this subproject, Supply, delivery and installation of laboratory equipment, Accessories and Glassware will be implemented. The location maps are annexed as Annex 2.  **Figure 1: Location of PGRC @ Gannoruwa**
Definition of Project Area / Project Impact area	The Plant Genetic Resource Center (PGRC) is vested with the responsibility of exploration, collection, conservation & promotion of sustainable utilization of plant genetic resources of food crops for the benefit of the present and future generations. The PGRC is operating as a subunit of Seed Certification & Plant Protection Centre (SCPPC). PGRC is located at Gannoruwa and operates with coordinating the network Horticultural Crops Research Institute (HORDI) and Seed Certification Service (SCS).

	History of PGRC Plant Genetic Resources Centre (PGRC) was established in 1988 with the support of Japanese grant aid provided through Japan International Cooperation Agency (JICA) at Gannoruwa Agriculture complex. The PGRC has national responsibility for conservation of the entire food crop and their wild relatives in Sri Lanka. PGRC has a mandate to plan and conduct plant exploration, collection, introduction, evaluation, documentation and conservation of the genetic diversity of food crops and their wild relatives for the benefit of present and future generations. **Figure 2: Plant Genetic Resource Center** The PGRC carries out a centralized service and its five (5) technical subunits operate within the premises at Gannoruwa. PGRC disseminate their service at the field level with the uppermost support of HORDI when needed.
Adjacent land and features	The PGRC administration complex, laboratories, and cultivation area is located on the land belongs to DOA. The land with an extent about 120ha (300acres) is allocated for the several government institutions comes under DOA in Gannoruwa. The area where PGRC is located belongs to Yatinuwara DS division of the Kandy district in Central Province. The area belongs to the Mid country wet zone. The mission of the institute is promoting agriculture research and development through exploration, conservation, management and sustainable utilization of Plant Genetic Resources to ensure food security and increased agriculture production. The PGRC promotes the Good Agricultural Practices (GAP) program for the quality assurance of agricultural products as healthy products through their research activities. From the development perspective, PGRC shares its services, technology, and resources with HORDI and other relevant research stations that are operating under DOA. PGRC has its potential benefits especially for the researchers, academic professionals, students (School, School of Agriculture & University) to access the knowledge on plant genetic field. Further, PGRC is continuing a remarkable role in agriculture extension service in Sri Lanka. The administrative complex and the labs of PGRC are located together bounded to Gannoruwa Kandy road. The cultivation area used for the research activities is bounded by Kandy- Gannoruwa main road and Mahaweli river. There are many government institutions located surrounding area. They are;

	• Seed Certification and Plant Protection Center • Horticultural Crops Research and Development Institute (HORDI) • Gannoruwa Agricultural Complex • Agro Technology Park Unit • Agro Enterprise Development & Information Service • Quality Seeds and Planting Material and Agriculture Publications Sales Center • Inservice Training Center • Plant Protection Service • Fruit Crop Research and Development Station • Food Research Unit • National Agriculture Information and Communication Center • Plant Propagation and Nursery Management Division • Natural Resource Management Center • Vegetable Seed Center • Central seed Testing Laboratory • Veterinary Research Center (VRI) • Sri Lanka Army- Gannoruwa Camp • Provincial Surveyor General's Office • Hadabima Authority of Sri Lanka • Government Staff Quarters and Circuit Bungalows The Department of Agriculture is one of the few departments that has been established out of the capital city Colombo Sri Lanka. Therefore, many institutes affiliated with DOA are centralized in Gannoruwa and Peradeniya area. A part of DOA- owned land is used for the demonstration cultivations, research activities (cultivations), and agriculture park by the relevant institutions. Except for the DOA and other government agencies' owned land, there are no agricultural lands in the surrounding area. All the private lands located surrounding areas are residential or commercials. Mahaweli river flows adjoining the DOA-owned land. The opposite side of the Mahaweli River is bounded by the Royal Botanical Garden of Sri Lanka.

C. SUBPROJECT JUSTIFICATION

Need for the project (What problem is the project going to solve)	The Agriculture Sector Modernization Project (ASMP) seeks to contribute to two Country Partnership Strategy (CPS) focus areas, namely: "Supporting structural shifts in the economy" and "Improved living standards and social inclusion" through (a) improving agricultural productivity and competitiveness to strengthen the links between rural and urban areas and facilitate Sri Lanka's structural transformation; (b) providing and strengthening rural livelihood sources, employment opportunities in agriculture and along agriculture value chains, as well as market access for the poor, bottom 40 percent, and vulnerable people, thereby improving income sources and livelihood security in lagging rural areas; and (c) contributing to improved flood and drought management, through project's linkages to the water and irrigation sectors and a climate-smart agriculture

	approach. The project is also to promote diversification, value addition and increased competitiveness in the agriculture sector. The development objectives of Agriculture Sector Modernization Project for Sri Lanka are to support increasing agriculture productivity, improving market access, and enhancing the value addition of smallholder farmers and agribusinesses in the project areas. Up to now, ASMP has launched its activities in nine districts of seven provinces of the country. Project Management Unit (PMU) and Provincial Project Management (PPMUs) directly implement the two kinds of subproject activities that mainly consist with Productivity Enhancement and Diversification Demonstrations and the infrastructure development programs. The Department of Agriculture (DOA) acts as the main project partner agency of Productivity Enhancement and Diversification Demonstrations. DOA's activities consist with designing of subprojects, training farmers, monitoring subprojects' activities and involving the troubleshooting of the program. Strengthening infrastructure and Technological/Technical capacities of the Department of Agriculture is an essential need to ensure provision services and follow up support for the farmer production organization (FPOs) established under the Component 2 of the Agriculture Sector Modernization Project (ASMP). This is further to the basic field facilities established for basic seed production of chili and maize (FIELD CROPS CENTER), vegetables including potato (VEGETABLES CENTER) and the fruit crops (FRUIT Center), which the centers of excellence of the relevant crop categories established at Mahailuppallama (including Kilinochchi and Aralaganiwila), Gannoruwa/ Kundasale/ Dondagolla/ Seetha Eliya Complex, and Horana, respectively. Furthermore, addressing issues related to food safety are pivotal owing to the increased trend of non-communicable diseases in Sri Lanka, thus, prompting people be more health conscious in terms of food they consume. This is true for both processed or packed food as well as fresh produce. Though some of the safety standards and traceability systems are available for processed food, food safety certification for fresh agricultural produce is still a new concept to Sri Lankan consumers. Hence, apart from having basic seed production to support enhanced productivity drive and farmer livelihood development through the component 2 of the ASMP, fulfilling requirement of certified safe food is considered important through the promotion of SL- GAP program, which is in existence Sri Lanka since 2015. Insufficient production, scattered producers, non-continuous supply, poor marketing channels, and low consumer awareness on GAP-certified products have become major issues as at present that required immediate solutions. At present there is a gap in market requirement and the supply of GAP-certified products. Hence, expanding the SL-GAP programme among the FPOs under the ASMP would provide quality agriculture produce at a lower price while providing high income for the SL-GAP farmers. Agriculture in Sri Lanka is one of the sectors which has been given a prominent focus for a number of years where paddy cultivation is identified as the most important crop. However, over the years the horticulture sector which includes fruits and vegetables has been gaining significant prominence

	and is a major contributor to the overall agriculture sector. Sri Lanka's ability to grow a variety of fruits and vegetable crops year-round under different climatic zones has led to a keen interest both locally and internationally to further develop this sector due to the identified high potential. In recent times the potential and interest for the horticulture sector has intensified due to government policy and the Covid pandemic. The present domain of the horticulture industry in Sri Lanka is evolving and includes cultivation, plant propagation, breeding of plants, production of crops, plant physiology as well as biochemistry and genetic engineering. The use of biotechnology is also poised to enter the domain of horticulture in Sri Lanka. Sri Lanka's smallholder farmers are faced with increasing risks related to the impacts of climate factors, socio-economic conditions, technology transfer issues. Risk has always been a factor for farmers, and there are many traditional methods of risk management that have been developed over generations, including cultivation techniques, crop varieties, irrigation systems, soil management, natural insect and pest control, integrated crop-livestock systems, and livelihood diversification. In addition to employing these traditional methods, farmers can benefit from technology and modern knowledge to better manage their risks on different levels, such as agro-meteorological advisory, climate projections, crop insurance schemes, value addition, micro-irrigation, mechanization, or reduction of post-harvest losses. As a holistic approach, enhancing farmer capacities, agricultural input supply, and value chain is a sustainable effort for the industry. Meantime, the enhancement of the DOA's capacity as the main project partner agency of the ASMP is a mandatory requirement that should be accelerated for the better performance of the agriculture sector development. The ultimate effort of the ASMP is to establish good agriculture practices (GAP) in the farming activities by introducing new technologies. Therefore, strengthening of the laboratory facilities of PGRC at Gannoruwa is considered an essential and timely need for quality assurance of agricultural products which can be utilized by other public and private sector agencies to enhance the safe food and good health of the people in Sri Lanka. Strengthening of laboratory facilities of PGRC at Gannoruwa will be a sustainable solution for the continuing of modern technologies that are introduced to the farmers by ASMP. Therefore, launching of capacity building program to enhance the quality assurance of agricultural products is an essential and mandatory requirement of the agriculture sector modernization.
Purpose of the project (What is going to be achieved by carrying out the project)	The project will directly result the enhancements of laboratory facilities at PGRC- Gannoruwa. Ultimately, it gives the benefits to the food crops production and results benefits to the farmers who have engaged in vegetable cultivation in the country. The following purposes will be achieved by implementing the subproject. • Exploration, collection, conservation & promotion sustainable utilization of plant genetic resources of food crops for the benefit of the present and future generations

	• Sharing technology, services and resources with HORDI, other research organizations and private entrepreneurs for the food crop development in the country • Improve the research extension linkage by coordinating research extension dialogue, technology demonstrations at farmer fields. Coordinating and testing of adaptability on research-proven technologies of PGRC at field level. The ultimate effort of the ASMP is to establish good agriculture practices (GAP) in the farming activities by introducing new technologies.
Beneficiaries	Sri Lanka's agriculture is characterized by a non-plantation sector and a plantation sector. Of the country's approximately 2.3 million hectares of agricultural land, 80 percent is used for non-plantation food crops, comprising rice, maize, fruits, vegetables, and other crops that are primarily grown on smallholder farms. About 1.65 million smallholder farmers operate on average less than 2 hectares and contribute 80 percent of the total annual food production. Agriculture has been an important driver of poverty reduction and accounted for about one-third of the decline in poverty over the past decade. Poverty reduction in rural areas in Sri Lanka was driven by higher agricultural wages which grew annually by an average of 5.7 percent from 2006 to 2013 and caused rural poverty to fall more rapidly than in other sectors. However, there is a risk that these income gains may not be sustainable if agricultural productivity does not improve and the sector does not start to modernize through diversification, commercialization, and value addition. The share of agriculture in Sri Lanka's GDP was approximately 7% in 2019. Out of the total population in Sri Lanka, 27.1% engage in agricultural activities. Agriculture accounted for 7.4% of the GDP (gross domestic product) in 2020. The primary form of agriculture in Sri Lanka is rice production. Rice is cultivated during Maha and Yala seasons. Tea is cultivated in the central highlands and is a major source of foreign exchange. Major areas of the agriculture production in Sri Lanka are categorized as major crops (Tea, Rubber, Coconut, Rice & Sugar cane), field crops (Chili, Big-onion, Red-onion, Potato, Maize, Finger millet, Sesame, Green gram, Black gram, Groundnut, Soybean, etc.), major fruit crops (Banana, Cashew, Lime, Mango, Orange, Papaya, Passion fruit, Pineapple, etc.), export crops (Coffee, Cocoa, Cinnamon, Oil grass, Pepper, Cloves, Cardamom, Citronella, Nutmeg, etc.) and vegetables. Present challenges of the all-agricultural production sectors are a limited resource (land, irrigation water, etc.), increasing cost for the agricultural inputs such as fertilizers, agrochemicals, and seed & planting materials. Among them, seed and planting material plays a vital role in agriculture inputs. Making seed and planting material available in plenty for safeguarding, maintenance of high standards, and protection of genetic and physical purity of the seed and planting material is the important service that should be delivered for the sector. ASMP hopes to strengthen the laboratory facilities at PGRC that directly benefits to the all the farmers who are engaging in the agricultural sector in Sri Lanka. The farmers, and entrepreneurs who have undertaken the agriculture production especially rice, field crops and vegetables will receive the direct benefits from this subproject and ultimately, whole nation gets benefits as the consumers.

Alternatives considered (Different ways to meet the project need and achieve the project purpose)	PGRC is the exclusive agency for plant genetic resource management in the country. To achieve the project development objectives, strengthening the PGRC's service is an essential effort to produce new crop varieties with good crop characteristics such as high yield, resistance to pests, diseases, and adverse climatic conditions. Therefore, PGRC's existing service strengthening is the only viable measure to enhance its capacity. Among the PGRC's services, strengthening the molecular laboratory is the best subproject to be implemented under ASMP to get the maximum output of its service. Hence, ASMP together with DOA have identified the need for a subproject and decided to enhance the laboratory services through the capacity building program. There is no alternative to be considered since there is well established system in the sector.

D. SUBPROJECT DESCRIPTION

Proposed start date (duration)	March 2022 (02 Months)
Proposed completion date	April 2022
Estimated total cost	SLRs 29.45 Mn
Land ownership	PGRC is located in Gannoruwa on the state land that is under the purview of the DOA.
Planned interventions	This subproject is mainly focusing to Supply, Delivery and Installing of Laboratory Equipment & Accessories for Molecular Laboratory at Plant Genetic Resource Center (PGRC)- Gannoruwa
Beneficiary selection criteria and process	The whole capacity building program pertaining to the department of agriculture was collectively negotiated by MOA, DOA and ASMP. Then, DOA has prepared the capacity building needs with participation of the relevant research institutions, planting material production center and the seed certification service. Accordingly, the subproject activities were identified by the sector experts in the DOA.
Vulnerable groups and Gender	Generally, agriculture sector development directly gives benefits to vulnerable groups and women since the majority (80%) of the farmers and agriculture sector laborers belong to the low-income category. The project helps to enhance the farmers' livelihood and the food security for low-income community.

E. DESCRIPTION OF THE SOCIOECONOMIC CONDITIONS

Institute Profile	The PGRC is a centralized service that operates as a subunit of Seed Certification & Plant Protection Centre (SCPPC). The center is located in Gannoruwa and its main services, field-level operations, and resource sample collections are carried out by the well-experienced technical staff with high technical capacities stationed at the main center. PGRC continuously maintains the coordination with HORDI to disseminate its technology and resources to the national agriculture sector development. There are ten subunits that come under PGRC, **1. Exploration Unit** The Exploration unit has been dispatching domestic exploration teams annually and collects genetic resources within the country. In addition to that, PGRC collaborates with other countries to obtain foreign germplasm which is requested by the researchers of the country. Further, it provides the locally and internationally collected germplasm from exploration missions, from local institutes, and introductions to the gene bank of PGRC for long-term conservation. The exploration unit has 3 main objectives. • Conservation of traditional crop varieties, economically important crops, and wild relatives in Sri Lanka. • Collection and conservation of plant genetic resources required for the ongoing research programs • Conservation of plant genetic resources of rare and endangered crop species **2. Seed Conservation Unit/ Seed Gene Bank** The seed conservation unit (Gene bank) is a vital unit of the PGRC. It provides ideal storage conditions and the seed viability is maintained for a long period by reducing seed moisture content and storage temperature. Seed gene bank contains several activities such as processing seed materials, maintaining and monitoring the seed viability, conservation, and distribution of conserved germplasm. Two main categories of collections are conserved in the gene bank • Active Collection: – Seeds are stored for a short to medium time period at 5 Cº and 25% -30% Relative humidity. This is a working collection and is used for regeneration, evaluation, research and distribution purposes. • Base Collection: – Seeds are stored under conditions that retain viability for long periods of time. The seeds are hermetically sealed in airtight containers and kept at 1 Cº. The base collection is not used for distribution but as a security collection against loss. The number of registered items in the gene bank is about 16,000 as of 2021 and it covered the following crop groups Rice, Other cereals, Grain Legumes, Vegetable Legumes, Solanaceous vegetables & condiments, Cucurbits, Brassicaceae vegetables, Alliums, Leafy vegetables, other vegetables, Root and tubers, Mustard, Oil crops, Fiber crops, medicinal plants and fruits

3. In-vitro conservation & Biotechnology Unit

This unit plays a significant role in germplasm conservation and evaluation with the support of novel advanced biotechnological tools. It consists of two laboratories as *in-vitro* conservation and molecular laboratory.

In-vitro conservation is the conservation of germplasm by growing plants under aseptic conditions inside glass vessels. This slow growth conservation technique is mainly used to conserve plants that do not produce seeds or which have recalcitrant seeds which cannot store under normal seed conservation conditions. Hence, vegetatively propagated crop species such as root and tubers and many tropical fruit crop trees have to be conserved using *in-vitro* methods.

The biotechnology unit also conducts research on various aspects of *in-vitro* conservation and utilization of plant genetic resources. Application of cryopreservation techniques in the long-term conservation of plant genetic resources is also is being implemented.

The molecular biology unit of the biotechnology unit enhances the PGR management through molecular characterization of germplasm conserved in the gene bank, species identification of unidentified germplasms through DNA barcoding techniques, diversity assessment of crop species, and gene identification for important traits in crop species.

Working beyond handling conserved germplasm, research activities are extended to diverse aspects such as hybridity testing of hybrid crop varieties released by the DOA, identification of crop germplasm consisting of important genes responsible for biotic and abiotic stresses and initiating crop breeding to incorporate such genes in popular varieties, 'pre breeding' is carried out to facilitate crop improvement programs.

4. Multiplication, Characterization & Evaluation Unit

The major activities in the Evaluation unit are,

- Seed multiplication and purity maintenance- Increase the number of seeds for conservation and to provide seeds for users. Genetic purity is maintained by using different techniques such as caging, bagging, and hand pollination to prevent cross-pollination during multiplication.
- Morphological characterization to study the genetic diversity of the conserved germplasm, to identify salient features that distinguish accessions from one another, and to identify useful traits which can be utilized for plant breeding aspects. For plant characterization and evaluation, we use the appropriate descriptors.
- Preliminary evaluation for special attributes such as stress tolerance, resistance to pests and diseases.
- Identification of unidentified accessions.
- Pre-breeding activities.
- Maintenance of perennial germplasm.

5. Data Management Unit

The data management unit of PGRC has been conserving and maintaining plant genetic data since 1988 as passport, conservation, and characterized data. These data were received into the PGR database system from Exploration, Conservation, Evaluation, and Characterization units respectively.

	Different crop categories of wild, weedy, landraces, and improved germplasm were included in the computer base system. The following service is also extended by the data management unit. 1. Data management of projects which are handled by PGRC (International and national projects). 2. Provide information and data on requests in PGR regulations  **Figure 3: Molecular Lab- PGRC** DOA annually allocates funds for the recurrent expenditures to undertake the services and the research activities undertaken by PGRC but there are low allocations for the capital investment. ASMP and DOA together conduct the consultation sessions with relevant officials and identified to need of strengthening the PGRC's services through capacity building component of ASMP
Project Benefits	The project will directly result the Supplying, Delivering and Installation of Laboratory Equipment, Accessories, and Glassware for Molecular Laboratory at PGRC. Ultimately, it gives the benefits to the farmers who have engaged in cultivation in the country and the consumers as well who can reach healthy foods. The following benefits will be achieved to the agriculture sector of the country by implementing the subproject. Conservation of traditional crop varieties, economically important crops, and wild relatives in Sri Lanka. • Collection and conservation of plant genetic resources required for the ongoing research programs • Conservation of plant genetic resources of rare and endangered crop species • Maintaining active seeds collection • Maintaining base seeds collection • Seed multiplication and purity maintenance. • Morphological characterization to study the genetic diversity of the conserved germplasm • Preliminary evaluation for special attributes such as stress tolerance, resistance to pests and diseases. • Identification of unidentified accessions. • Pre-breeding activities. • Maintenance of perennial germplasm. The ultimate effort of the ASMP is to establish good agriculture practices (GAP) in the farming activities by introducing new technologies.
Social Impact	The proposed subproject will be implemented within the government premisses which are earmarked for the plant genetic resource conservation activities. Hence there is no direct contact of subproject activities with the

	community. As the subproject activities, supplying and installation of laboratory equipment, accessories, and glassware for molecular laboratory of PGRC- Gannoruwa are only included. There is no construction or rehabilitation activities are included in to this subproject. Hence, there is no social impact emerging by the subproject activities. There are no assets or activities that will be disturbed or affected by the subproject activities. The magnitude of the proposed project interventions is very low. accordingly, the anticipated negative social impacts of the proposed project will be minor or insignificant. Since there is no activity related to the subproject other than the supply of equipment and accessories for the currently operating laboratories, no possible impacts are anticipated due to subproject implementation. There is a well-established operation and management system for the labs, hence no social impacts are anticipated during the subproject operation period too
Mitigation Measures	Not applicable

F. STAKEHOLDERS ENGAGEMENT AND PUBLIC CONSULTATION

1. Stakeholders and Public consultation

Stakeholders' engagements

The Department of Agriculture is the main project partner agency of this subproject. The staff of the PGRC jointly prepared their capacity needs and submitted them to the ASMP. Several discussions were undergone to finalize the subproject activities between the PGRC staff and the ASMP. For more transparency, the PGRC staff were represented the technical evaluation committee of this subproject.

The ASMP PMU staff conducted site visits, consultations with DOA's officials during subproject identification and designing stages

Table 1: Responsible Officers in PGRC Project Activities

SN	Name	Designation	Contacts
1	Dr. (Ms) D.G.C.Jeewani	Additional Director Plant Genetic Resources Centre	pgrc.doa@gmail.com
2	Mrs.D.S.Kakulandara	Deputy Director of Agriculture (Research)	deepthikasaman@gmail.com

Stakeholders' consultation

During the social and environmental screening process, the staff of PGRC were consulted. Meantime ASMP has taken actions to conduct the stakeholders' consultation starting from the subproject identification stage up to finalizing the subproject's design. It was a good tool to maintain transparency among the stakeholders. Due to the impact of the fruitful consultation process undertaken by the ASMP, the PGRC staff is well aware of the subproject activities and their objectives. Meantime, they have negotiated and decided the real requirements that they want to enhance the service of the institute

Table 2: Consultation outputs

Locations / Sub Units / Fields Visited	Participants with Designations	Matters Discussed
PGRC @ Gannoruwa-20.01.2022		
Molecular Lab	Mrs.D.S.Kakulandara Deputy Director of Agriculture (Research)	• Requirement of equipment for Biotechnology laboratory • Waste Disposal

G. GRIEVANCE READDRESSED MECHANISM (GRM)

A GRM will be in place to promptly address any grievances including any unforeseen impacts that may arise during the implementation phase of the project, at no cost to the people. Field level grievances will record by Additional Director- PGRC by keeping the registry on their premises. The ASMP, and DOA official will facilitate resolving the grievances. The middle level grievances committee will operate at the DOA office to address the issues which are unsolved or when the affected person is not satisfied with the decision at the field level. The third tier of GRM will operate at PMU headed by the Project Director of ASMP with technical support from the Social Development Specialist to address the issues which are not solved at the initial stages.

H. IMPLEMENTATION AND MONITORING

1. MONITORING

Considering the magnitude of the proposed project interventions, the anticipated social impacts of the proposed activities will be none. There won't be any significant negative social impacts envisaged from the proposed project during implementation. Therefore, it is not necessary to have a complex monitoring system. However, it is necessary to ensure there are no violations of the regulations and conformity to the national and World Bank standards and guidelines pertaining to environmental and social safeguards.

Therefore, the contractor should be aware of the project management to ensure social management compliance during the implementation of the project. The Additional Director- PGRC will undertake the internal monitoring activities with close coordination of ASMP-PMU. Implementation of social and environmental safeguards compliance will be monitored by the social and environmental safeguard specialist at ASMP-PMU.

I. SCREENING OF POTENTIAL SOCIAL IMPACTS

Probable Involuntary Resettlement Impacts	Yes	No	Not known	Details
Will the intervention include new physical construction work?		√		Only supplying equipment and accessories for the currently operating laboratory at PGRC
Does the intervention include upgrading or rehabilitation of existing physical facilities?		√		NA
Is the intervention likely to cause any permanent damage to or loss of housing, other assets, resource use?		√		No such impacts are anticipated
Are the sites chosen for this work free from encumbrances and is in possession of the government/community land?		√		Selected land belongs to DOA and vested to PGRC
Is this subproject intervention requiring private land acquisitions?		√		No land acquisition taken place
If the site is privately owned, can this land be purchased through negotiated settlement?		√		N/A
If the land parcel has to be acquired, is the present plot size and ownership status known?		√		N/A
Are these land owners willing to voluntarily donate the required land for this sub-project?		√		N/A
Whether the affected land owners likely to lose more than 10% of their land/structure area because of donation?		√		N/A

Probable Involuntary Resettlement Impacts	Yes	No	Not known	Details
Is land for material mobilisation or transport for the civil work available within the existing plot/ Right of Way?		√		N/A
Are there any non-titled people who are living/doing business on the proposed site/project locations that use for civil work?		√		N/A
Is any temporary impact likely?		√		N/A
Is there any possibility to move out, close of business/ commercial/ livelihood activities of persons during constructions?		√		No such impacts are anticipated
Is there any physical is placement of persons due to constructions?		√		No such impacts are anticipated
Does this project involve resettlement of any persons? If yes, give details.		√		No such impacts are anticipated
Will there be loss of /damage to agricultural lands, standing crops, trees?		√		No such impacts are anticipated
Will there be loss of incomes and livelihoods?		√		No such impacts are anticipated
Will people permanently or temporarily lose access to facilities, services or natural resources?		√		No such impacts are anticipated
Are there any previous land acquisitions happened and the identified land has been already acquired?		√		No such impacts are anticipated
Are any indigenous people living in proposed locations or affected/benefited by the project intervention?		√		No such impacts are anticipated

There are no possible social impacts that are anticipated due to implementation of this subproject.

Key project activities	Potential Social Effects	Significance of Social effect with mitigation in place[1]
Supplying and Installation of Laboratory Equipment, Accessories, and Glassware for Laboratory	NA	

SOCIAL RISKS & IMPACTS

[1] 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

Activities	Land requirements	Risk of exclusion of vulnerable groups	Construction impacts	Risks due to labour influx	Risk of livelihood impacts	Public/ occupational health and safety	COVID19 risks
Supplying and Installation of Laboratory Equipment, Accessories, and Glassware for Laboratory	Premisses owned by DOA						

INFORMATION ON AFFECTED PERSONS

Any estimate of the likely number of households that will be affected by the sub project? • [√] No. [ ] Yes. If yes, approximately how many? ……. • No. of HHs losing <10% of their productive assets **- N/A** • (land/cowshed/shops) …… **N/A** • No. of HHs losing 10% or more of their productive assets?..... **N/A**
Are any vulnerable households affected? [√] No. [ ] Yes. If yes, please briefly describe their situation with estimated numbers of HHs? N/A
What are the needs and priorities for social and economic betterment of vulnerable people who are affected by this project? N/A

J. SCREENING DECISION and recommendations

After reviewing the answers above, it is determined that the subproject is:

[ ] Categorised as a 'B' project, an Abbreviated Resettlement Action Plan is required

[√] Categorised as a 'C' project, only the Social Screening/ Due Diligence Report is required

K. SOCIAL MANAGEMENT PLAN (SMP)

Not applicable

L. CONCLUSION

The proposed Strengthening Capacity to Enhance the Laboratory Research Facility by Supplying Lab Equipment, Accessories, and Glassware for PGRC- Gannoruwa well augers with enhancing the DOA's capacities. It aligns with the sustainability of the agriculture sector modernization under ASMP. The proposed activities will not have impacts in relation to land acquisition or involuntary resettlement. The impacts that can arise can be considered modest and can be reversed with mitigation action.

M. DETAILS OF PERSON RESPONSIBLE FOR THE SOCIAL SCREENING

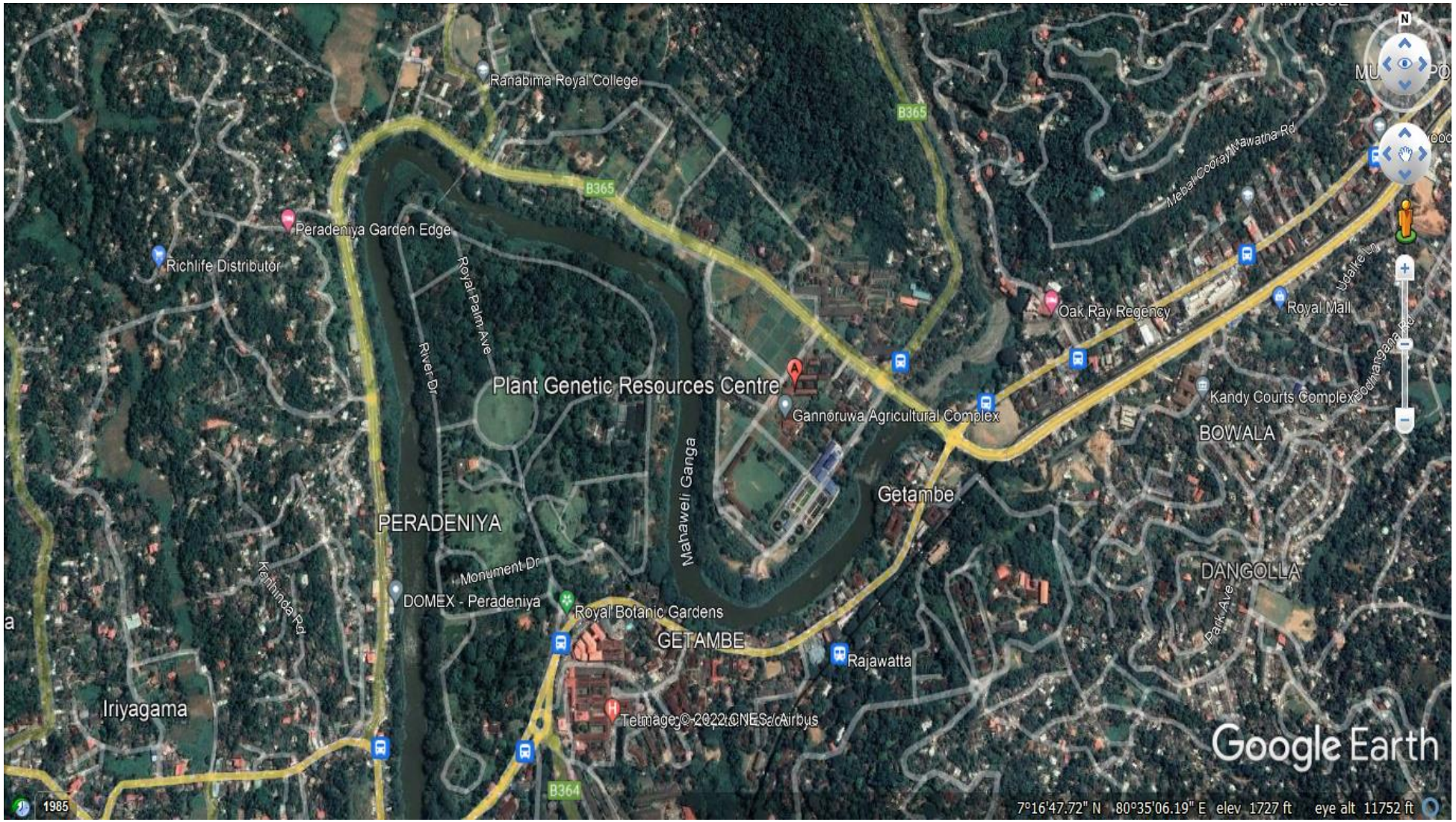
Screening conducted and reviewed by **D.M. Sanjaya Bandara** **Environment and Social Safeguard Specialist** Agriculture Sector Modernization Project **Name/Designation/Contact information**	**Date** **February 2022**  **Signature**
Screening report recommended by **Dr. Rohan Wijekoon** **Project Director**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

ANNEX 1: LIST OF REFERENCES

1) https://asmp.lk/the-project/
2) https://doa.gov.lk/home-page/
3) http://scsdoa.lk/index.php
4) https://doa.gov.lk/hordi-home/
5) https://doa.gov.lk/pgrc-home/

ANNEX 2: GOOGLE MAP/ LOCATION MAP

1. Plant Genetic Resource Center (PGRC) at Gannoruwa



Source: Google Map