ANNUAL REPORT 2023

Climate Smart Irrigated Agriculture Project

Ministry of Agriculture and Plantation Industries
Sri Lanka

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ACRONYMS

ASC	Agrarian Service Center
AW&D	Alternative Wetting and Drying
AWPB	Annual Work Plan and Budget
CERC	Contingent Emergency Response Component
CMC	Cascade Management Committee
CSA	Climate Smart Agriculture
CSIAP	Climate Smart Irrigated Agriculture Project
DSD	Divisional Secretariat Division
EP	Eastern Province
ESSR	Environmental Safeguard Screening Reports
FBS	Farmer Business School
FO	Farmer Organization
FPG	Farmer Producer Group
FTS	Farmer Training School
GND	Grama Niladhari Division
GOSL	Government of Sri Lanka
ICT	Information Communication Technology
IEC	Information, Education and Communication
KPI	Key Performance Indicator
MIS	Management Information System
NCP	North-Central Province
NP	Northen Province
NWP	North-Western Province
NSC	National Steering Committee
O&M	Operation and Maintenance
P	Progress
PA	Producer Association
PID	Provincial Irrigation Department
PMU	Project Management Unit
PS	Producer Society
SP	Sourthen Province
T	Target/s
UP	Uva Province

1. Basic Information of the Project

Name of the Project	Climate Smart Irrigated Agriculture Project (CSIAP)
Implementing Agency	Ministry of Agriculture
Funding Agency	International Development Agency (IDA)
Source of Fund & Amount – Original (US$)	Total – US$ 140 Mn (IDA Credit- US$ 125 Mn, GoSL 10 Mn & Community Contribution 5 Mn)
Source of Fund & Amount – Revised (US$)	Total – US$ 100 Mn (IDA Credit- US$ 85 Mn, GoSL 10 Mn & Community Contribution 5 Mn)
Total Project Budget – Based on Designed Exchange Rate	LKR 18,000 Mn (US$ 1= 180 LKR)
Total Project Budget – Based on IUFR (Interim Unaudited Financial Report)	LKR Mn. 28,596 (US$ 1 = 285.96 LKR)
Date of Loan Effectiveness	07th March 2019
Date of the Loan Agreement Signed	11th April 2019
Year of Implementation	2023
Project Duration	Six years (2018-2024)
Date of Project Closing	30th June 2024
Total Expenditure as of 30 December2023 (USD Calculated based on IUFR rate i.e., 1 USD =Rs. 285.96)	Rs. 16,800.98 Mn (Cumulative) *(USD 64.31 Mn.)* Rs. 7,900.00 Mn (Annual- 2023)
Project Direct Beneficiaries	70,000 Farm Families (App.)
Total Targeted Project Beneficiaries	470,000 Individuals
Area to be Covered	375,000 ha
Project Locations	**Province** / **Districts** / **ASCs/GNDs** Northern / Killinochchi, Mullaithivu / 07 / 34 Eastern / Trincomalee, Batticaloa, Ampara / 12 / 66 North Central / Aniuradhapura, Polonnaruwa / 10 / 33 North-Western / Kurunegala, Puttalam / 11 / 75 Southern / Hambanthota / 04 / 22 Uva / Monaragala / 03 / 28
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2. Executive Summary

Climate Smart Irrigated Agriculture Project (CSIAP) is implemented by Project Implementation Unit (PMU) established under the Ministry of Agriculture with the financial support of the World Bank for a period starting from year 2019 to end by June 2024. The project implementation is being continued as planned in eleven districts in Eastern, Northern, North Central, Northwestern, Southern and Uva Provinces.

2023, the fifth implementation year of the project seems the best performed year compared to the past 04-year implementation period. The project has achieved most of the set targets to a satisfactory level. The result framework developed at the project design, with few re-structuring in the middle due to cancellation of project funds from time to time beyond the control of the project, illustrates the achievement of project activities. The project targes have been set for the initial allocation of USD 140 Mn. and that amount has now been reduced to USD 100 Mn. thus, affecting the project activities by reducing the planned project targets especially rehabilitation of irrigation systems in cascades by reducing the target of 971 tanks to 476.

However, with the available funds, the project has achieved its revised targets to a satisfactory level with a 78% of cumulative physical progress at the year-end 2023, which was at 42% at the end of year 2022. With the acceleration of project activities, the project kept a target of 75% on physical progress. Out of the targeted beneficiaries of 470,000 in project hotspot areas, 365,000 (78%) farmers directly benefitted from the project from which 160,800 (44%) are female. Updated results framework is attached as ***Annexure – I*** for more details in achievement of Project Development Objective (PDO) indicators and intermediate level indicators.

The project financial target for the year 2023 was Rs.Mn.10,320, but the project initially received only Rs.Mn.3380 as the annual allocation. This allocated amount was disbursed at the mid of the year and additional allocations were received in three times, on request by the project thus increasing the annual allocation up to Rs.Mn.7,900. This total revised allocation of Rs.Mn.7900 was spent at the end of the year showing 100% annual financial progress. The Annual Work Plan and Budget has to re-developed according to this revised total allocation, which is given as ***Annexure-2***. The cumulative project expenditure at the end of the year 2023 is Rs. Mn. 16,800.98 or in USD Mn. 64.31 *(Based on the Interim Unaudited Financial Report-IUFR, USD 1 = Rs.285.96)* thus achieving cumulative financial progress of 64% *while* weighted average cumulative physical progress is 78%.

Under the Agriculture Production and Marketing component, total number of project beneficiaries who were provided with agriculture assets or services and adopted climate smart agriculture practices up to the end of 2023 is 66039. Over 76,000 farmer beneficiaries participated in CSA related trainings.

The number of lead farmers trained in Thirappane Farmer Training School (FTS) has been increased up to 1105 from 48 programs, covering 659 males and 446 females, showing 40% of women participation. CSA training are being continued under the supervision of CSA Specialist.
In promoting Agri business and marketing activities, training of trainers (ToT) for Farmer Business School has been completed through developed 12 training modules, for 159 Agriculture Instructors (113) and Agriculture Facilitators. The project has identified 22,600 farmers to be trained by the trained Agriculture Instructors and at the end of 2023 it has been reported that 10,332 farmers are under training out of which 3,835 farmers have completed the training by covering all 12 modules. In addition, Marketing related trainings and awareness such as value addition, market linkages, post-harvest technologies, business plan preparation etc. have been conducted under the guidance of Agri-Business and Marketing Linkages Specialist. The project targeted to complete 50kms of agri-roads for easy access to main roads for famers to transport their agriculture products and, 38 kms lengths of roads have now been rehabilitated. 822 agro-wells have been rehabilitated and farmers engaged in cultivation under the agro-wells mainly focusing on vegetables, green chilies, onion and OFC. Under the Institutional development of the project, 572 Producer Societies (PSs) and 45 Producer Associations (PAs) have been formed. The project supports the PAs to make market linkages with recognized marketing entrepreneurs to sell their agriculture products thus supporting them to improve their bargaining power. Need-based training are being conducted by the IDCB unit for development of Institutions.

Rehabilitation of irrigation schemes shows a better progress by completing 212 irrigation systems out of the agreed 476 systems for rehabilitation. Out of the completed 212 tanks. As of end 2023, 43 tanks have been handed over. With the aim for operation and maintenance and the sustainability, formation of Cascade Management Committees (CMCs) has been completed by establishing 54 CMCs in the provinces. Awareness and Trainings on importance of CMCs and CMPs were conducted by the IDCB Specialist. Development of Cascade Management Plans has been started based on the information gathered through cascade profiles prepared by conducting transect walks covering six provinces with the participation of relevant stakeholders. Up to the end of 2023, 11 plans have been developed. Arrangements have been made to develop remining 43 cascade profiles and plans on consultancy basis by state universities and 07 universities have been selected following single source procurement procedures. Strengthening of CMCs and Farmer Organizations are being carried out which is a key task for operation and maintenance of irrigation systems which would also benefit the project sustainability. Required trainings for Water Management has been completed covering 11 districts.

Environment and Social Safeguard activities are in progress. As to the implementation plan to protect the vegetation of catchment areas of the tanks, a tree planting program is being conducted. Up to the end of 2023, 68 tanks have been covered by planting 12,400 plants for the removal of 411 trees.

Grievance redress mechanism is being implemented and at the end of second quarter number of resolved is 201 out of the reported 210 grievances. 165 Environmental Safeguard Screening Reports (ESSR) have been received by the Project Management Unit (PMU). Erecting of 237 seasonal crop protection electric fences of around 1,000km of length covering 7,480 ha. that would be supportive for nearly 23,400 beneficiaries, have been identified to implement. At the end of 2023, around 400 kms. length of fences has been completed.

Information, Education and Communication (IEC) programs and ICT works are being conducting and up to now 1864 IEC programs have been conducted at field level covering different subject areas. Five social media links are being maintained to publish project activities. Implementation issues of the MIS at data entering have been addressed by the MIS consultants and balance data to be uploaded are being attended to by relevant staff with the expectation of fully functional MIS by end of first quarter of 2024.

Project Monitoring and Evaluation activities are going on satisfactorily. M&E unit supported to implement MIS by data feeding of around 75% to the Management Information System (MIS). In addition, training sessions and guidance from time to time on field data entering to the System were conducted by the M&ES for Agricultural Facilitators and the other relevant field staff. Project monitoring visits have been conducted in each province by the Monitoring and Evaluation Team attached to provinces and the monitoring observations and best practices in the provinces have been reported and shared with the Specialists team for necessary attention. Subject Specialists are conducting regular meetings with the respective provincial staff on their subject areas and monitor the progress. Online and physical participated sessions for M&E Officers were conducted on MIS data feeding, filed monitoring and reporting, data collection and analyzing (using SPSS tool), writing success storing as one-page document, using kobo toolbox for data collection for AFs and M&EOs, use of mobile application for MIS data feeding etc.

For the smooth functioning of the project, regular implementation support missions are conducted and to-date cumulatively 11 missions have been conducted. During the year 2023, two regular supervision missions were conducted to measure the performance and guide on implementation gaps and the mission satisfied on the current implementation. In addition, monthly progress review meetings headed by the Secretary MoA have been conducted and furthermore, National Steering Committee meetings were also conducted to discuss on the project progress and the policy level matters. Regular reporting to Ministry, Treasury (DPMM) and World Bank have been completed on monthly, quarterly and annual basis. Work plan with budget for the year 2024 has been prepared and submitted for approval by the Ministry of Agriculture and Plantation Industries.

The project has been instructed to reduce the staff by end of 2023 from the existing number of 222 to 166. Though it would affect project implementation to some extent, necessary actions have been taken to reduce the project staff by end 2023, in adhering to the government decision.

3. Project Background

The Climate Smart Irrigated Agriculture Project (CSIAP) is implemented by the Ministry of Agriculture under the World bank credit facility. The revised total project investment is USD 100 million, of which includes the Government of Sri Lanka (GOSL) funded USD 10 million, and the beneficiary contributed USD 5 million.

The Project Development Objective (PDO) of the CSIAP is to improve the productivity and climate resilience of smallholder agriculture in the climatically most vulnerable areas of eleven districts in Sri Lanka. This objective will be achieved through increased adaptation of climate-resilient agricultural practices and technologies, improved agricultural productivity, and increased access to markets in targeted smallholder farming communities. The Increase in water productivity at the farm level, increase in the agricultural productivity of crops, increase of the catchment area with water conservation practices, and increase in crop diversification practices are other specific objectives of the project.

The project beneficiaries will be over 470,000 smallholder farmers who have below 2 ha of farmlands in 11 hotspot areas with 375,000 ha. Accordingly, this project is implemented in 11 administrative districts namely Kilinochchi, Mullaitivu, Anuradhapura, Polonnaruwa, Puttalam, Kurunegala, Trincomalee, Batticaloa, Ampara, Hambantota, and Monaragala districts.

Project interventions are implemented through three project components namely (a) Improving agriculture productivity by promoting climate-smart farming and developing marketing and market infrastructures with value chains (b) stabilizing water for agriculture through rehabilitation of catchments, tanks, and water infrastructures, and (c) project management, monitoring, and evaluation to ensure achieving the PDO. The project management is structured to obtain support from Provincial Chief Secretaries, Provincial Departments of Irrigation, Provincial Departments of Agriculture, and Assistant Commissioners of the Department of Agrarian Services operated at the Regional Level. The implementation of project activities at the district level is supported by District Administrations and Divisional Secretariat Divisions (DSDs) and village level by Grama Niladhari Divisions (GNDs). At the project design phase, it has been identified 'Hotspot Areas' which are most vulnerable to climate events. These areas are subjected to the increased frequency and severity of climate events. The project has selected 21 number of cascades for development and 961 tanks for rehabilitation during the tenure of the project period, but now the plan must be changed to complete 476 tanks with the cancellation of project funds.

4. Project Components

The project is planned to be implemented under four main components.

Component 1: Agriculture Production and Marketing

This component aims to improve agriculture productivity and diversification through adopting Climate-Smart Agriculture (CSA) practices and improved on-farm water management. This component consists of the following two sub-components.

Sub-Component 1.1: Climate-Smart Agriculture & Water Technology

This subcomponent will support the adoption of CSA and will focus on demonstrating the effectiveness of CSA practices in farmers' fields through Farmer Business Schools (FBSs). Further is supported for leveraging information and communication technology and supporting the uptake of CSA practices by establishing Farmer Producer Groups (FPGs).

Sub-Component 1.2: Marketing

This subcomponent aims to strengthen the links between FPGs, and the agriculture commodity markets by upgrading and/or rehabilitating critical market infrastructure. Moreover, it's supporting farmers to access markets and develop sustainable links to agribusinesses. The common infrastructure for agri-commodity marketing (markets, storage, and access roads) and the construction and/or upgrading of Common Service Centers.

Component 2: Water for Agriculture

The objectives of this component are to facilitate the planning for water and other infrastructure necessary to support climate-resilient irrigated agriculture, the construction of the planned infrastructure, and the co-management of this infrastructure by central/provincial governments and the local community. This component has the following two subcomponents.

Sub-Component 2.1: Rehabilitation of Irrigation Systems

This subcomponent is financed to rehabilitate the irrigation systems based on plans derived from hydrologic modeling accounting for projected climate change in the project areas. This subcomponent assists in the rehabilitation of irrigation systems based on plans derived from hydrologic modeling accounting for projected climate change in the project areas. Moreover, the development of mini-watersheds within the hotspot areas (about 4,000 ha), including tank cascade systems, stand-alone irrigation systems, rain-fed agriculture systems, and local administrative levels.

Sub-Component 2.2: Operation and Maintenance of Irrigation Systems

This subcomponent aims to ensure the sustainable Operation and Maintenance (O&M) of tank systems at the individual tank level and system wide. The establishment of Cascade Management Committees

(CMCs) for each of the cascades of minor irrigation tanks within the watershed-based boundary of the hotspot areas is the major activity of this sub-component.

Component 3: Project Management (Finance – US$ 5.7 Mn)

This component aims to ensure the quality of overall project management while ensuring smooth coordination of activity implementation by various agencies and strategic partners at national and sub-national levels. For Information, Education, and Communication (IEC) campaigns, conducting of all project Monitoring and Evaluation activities and Safeguard activities are conducted under this component.

Component 4: Contingent Emergency Response (US$ 15 Mn)

Contingent Emergency Response Component (CERC) is allowed for the rapid reallocation of project proceeds in the event of a natural disaster or crisis that has caused or is likely to imminently cause a major adverse economic and/or social impact. In response to the Covid-19 pandemic, USD 15 million from CSIAP was put into 'CERC pool'. This component is supported agriculture production and ensures food security during the pandemic. Accordingly, the finance of this component is given to the supply of seeds.

5. Project Beneficiaries

The primary project beneficiaries will be over 470,000 smallholder farmers in hotspot areas (375,000 ha) in 11 administrative districts spread across six provinces in the dry zone of Sri Lanka. Smallholder farmers consist of small farmers (1.0–2.0 ha of farmland) and marginal farmers (less than 1.0 ha). They will gain knowledge and technology transfer and access to infrastructure assets to enhance climate resilience in farming resulting in increased revenue from crop diversification and participation in emerging value chains. Many technical and managerial staff of the participating agencies will benefit through training and capacity-building activities. The project will also promote the participation of youth and women in all key project interventions to ensure that they would benefit from the project activities. These districts have been selected based on its climatically vulnerable hot spot areas through a rigorous data-based approach, which was a collaborative exercise between the Sri Lanka Unit of the World Food Program (WFP) housed in the Ministry of Disaster Management, the International Water Management Institute (IWMI) and the Department of Agrarian Development.

6. Project Outcomes

Five (05) outcome level Key Performance Indicators (KPIs) have been set up at the project design phase to assess the Project Development Objective.

- KPI 1: Cropping Intensity (%)
- KPI 2: Share of non-paddy crops in the command area (%)
- KPI 3: Area under improved CSA practices (ha)
- KPI 4: Direct project beneficiaries (total number)
- KPI 5: Direct project beneficiaries (female number)

7. Project Implementation

The Project is implemented for over six years (2018-2024). The overall project implementation is the responsibility of the Ministry of Agriculture with the implementation support of PMU. The participating departments will carry out the project activities within their mandates, but coordinated by provincial DPD offices, with district units established at the Department of Agriculture (DoA)/Provincial Irrigation Department (PID)/Assistant Commissioner Agrarian Development (ACAD) offices and 47 divisional units established at Agrarian Service Centres (ASCs). The Project Management Unit (PMU) is the entity that takes the overall responsibility of implementing the project to achieve its desired objectives as planned which is under the purview of Ministry of Agriculture. Project implementation is carried out under the policy guidance and directives of the National Steering Committee (NSC), which comprises of senior officials of major stakeholder agencies including the private sector and the beneficiary communities and having conducted regular meetings. Project implementation is also observed and supervised through the World Bank implementation support and review missions that are conducted in regular basis.

8. Project Performances

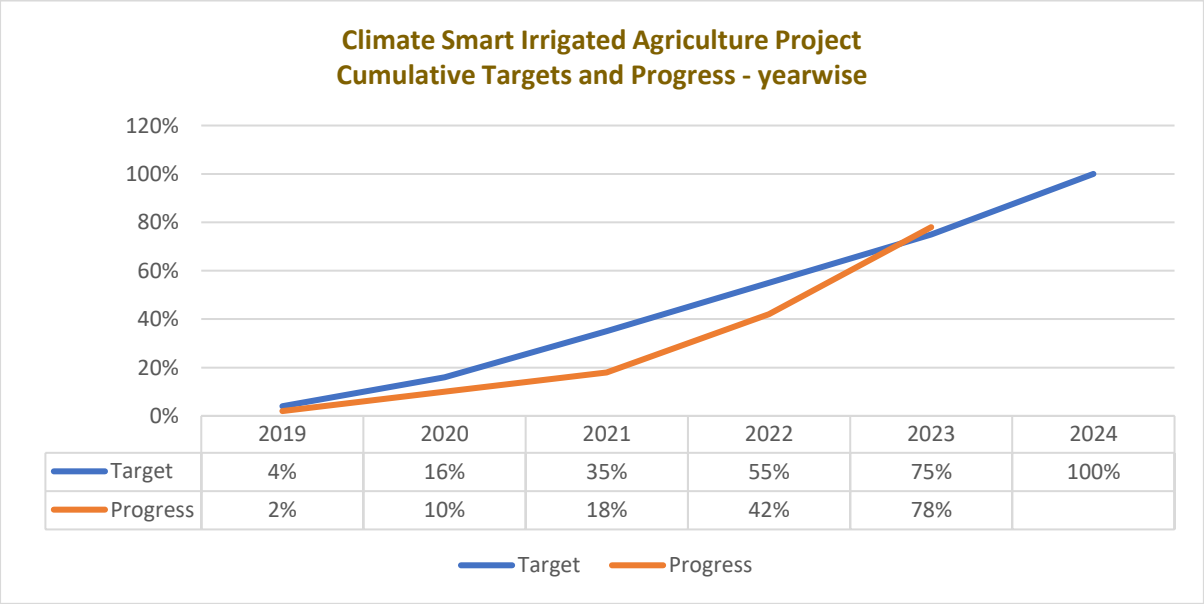
8.1 Achievement of Key Performance Indicators

As of end December 2023, the project has come up with achieving the indicators set up for project development objective. While Annexure-I gives the whole picture of achievement of results framework, the following table illustrates the achievement of key performance indicators.

Table 1: Achievement of Key Performance Indicators

PDO Level Indicator	End Project Target	end of 4th Year Target	As of end of 2023
Cropping intensity (%)	150%	150%	143%
Share of non-paddy crops in the command area (Crop-diversification) (%)	50%	50%	48.0%
Area under improved CSA practices (ha)	35,000	35,000	39,400
Direct project beneficiaries (Total No.)	470,000	200,000	365,471
Direct project beneficiaries (Female No.)	150,000	60,000	160,807

In addition, the below given graph shows the achievement of the project activities as of the end December 2023. The project progress affected severely once the staring of its implementation during the year 2020 – 2021, due to the Covid-19 pandemic situation, shortage of fuel, high fuel prices, and price hikes of goods etc, which are beyond the control. But after 2022, the progress started increasing gradually as shown in the below given graph.



Graph 1: Annual cumulative progress against the targets

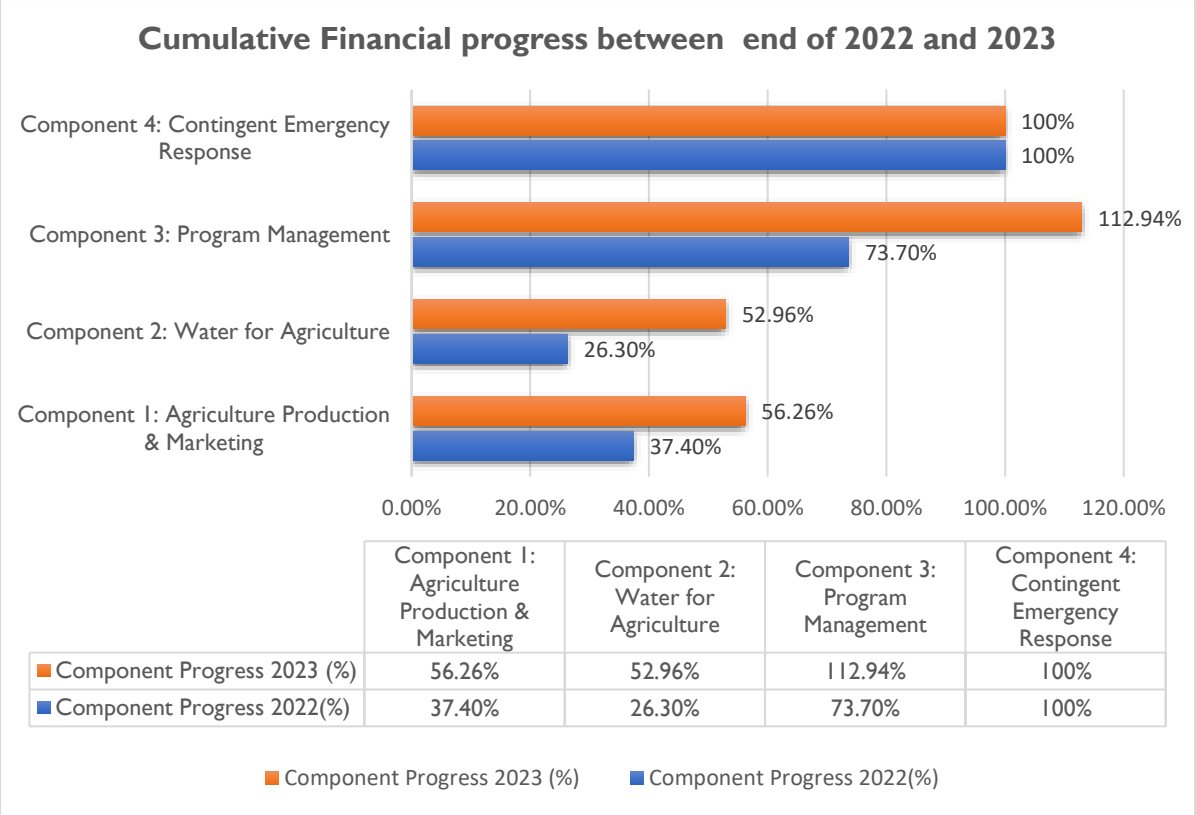
8.2 Financial Progress at the end of year 2023

At the end of year 2023, the annual financial progress of the project is 100%, while the year-end cumulative financial progress is 64%. The project was able to spend Rs. 7900.00 Mn. (USD 27.63Mn.) out of the annual revised allocation of Rs. 7900.00 Mn (USD 27.63 Mn.). The project prepared an Annual Action Plan of Rs. 10,320 Mn. (USD 36 Mn.) for the year 2023 but received only Rs. 3,380 Mn. (USD 11.81 Mn.) due to the economic crisis faced by the Sri Lanka. But in mid of the yeas the allocation was totally disbursed. However, after discussing with the Ministry of Finance, it could be able to get an additional allocation of Rs. 4520 Mn. (USD 15.81 Mn.). After cancellation of USD 25 Mn. in 2022, the total project cost is USD 100 Mn. and the cumulative expenditure at the end of 2023, is USD Mn. 64.31 *(Based on the latest Interim Unaudited Financial Report's Rate $1 = LKR 285.96).*

Table 2: Financial progress as to end 2023 compared with end 2022 progress

Component	Cumulative Progress (USD Mn) as of End 2022 (IUFR=247)			Cumulative Progress (USD Mn) as of End 2023 (IUFR=285.96)			Cumulative financial progress increase (%)
	Allocation	Expenditure	Progress (%)	Allocation	Expenditure	Progress (%)	
Component 1: Agriculture Production & Marketing	26.50	9.90	37.40%	26.50	14.91	56.26%	18.86%
Component 2: Water for Agriculture	52.80	13.90	26.30%	52.80	27.96	52.96%	26.66%
Component 3: Program Management	5.70	4.20	73.70%	5.70	6.44	112.94%	39.24%
Total (without CERC)	*85.00*	*28.00*	*33%*	*85*	*49.31*	*58%*	*25%*
Component 4: Contingent Emergency Response	15.00	15.00	100%	15.00	15.00	100%	-
Total	**100**	**43.00**	**43%**	**100**	**64.31**	**64%**	**21%**

The following chart illustrates the cumulative financial progress between the end 2022 and 2023 . The IUFR rate used in the 2022 was $1 = LKR 247 and $1 = LKR 285.96 in 2023. Accordingly, the component-2 of the program shows a significant improvement compared to the rest of the components by showing a 27% improvement in terms of disbursement compared to the end of previous year. It is mainly because of accelerating project activities special focus on rehabilitation of irrigation systems, where number of tanks rehabilitated increased from 42 tanks at end December 2022 to 212 tanks at the end of 2023. The following chart illustrates the difference of cumulative financial progress between the end of last two years.



	Component 1: Agriculture Production & Marketing	Component 2: Water for Agriculture	Component 3: Program Management	Component 4: Contingent Emergency Response
Component Progress 2023 (%)	56.26%	52.96%	112.94%	100%
Component Progress 2022(%)	37.40%	26.30%	73.70%	100%

Graph 2: Cumulative Financial progress between 2022 and 2023

The chart illustrates the comparison of cumulative progress between year end 2022 and year end 2023. Water for Agriculture Component shows the double in increase of progress from 26% to 53%.

8.3 Progress of Component-1: Agriculture Production and Marketing

Activities under the Agriculture production and Marketing Component are implemented in two sub-components as described above in the project components. Agriculture Production sub component focuses on CSA training, adopting CSA practices and technology, youth development program, seasonal cultivation (Yala, Maha and Inter-season) using CSA practices and production, crop production and diversity, cropping intensity etc.

8.3.1 CSA Training

It is crucial to provide farmers with training and knowledge about CSA practices and the benefits since they have been practicing their own traditional practices for cultivation and also it is not easy to change their minds with their own attitudes. However, the extension services and education programs conducted by the project would help to disseminate information and build the capacity of farmers on CSA practices. Community-based adaptation has been promoted through capacity building programs and it encourages farmers to work collectively at the community level to share knowledge, resources, and experiences in adapting to climate change. Training programs should be interactive, practical, and tailored to the specific needs of the target audience and the local context. It's essential to provide ongoing support, resources, and access to information to ensure the successful adoption of climate-smart agricultural practices and the project is being implemented to fulfill that requirement.

Climate Smart Agriculture (CSA) related training plays a crucial role in equipping farmers and agricultural stakeholders with the necessary knowledge and skills to adopt sustainable and climate-resilient practices. By promoting these practices, training contributes to building agricultural systems that can adapt to climate change while minimizing environmental impacts. Climate Smart Agriculture practices normally refer to agricultural techniques and approaches that aim to enhance productivity, increase resilience to climate change, and reduce greenhouse gas emissions. CSA-related training focuses on educating farmers, agricultural professionals, and stakeholders about these practices and how to implement them effectively. Under this intervention, basically the conservation agricultural practices are promoted. Conservation agriculture promotes minimal soil disturbance, permanent soil cover, and crop rotation. It aims to improve soil health, reduce erosion, and enhance water conservation. Training provides guidance on implementing these practices effectively. Moreover, the project is targeted to give technical skills on efficient water management which is crucial for sustainable agriculture. Training focuses on techniques such as drip irrigation, rainwater harvesting, and water-efficient crop selection to reduce water usage and increase productivity. As an extension of that training, the project is promoting soil fertility management training. This training provides knowledge on soil testing, nutrient management, organic fertilizers, and soil conservation techniques to improve soil fertility, nutrient cycling, and carbon sequestration. Also, climate-resilient crop management

trainings are promoted by the project to focus on identifying climate-resilient crop varieties, suitable livestock breeds, and management practices that can withstand climate variability and extreme weather events. Recently, an Integrated Pest Management (IPM) plan was developed by the project and in future training related to IPM is planned to be conducted in every ASC. This training will cover the awareness of combining multiple pest control approaches to minimize pesticide use and environmental impact. Trainings cover pest identification, biological control, crop rotation, and cultural practices to manage pests effectively. The project provides agroforestry related training, and this involves integrating trees, crops, and/or livestock on the same land, providing multiple benefits such as carbon sequestration, soil conservation, and diversified income streams. Trainings cover tree selection, planting techniques, and management practices.

In addition, there are two specific types of training on CSA that need to be conducted to fulfill the training requirement of the project. Farmer field schools provide hands-on training and knowledge-sharing platforms where farmers learn from experts and exchange experiences with peers. These schools cover a range of CSA practices, empowering farmers to implement sustainable and climate-resilient techniques. This requirement is fulfilled by the training conducted at Thirappane Farmer Training School (FTS) and skills in policy & finance is given by the Farmer Business School (FBS) conducted under the sub-component 1.2. The policy and financial related trainings are more focused on policy frameworks, financial mechanisms, and incentives available for supporting CSA practices. Participants gain insights into accessing funds, subsidies, and other support systems for implementing climate-smart agricultural approaches. Accordingly, 2,357 training programs have been conducted with the participation of 76,198 beneficiaries. The provincial wise training programs conducted with the number of participants are given in the table below.

Table 3: Provincial wise CSA trainings with participation

Province	No. of Programs Conducted	No. of farmers Participated
EP	187	7928
NP	232	6213
NCP	1043	32663
NWP	346	13858
SP	201	4567
UP	348	10969
Total	**2357**	**76198**

Plate 1: CSA related trainings(HG) conducted in Eastern Province

Plate 2: Training on Seasonal cultivation - SP

8.3.2 Thirappane Farmer Training School (FTS)

Farmer Training School established at Thirappane commenced functioning in January 2023, which has been planned mainly to train Agriculture Instructors (AIs) attached to the Department of Agriculture and Provincial Departments of Agriculture and Lead Farmers from the Farmer Organizations on CSA practices. This is the first ever such training school established in the South Asia region.

Before commencing the ToT programmes in Thirappane FTS, the project has been conducted 12 ToT programme for Agriculture Instructors (AIs) and altogether, 486 AIs (Male-327 / Female-159) have been trained. These trainings were conducted under the supervision of the Department of Agrarian Development (DAD) and the need for the training was also received from the DAD. This had been conducted as a ToT programme and the field implementation of this programme was not recorded.

With the establishment of FTS, a training plan was prepared for total of 72 training sessions (25 trainees per session) for 1800 farmers and officers by the end of the implementation of the project. Subsequently, the project aims to impart their knowledge and skills on CSA practices to village-level potential farmers to respond to the adverse climate impacts in their villages. In addition, the project mobilizes trained leader farmers to organize training activities and disseminate knowledge on CSA practices among peer groups. Out of the planned programs of 72 for the entire project period 48 programs (67%) have been completed by giving training for 1105 lead farmers (659 males and 446 females) as trainers. At the training both theoretical and practical training is given to the trainee farmer leaders by emphasizing the importance of CSA related trainings. At the end of trainings, it is expected these trained farmers will share the knowledge and experiences gained from the trainings with the peer farming groups in their villages. Basic training evaluation has been carried out by the M&E Specialist of CSIAP and further post evaluation study will be done in near future.

The table below illustrates the provincial wise training programs conducted from the beginning to the end of the year 2023.

Table 4: Trainings conducted Thirappane FTS up to end December 2023

Province	No. of Programs Conducted	Participants	Male	Female
EP	12	272	153	119
NP	7	162	108	54
NCP	8	178	109	69
NWP	12	276	167	109
SP	4	100	56	44
UP	3	74	40	34
Other/ ToTs	2	43	26	17
TOTAL	**48**	**1105**	**659**	**446**

(Source of information: Progress Report from FTS Thirappane as of end September)

Plate 3: Akkarayan and Mulankavil farmers at Thirappane FTS training

8.3.3 Achievement of CSA Technologies and Practices

Promoting Climate Smart Agriculture technologies and practices is another key area under the sub-component 1.1 Agriculture production. Farmers have been given awareness and training on CSA technologies and practices where the project has given other assistance to promote following selected CSA practices in the field. The following table illustrates the extent (ha) covered under each CSA practice.

Table 5: Achievement on CSA practices

Climate Smart Agriculture Practices	Target Ext (ha)	Extent covered (ha)	Beneficiaries (Nos)
(1) Crop Diversification	1000	4940.50	3904
(2) Micro Irrigation	6500	612.22	3298
(3) Seed Production	4000	2103.33	7675
(4) Inter Season Cultivation	27500	4263.10	13043
(5) CS Home Garden Development	2000	6603.90	66039
(6) Agronomic Interventions	7000	25449.74	70872
Total	48000	**43972.79**	**66039**

8.3.4 Micro-Irrigation

Micro irrigation is an advanced irrigation method that delivers water directly to the roots of plants in small, frequent, and precise amounts. In micro irrigation systems, water is delivered at or near the plant's root zone, minimizing evaporation, runoff, and water wastage. This targeted approach ensures that water reaches the plants' roots efficiently, providing them with the necessary moisture for optimal growth while conserving water resources. CSIAP is promoted mainly Sprinkler and Drip Irrigation techniques under this CSA practice to build resilient against the climate changes in hot-spot areas. These irrigation methodologies can save significant amounts of water compared to traditional irrigation methods. By providing water directly to the plant roots, micro irrigation ensures consistent moisture levels, reducing stress on plants and promoting healthier growth and higher crop yields. Micro irrigation focuses water delivery on the desired plants, minimizing moisture availability to weeds. This can help suppress weed growth and reduce the need for herbicides. The slow and controlled water application of micro irrigation reduces the potential for soil erosion compared to flood irrigation methods.

Micro-irrigation aligns with CSA principles for several reasons such as Water efficiency, Reduced greenhouse gas emissions, Adaptation to climate change, Improved crop resilience and Enhanced food security. Micro-irrigation systems are designed to deliver water directly to the root zone of plants with minimal wastage. This approach helps conserve water resources, which is essential in the face of changing climate patterns and increasing water scarcity. Moreover, micro-irrigation can provide a more reliable source of water, allowing farmers to adapt to changing and uncertain weather conditions. It's important to note that Climate-Smart Agriculture encompasses a range of practices and strategies designed to help agriculture become more sustainable and resilient in the face of climate challenges. Micro-irrigation is just one component of CSA practices promoted by the project, but it plays a significant role in addressing the environmental and climate-related aspects of agriculture.

Plate 4: Use of Sprinkler irrigation system in Puthukuduiruppu - NP

The project provided Sprinkler Irrigation units, Drip Irrigation units, Micro-jet irrigation units, and Rain Hose for 2950 farmer beneficiaries and they have cultivated 566 ha. under micro irrigation. The

table shows the project achievement (land extend in ha.) on micro- irrigation practices, according to the available information.

Table 6: Land extent (in ha.) cultivated under Micro- Irrigation

Province	2019-2022 Sep	2022 Oct - 2023 Mar	2023 Apr - Dec	Total Extent (Ha)	Total Beneficiary coverage	Micro irrigation units provided
NCP	24	25	90.5	**139.5**	810	1.Sprinkler irrigation units(1/4 ac), Drip irrigation units (1/4ac),3.Micro jet irrigation units(1/2ac), Sprinkler units(1/2ac), Sprinkler 1 ac units, Rain hose
NP	65	30	41.3	**136.3**	656	
EP	56	8	42.6	**106.6**	386	
SP	16.02	12.2	34.5	**62.72**	342	
NWP	12	10	44.8	**66.8**	428	
UP	21.8	8	70.5	**100.3**	676	
Total	**194.82**	**93.2**	**324.2**	**612.22**	**3298**	

8.3.5 Crop Diversification

Crop diversification is a practice of growing a variety of crops within a particular area or farming system instead of relying on a single crop. It involves the deliberate cultivation of different types of plants with varying growth habits, nutritional requirements, and market value. Crop diversification aims to enhance agricultural sustainability, reduce risks, and improve overall farm resilience. It is more important for mitigation of risks, by growing multiple crops, where farmers can reduce their vulnerability to various risks such as pests, diseases, adverse weather conditions, and market fluctuations. Also, different crops have varied nutrient requirements and root structures, leading to improved soil health. crop rotation, a form of diversification, can break pest and disease cycles, prevent soil nutrient depletion, and enhance soil structure and fertility. It is also a good alternative for the management of pests and diseases. Further, crop diversification allows farmers to tap into multiple markets and target diverse consumer demands. This Good Agricultural Practice is a key CSA practice implemented by the CSIAP to increase the climate resilience among its beneficiaries. The different crops have varying tolerance levels to environmental conditions such as temperature, rainfall, and soil types.

Table 7: Crop Diversification - Provincial-wise Achievements

Province	2019-22	2022/23 Maha (Oct-Mar)	2023 Yala (upto Sep)	2023/ 24 Maha (to Dec)	Total Ext. (ha)	Total Beneficiary coverage
EP	110	67	80	189	446	100
NP	90	53	325	10	478	100
NCP	1020	180	460	230	1890	1840
NWP	61	466	244	132	903	1094
SP	96	400	181	0	677	453
UP	107	120	150	169	546	317
Total	**1484**	**1286**	**1440**	**730**	**4940**	**3904**

Plate 5: Ground nut cultivation for N2 fixation in a Maize land in North-Central province

There are several advantages that could be achieved by practicing the diversification of crops as a Climate Smart Agriculture practice, such as;

- Crops build resilience to climate variability: This can help farmers adapt to changing and often unpredictable climate conditions, including shifts in temperature, precipitation patterns, and the incidence of extreme weather events.

- It reduces the risk of crop failure: By planting a mix of crops, farmers reduce their reliance on a single crop or crop variety.

- Soil health and nutrient management: Healthy soils are better equipped to withstand climate stressors where different crops have varying nutrient requirements and root structures, which can help maintain soil structure, prevent erosion, and reduce the need for chemical fertilizers.

- Farmers are secure in economic sustainability: Especially, the smallholder farmers are more financially stable when they have a mix of crops to sell, reducing their vulnerability to price fluctuations in a single commodity.

Overall, crop diversification is a strategy that enhances the resilience and sustainability of agricultural systems in the face of climate change and variability. By planting a wider variety of crops, smallholder farmers in the selected hotspot areas can better adapt to the evolving challenges presented by shifts in climate and weather patterns recently highlighted in Sri Lanka.

8.3.6 Inter-Season Cultivation

Inter-season crop cultivation is a practice of growing crops during the off-season or in between the main cropping seasons, Yala and Maha. As a tropical country Sri Lanka has a favorable climate that

allows for the cultivation of a variety of crops throughout the year, and inter-season cropping takes advantage of this to maximize agricultural productivity. Moreover, the inter-season cultivation aligns with objectives of climate smart agriculture by utilizing the available growing periods efficiently and adapting to changing climatic conditions. Inter-season cultivation allows farmers to make optimal use of land, water, and other resources throughout the year. By cultivating crops during off-seasons or inter-seasons, farmers can maximize the productivity of their agricultural land and minimize resource wastage. Also, Inter-season crops can help farmers adapt to changing climatic patterns and mitigate climate-related risks. This enhances resilience to water scarcity and ensures continued agricultural production. Further, inter-season cultivation contributes to crop diversification, which reduces the vulnerability of farmers to single-crop failure or climate-related risks. Growing different crops during different seasons helps spread the risks associated with pests, diseases, and extreme weather events, thereby safeguarding farmers' livelihoods.

Achievement of the project under inter-season cultivation at provincial level is given in the below tables. Table 8 illustrates the cultivated extent in the inter-season, the yield produced and the beneficiaries involved, while Table-9 shows the crop-wise achievement.

Table 8: Provincial wise Inter-season cultivation progress

Province	Extent (ha)	Production (Mt)	Beneficiaries (No.)
EP	554.20	447.45	1264
NP	520.00	305.60	1344
NCP	927.00	806.00	4052
NWP	444.60	117.90	1308
SP	98.00	0.00	245
UP	1719.30	1339.20	4830
Total	**4263.10**	**3,016.15**	**13043**

Table 9: crop-wise achievement of inter-season cultivation

Crop	Ext(Ha)	Production (Mt)
Green gram	2719.3	1761.7
Cowpea	1168.8	534.2
Black gram	62	71.6
Finger Millet	7	3
Sesame	122	97.6
Red onion	11	28
Ground nut	74	100.8
Sun-hemp	99	419.25
Total	**4263.1**	**3016.15**

The project uses short-aged OFC varieties to cultivate during the Inter-Seasons. Accordingly, cultivated land extent was 4263v ha. with the production of 3016 Mt. from which the major Main crops cultivated were Green Gram and Cowpea. A highlight on Green Gram cultivation in Moneragala District is given in the below text box, while full success story is given as an annexure.

Figure 1: Success Story on Inter-Season Cultivation in Uva Province

"Systematic Inter-Season Cultivation is a good practice introduced by CSIAP, that made a good income for me"
Mr D M Karunarathna – Paddy Farmer Adapting CSA practices in Moneragala

"*Our paddy cultivation area is of 160 acres, but we have never done this mid-season (inter-season) cultivation earlier. I received 10 kg of Green Gram seeds for my paddy land of one acre in Senasuma Kumburayaya of 160 acres of extent. CSIAP officers, AI, and ARPA promoted us for mid-season green gram cultivation."* Mr. Karunarathna, the farmer explained how he started inter-season cultivation. He further added, "*with the CSIAP intervention, Chairman of our Farmer Organization told us to organize as a mid-season famer group and, then we created a group of 80 farmers as mid-season cultivation group with around 40 ha extent of paddy land. I did my one acre land following the guidance given us by the officers."*

As to Mr.Karunarathna, his total cost for the cultivation was Rs.57,950 (that covers farmer contribution for seeds, land preparation using his own tractor, pesticide, fungicide and foliar application, harvesting cost etc.). Green Gram yield he earned was 620 kg. The market price he could sell was Rs.650 and he has earned a net income of Rs.345,050.

Sri Lanka experiences a southwest monsoon (Yala) from May to August and a northeast monsoon (Maha) from October to January. Inter-season cultivation may involve adapting to variations in temperature, humidity, and rainfall during transitional periods. The selection of suitable crops for the Inter-Season should be more resilient to changes in weather patterns or may have shorter growth cycles, allowing for quicker harvests. Moreover, proper water management is crucial for inter-season cultivation, and it should consider the use of irrigation systems to ensure a consistent water supply for crops. The preparation of soil adequately before planting is mandatory too in inter-season cultivation. This may involve practices such as plowing, harrowing, and adding organic matter to improve soil fertility and the proper soil preparation promotes good root development and overall plant growth. Therefore, the use of good agricultural practices in inter-season is required for soil and moisture conservation. Furthermore, the practice of crop rotation to prevent soil depletion and control pests and diseases could be done during the inter-season cultivation. Alternating the types of crops planted in a specific area can help maintain soil health and reduce the risk of pests and diseases that target specific plants. Finally, understanding market trends and consumer preferences can help

farmers make informed decisions about what crops to cultivate during this short-term inter-season period. For that the project is expected to make collaboration with agricultural extension services and research institutions which can provide valuable support and information for successful inter-season farming in Sri Lanka.

Plate 6: Inter-Seasonally cultivated Cucumber field in North-Western province

8.3.7 Climate Smart Agronomic Practices

Agronomic interventions can be combined and tailored to local conditions, cropping systems, and farm types to enhance agricultural sustainability, mitigate climate change impacts, improve farmers' resilience to climate variability, enhance agricultural productivity, promote resilience to climate change, and reduce greenhouse gas emissions. There are key activities implemented in the field such as agronomic interventions by the project and they are listed below.

- Use of mulching
- Use short age varieties
- Promote AW&D technology
- Parachute planting
- Row seeding
- Use mechanized transplanters
- Apply organic manure (solid /liquid)
- Cultivate in ridges and furrows
- High tech Agriculture (Insect proof nets, Rain shelters, Poly tunnels,)
- IPM practices
- Use of farm machinery (Highland seeders and Backpack inter cultivators etc.)
- Timely cultivation

The Agronomic Interventions in the field are given in the table below:

Table 10: Agronomic intervention by extent

Intervention type	2019-2022	2022/23 Maha	2023 Yala (upto Sep.)	2023/24 Maha	Total
	Ext(Ha)	Ext(Ha)	Ext(Ha)	Ext(Ha)	Ext (Ha)
For Paddy crop					
Cultivate short age varieties		3404.7	113.6	194	**3712.3**
Parachute planting		26.6	52	93	**171.6**
Row seeding		3284.44	75.4	33	**3392.84**
Use mechanized Transplanters		139	39.2	76.7	**254.9**
Use AW&D technology		0	5.5	3	**8.5**
Use IPM practices		12.8	65.6	56	**134.4**
O/manure application			146.6		**146.6**
For OFC cultivation					
Drought tolerant crops			730	871	**1601**
Use IPM practices			78	463	**541**
O/manure application		3935.2	423.5		**4358.7**
Insect proof nets (1/4ac units)		40	41.8	57.1	**138.9**
Poly mulch (1/4 ac units)			2.7	10	**12.7**
Rain shelters (600 sq ft)			0	0.1	**0.1**
Poly tunnels (1000 sq ft or more)			0.05		**0.05**
Total	**10976.2**	**10842.74**	**1773.95**	**1856.9**	**25449.74**

8.3.8 Climate Smart Seed Production

Under the seed production program, CSIAP was able to assist in producing seeds from 2019 to 2023 Yala Season. The below table describes the total extent cultivated to produce seeds by type of crops and received yield (Mt). Compared to the initial stages of the project (from 2019 to 2022), the project could be able to give more assistance on seed production where it shows 12% annual increase of Climate Smart seed production in 2023. Accordingly, the project could be able to produce 3,436 Mt. seeds cumulatively from 2019. Climate-smart seed production is a crucial aspect of sustainable agriculture that addresses the challenges posed by climate change. Climate-smart seeds are developed to be more resilient and adaptable to changing climatic conditions. This includes tolerance to heat, drought, floods, and other extreme weather events, which are becoming more frequent and intense due to climate change. By selecting and breeding seeds that can withstand climate challenges, farmers are more likely to achieve better yields and maintain or improve overall productivity. Climate-smart seed production also considers the conservation of genetic diversity. Maintaining a diverse pool of seeds helps ensure that crops can continue to evolve and adapt to changing conditions, contributing to long-term food security. Moreover, climate-smart seeds may carry traits that provide resistance or tolerance to specific pests and diseases, reducing the need for chemical interventions and promoting

environmentally friendly farming practices. As climate change poses challenges to global food production, the development and adoption of climate-smart seeds are essential for ensuring food security on a global scale. These seeds contribute to building a more sustainable and resilient agricultural system in the selected hot-spot areas of the project.

Plate 7: Ground Nut seed production in Eastern Province (Padavisipura ASC)

The project assisted 6,982 beneficiaries to produce CS seeds while interventions have been implemented in 67 selected villages to increase the seed production. The Green Gram seeds production programme in Northern Province was successful due to high demand for that crop by the farmers. The project could be able to establish a few marketing links for these selected crops and it was also affected for popularizing this seed production programme among the farmers.

Table 11: Crop wise Seed Production

Crop	2019 -2022 Sept		2022/23 Maha		2023 Yala (Upto September)		2023/24 Maha (upto Nov)		Total	
	Ext (ha)	Pron (Mt)	Ext(ha)	Pron (Mt)	Ext (ha)	Pron (Mt)	Ext (ha)	Pro n(Mt)	Ext (ha)	Pro n(Mt)
1.Paddy	429	2048	100	399	23		40		592	2447
2.B/Onion	1	1	2	1			3		6	2
3.G/G	42	41	31	19	119	110	91		283	169
4.B/G	40	60	106	48	50	52	102		298	160
5.Soya	5	10							5	10
6.Cowpea	190	137	26	19	91	52	88		395	209
7.G/N	102	129	59	103	200	177	153		514	409
8. R/Onion					10	30	0		10	30
Total	**809**	**2426**	**324**	**589**	**493**	**421**	**477**		**2103**	**3436**

8.3.9 Cluster Village Development Programme

The cluster village development is a key area of promoting the adoption of the CSA practices in the project areas to mitigate the climate variability by showing the mitigation and adaptability measures that are being practiced through the farmers. All possible appropriate climate-smart practices are identified through the participatory approach with the participation of all technical officers and farmers in the village by starting the preparation of a resource map under this approach. The cluster village development includes climate-smart technologies, climate-smart information services, supportive institutions strengthening and local level planning and management considering every aspect of weather, water, soil, and other agricultural inputs like seed, bio-fertilizer, IPM method for pest and disease control and protection of crops from wild animals. It also considered the marketing aspect by exploring the opportunities to establish business linkages with the private sector with the PS and PA in the areas where cluster villages are located. The priorities and sequencing of actions are based on the needs of the community giving special attention to social and environmental concerns.

Plate 8: Demonstration plots developed - NP

The project established 56 cluster villages with 82% progress (totally 68 villages have been targeted) and could be able to assist for the development of 195 demonstration plots.

Table 12: Number of Cluster Villages assisted by the project (by provinces)

Province	No of villages		No. of Plots	
	Target	Progress	Target	Progress
EP	6	4	72	61
NCP	12	12	34	32
NWP	40	31	71	71
SP	1	1	3	3
UP	9	7	36	28
Total	**68**	**56**	**216**	**195**

8.3.10 Youth Development Programme

Engaging youth in climate-smart agriculture practices is crucial as they represent the future stewards of the environment and agricultural systems. Normally, the youth bring fresh perspectives, creativity, and innovation to the agriculture sector. In the face of climate change, new and adaptive approaches are needed, and the enthusiasm and creativity of young farmers can drive the development and adoption of innovative climate-smart practices. Youth are often more educated and have access to information through formal education and digital channels. Educating and raising awareness among youth about climate change and sustainable agriculture practices can lead to informed decision-making and the adoption of environmentally friendly farming methods. The initial project plans did not have a youth development activity in its action plan. When implementing the other agricultural programs, the project was able to identify the importance of the engaging of youth in sustainable farming practices which can lead to the development of agribusinesses focused on climate resilience, contributing to economic growth and creation of new job opportunities for the youths in climate affected marginal areas.

Plate 9: Luffa Cultivation under Youth Development Program - NP

Plate 10: Long Bean cultivation under Youth Development Program - NP

The promotion of agriculture among youth farmers is vital for food security, economic development, sustainability, knowledge transfer, innovation, and personal growth. Encouraging young people to pursue careers in agriculture can help build a resilient and prosperous agricultural sector for the future. Accordingly, CSIAP introduced a new strategy to promote seed production program among Youths which is associated with this main activity. The provincial update of the Youth development activity is given in the table below.

Table 13: Progress of the demonstration plots established under Youth Development Program

Province	Number of Youths Selected	No. of Demonstration Plots Established			Extent Covered (ha)
		Target	Progress (No.)	Progress (%)	
EP	36	36	36	100	10.0
NCP	27	27	26	96	10.0
NP	34	34	32	94	10.0
NWP	71	71	71	100	7.0
SP	22	22	22	100	6.0
UP	28	28	17	61	27.0
Total	**218**	**218**	**155**	**71**	**25.3**

Agriculture plays a vital role in ensuring food security for a growing global population. By encouraging youth farmers to engage in agriculture, we can enhance agricultural productivity and increase food production to meet the rising demand for nutritious and sustainable food. Also, the project is expected that youth farmers can bring fresh perspectives and innovative ideas to the agricultural sector, leading to the adoption of more sustainable farming practices. So, the project is given more input for selected youths than a regular beneficiary. Hence, inputs such as seeds & planting materials, micro-irrigation systems, insect proof nets, knowledge on technology & marketing and other required trainings have been provided by the project.

CSIAP Youth Development Programme Made Me a Role Model in My Community

Mr. Easwaran, Puththuvedduvan, Thunukkai

The Climate Smart Irrigated Agriculture Project (CSIAP) in the Northern Province (NP) promotes the CS youth development program in Mullaitivu and Kilinochchi districts, aiming to foster empowering youth to increase food security, resilience to climate change, and productivity through Climate-Smart Agriculture (CSA) practices.

Mr. Easwaran is an enthusiastic young farmer living Puththuvedduvan GND, Thunukkai ASC. Seeing his active performance, CSIAP in NP selected him for the CS youth development program. Mr. Easwaran said that for the last decade, he used to cultivate black gram and groundnut in field. With the intervention of CSIAP, we started to cultivate both luffa (Naga) and long bean (local traditional variety) in ¼ Ac. for the first time. Further, he added that CSIAP in NP supported him in implementing CSA technologies by providing silver poly mulch for a 20% subsidy and an insect-proof net and drip irrigation system for free for his ¼ Ac. He was doubtful about implementing the drip irrigation system until he experienced a good yield and profit.

As per the Mr. Easwaran, he harvested 70-80 kg of Luffa once in two days and sold it at the rate of 280 Rs/Kg to a collection center in Cargills processing center, Kilinochchi. At the same time, he harvested 8 – 10 kg of long beans once in 4 days and sold it for 350 Rs/Kg to the local market.

Further, he said that he could get this harvest continuously for 3 months, and thereby, he would have earned around 0.945 Mn Rs and 0.5 Mn Rs from luffa and long bean, respectively, irrespective of fluctuation in market price. It is higher than that of the earnings from groundnut and/or black gram. Moreover, he proudly said that he become a role model in his community and extended his heartful thanks to CSIAP officers, AF, and AI for their continuous support in achieving his success. Undoubtedly, this success inspired neighboring farmers to adopt these CSA techniques in their fields as well.

Finally he said, "Apart from the materials and equipment, the technical guidance and training were given by the CSIAP. From the start, the Agriculture Facilitator (AF) attached to CSIAP Northern Province (NP) and the Agriculture Instructor (AI) of Puththuvedduvan GND came to monitor our field periodically and gave advice". Further, he said that with the usage of poly silver mulch, he was able to control weeds, especially "Iorai," (Cyperus rotundus) without any chemical weedicide, which resulted in cost reduction and labor requirements for field management. Drip irrigation helped him in reducing water requirements, electric costs, and labor requirements.

Figure 2: Success of Youth Development program

The Ministry of Agriculture has proposed to develop 10 selected villages as 'Smart Production Villages' in Southern Province this year. Parallel to this programme, the DPD office in Southern Province has selected two villages (namely Julpallama in Weerawila ASC and Kawanthissapura in Bandagiriya ASC) and expects to give project assistance. Mostly, this programme will focus on encouraging farmers to produce local seeds that can be used as climatic resilience varieties.

8.3.11 Climate Smart Home Gardens Development

This activity involves implementing sustainable and environmentally friendly practices to mitigate and adapt to climate change while creating a productive and nutrition-rich home garden in all households in selected hotspot areas. CSIAP promotes efficient water management in such home gardens which is essential to minimize water evaporation and promote soil moisture retention. Healthy soil is crucial for plant growth and resilience. Climate smart gardening focuses on improving soil fertility and structure through techniques such as composting, organic mulching, and using natural fertilizers. Healthy soil retains moisture better, reduces erosion, and supports diverse microbial life. Accordingly, compost production activity was promoted and among selected beneficiaries parallel to this activity. Composting garden waste and using it as organic fertilizer, repurposing materials for garden structures, and recycling containers and packaging are some practices that can minimize waste and promote sustainability. In this activity, the climate-appropriate plants were selected based on the type of agro-ecological zones of hotspot areas. Choosing plant species that are well-adapted to the local climate is crucial in a climate smart home garden. Opting for drought-tolerant plants, native species, and varieties that can withstand temperature fluctuations or extreme weather events helps ensure the long-term success and resilience of the garden. The inputs related to this activity were distributed among all beneficiaries in some provinces and some have reduced the targets due to better management of the field implementation. The below table shows the number of beneficiaries for home garden and for rest of the interventions.

Figure 3: success of CSIAP Interventions

The concept behind this activity was to establish a home garden with practicing good agricultural practices, promoting organic manure, environment management for soil and moisture conservation, increasing of nutrition intake and changing farmers on self-sufficient vegetable production. Accordingly, the project provided inputs which are sufficient to develop a home garden with 0.1 ha. Based on that assumption, the total extent (ha) under this activity can be computed as 6,603 ha. And the below table shows the expected production of different types of vegetables and number of eggs from the backyard poultry.

Table 14: Recorded outputs from the CS Home Garden Development Program

Type of Vegetable	Received Yield	Remarks
Vegetable production (Mt)	1016	The computed yield of short-term vegetables other than leafy vegetables and tuber crops
Tuber crops production (Mt)	1650	Normally the yield of tuber crops is recorded after 8-12 months. This yield is being recorded at the reporting time. the progress will be increased further.
Leafy vegetables production (Mt)	254	The local community were encouraged to engage in more production
Fruits production (Mt)	346	As mentioned under tuber crops, the yield of fruits is being recorded and will continue for the next few years since most of distributed fruit crops are annual crops.
Eggs (Nos)	703,450	Production is from NP, NCP and NWP since the poultry chicks have been provided to these provinces.

Plate 11: A successful female beneficiary established a Vegetable selling stole in North-Westen province

8.3.12 Organic Fertilizer Production Program

Organic fertilizer production program is being implemented in individual, small and medium level units and both solid and liquid fertilizer production was promoted. Mainly solid compost fertilizer production is being done in all the provinces by total cumulative production is of around 40,865 Mt. Provincial wise achievement is shown in the below table.

Table 15: Progress of the solid compost production by provinces

Province	Target (Mt)	Progress(Mt)
EP	3,295	2,702
NP	5,552	5,606
NCP	20,684	18,490
NWP	7,000	7,222
SP	800	476
UP	3,120	6,369
Total	**40,451**	**40,865**

Compost plays a crucial role in climate-smart agriculture practices by contributing to soil health, reducing greenhouse gas emissions, and promoting sustainable farming. Compost is a rich source of organic matter, providing essential nutrients for plant growth. By improving soil fertility, compost enhances the overall productivity of agricultural systems. Healthy soils contribute to increased crop yields and support climate-smart practices by promoting sustainable intensification. Compost fosters a diverse and healthy soil microbiome. The microbial activity in compost-amended soils contributes to nutrient cycling, disease suppression, and overall soil ecosystem health. A thriving soil microbial community supports plant growth and resilience, contributing to climate-smart agricultural systems.

Plate 12: Compost Production training in NCP

8.3.13 Usage of Farm Machineries

The project procured different types of farm machinery for the use of farmers at ASC level. Accordingly, 95 drum type manual paddy seeders, 189 low land power weeders, 189 walk behind type paddy transplanters, 4 paddy combined harvesters and 1 four-wheel tractor. Those machineries have been distributed among all 47 ASCs. Mechanized transplanters, Highland seeders and Backpack inter

cultivators are currently used in the field and the below table shows how many extents are cultivated using these machineries. According to the data shown in the following provinces, distributed farm machineries are used more than 75%. However, the project is expected to increase farm machinery usage in the coming seasons significantly.

Table 16: Use of farm machineries in provinces

Activity	NWP		EP		UP		NCP		Total		
	T	P	T	P	T	P	T	P	T	P	%
Use mechanized transplanters (ha)	4.8	25.2	38.0	14.0	5.0	2.0	50.0	45.0	97.8	86.2	88.1%
Use of farm machinery (ha) (Seeders, inter-cultivators etc.)	-	-	58.0	38.0	-	-	-	-	58.0	38.0	65.5%

T – Target (ha), P – Progress (ha)

Plate 13: Use of farm machineries provided by the project

Introduction of machinery in agriculture is essential for implementing climate-smart practices as it brings several benefits that contribute to sustainability, efficiency, and resilience in the face of climate change. Machinery enables precision farming practices, allowing farmers to optimize the use of resources such as water, fertilizers, and pesticides. This precision helps reduce waste and environmental impact, contributing to climate-smart agriculture. Moreover, the machinery plays a key role in conservation tillage practices, such as no-till or reduced tillage. These practices help sequester carbon in the soil, improve water retention, and reduce soil erosion, contributing to climate-smart agriculture. In the meantime, machinery allows for timely planting and harvesting, critical factors in adapting to climate variability. With unpredictable weather patterns, having the ability to plant and harvest crops at the right time is essential for maximizing yields and minimizing risks.

8.3.14 Rehabilitation of Agriculture Infrastructure

8.3.14.1 Agri Roads

Rehabilitation of Agri-roads are mainly focused on beneficiary satisfaction and development of agricultural marketing. The village level farmers face the problem of poor access to the main roads to market their agriculture products and the market links with outside business entrepreneurs cannot be established. Hence such farmers are discouraged from engaging in agricultural activities. Accordingly, this limited infrastructure activity has been introduced for such critical areas in the six provinces. The project has identified 50 kms lengths of agri-roads to rehabilitate and up to the end of the year 2023, it was reported that 38 kms (77% of the target) have been rehabilitated. The below table shows the identified lengths of roads (in kms) to be rehabilitated and the progress achieved at the end of the year 2023.

Table 17: Progress of the rehabilitation of agri-roads by provinces

Province	Target (Length in Kms)	Length completed (Kms)	Progress %
EP	7.0	5.79	83%
NP	14.0	12.52	89%
NCP	14.0	7.05	50%
NWP	5.0	4.60	92%
SP	7.0	5.99	86%
UP	3.0	2.31	77%
Total	**50.0**	**38.45**	**77%**

The agri-roads are specifically designed to connect rural areas with urban centers, marketplaces, and transportation networks. These roads provide a means for farmers to transport their agricultural products from rural areas to urban markets or processing facilities. This transportation infrastructure is essential for connecting agricultural producers with consumers, ensuring a steady flow of goods to meet market demand. Moreover, they improve farmers' access to markets, allowing them to sell their produce and products more efficiently. Reduced transportation time and costs contribute to better market opportunities for farmers, leading to improved income and economic growth in rural communities.

Plate 14: Rehabilitated agri-roads in Southern Province

8.3.14.2 Agro-Wells

Agro wells that are to be rehabilitated have been identified in six project provinces in supporting to increase cultivation extent by cultivating abandoned lands and growing different varieties and more crops. The project target is to rehabilitate 1300 agro-wells and at the end of the year 2023, 822 agro-wells have been rehabilitated, achieving 63% of progress. The table below illustrates the progress of agro-well rehabilitation.

Table 18: Progress of the rehabilitation of agro-wells by provinces

Province	Agro-wells (Nos)		
	Target	Completed	Progress
EP	300	232	**77%**
NP	275	24	**9%**
NCP	540	413	**76%**
NWP	75	59	**79%**
SP	70	63	**90%**
UP	47	31	**66%**
Total	1307	822	**63%**

These rehabilitated agro-wells provide a reliable and efficient water source for agricultural activities, contributing to sustainable water management, increased resilience to climate variability, and improved productivity. Normally, agro-wells enhance water availability for agricultural purposes, providing a reliable source of water for irrigation. This is particularly important in regions with irregular rainfall patterns and seasonal water scarcity, allowing farmers to maintain consistent crop production throughout the year. Therefore, this intervention has been identified as a key impactful intervention which is being implemented under the CSIAP financials. Moreover, during periods of drought or water scarcity, agro-wells can help mitigate the impact on crops by providing supplemental irrigation. This is crucial for ensuring the survival and productivity of crops in the face of changing climate conditions. Agro-wells enable farmers to plan and manage their cropping calendars more effectively with access to reliable water, then they can optimize crop cycles to align with favorable weather conditions.

Plate 15: Rehabilitated agro-wells under CSIAP financial assistance in Southern province

8.3.14.3 Providing of Tarpaulin Sheets

At the beginning of the project, the construction of drying floors for trying and threshing the harvest was identified as a key activity which can be implemented under the marketing sub-component of the project. However, to complete this activity the project must be allocated a significant budgetary allocation and the return on investment is also not at a significant margin. Therefore, the implementation of this activity was cancelled and introduced the distribution of Tarpaulin for selected members of producer societies. The following table shows the progress of providing tarpaulin by the end of year 2023.

Table 19: Providing Tarpaulin for Producer Societies

Province	Target (No.)	Progress (No.)	Remarks
EP	600	600	100% Completed
NP	260	260	100% Completed
NCP	500	200	40%
NWP	600	600	100% completed
SP	150	75	50%
UP	150	110	73%
Total	**2260**	**1845**	**82%**

The use of tarpaulin in drying agricultural harvest is a common and practical method employed by farmers to protect crops from adverse weather conditions and facilitate efficient drying. Tarpaulins provide a waterproof covering that protects harvested crops from rainfall during the drying process. Also, the tarpaulins act as a barrier, preventing rainwater from reaching the crops while it enables farmers to create a controlled environment for drying. Tarpaulins are lightweight and portable, making them easy to set up and move as needed. So, farmers can quickly deploy tarpaulins to protect crops when unexpected weather changes occur, providing flexibility in response to changing conditions. CSIAP is providing 10 tarpaulins for a Producer Society and the members of the society are using them on a sharing basis in harvesting season.

Plate 16: Use of Tarpaulin Sheets by Farmer in a village Ampalaperumal in NP

8.3.14.4 Establishment of Marketing Linkages

The following table summarizes the marketing linkages introduced as a project intervention. Market linkages are established with Producer Associations.

Table 20: Marketing Linkages established by the project.

Crop	Buyer	Agreed quantity	Remarks
Sesame	Golden Food Pvt Ltd (Export oriented)	50 Mt from Parangiyawadiya. (both buyers are willing to buy any amount if available).	Offered a price of Rs.500 per kg
	Worldwide Commodity Pvt Ltd		
Maize	Maliban Biscuits Ltd,		Negotiated with Plenty Foods and agreement will be signed for next 23/24 Maha season with Thamutta and Rajanganaya PSs in NWP
	Plenty Foods Ltd		
	Golden Food Ltd		
	Ceylon grain elevators Ltd		
	Saai Traders, Trincomalee		
Green gram	Cargills		Discussed and agreed to purchase from both SP and NWP.
	Keels		
	Plenty Foods		
	Worldwide Commodity Ltd		
Ground nut	CBL		Offered Rs.680 per kg

Crop	Buyer	Agreed quantity	Remarks
	MA's company	CW Mackie Co. purchased 6Mt of Jumbo Peanuts from Parangiyawadiya PA under their seed multiplication program. A PS in Poonakary ASC/NP involved in providing seed materials to DoA.	
	SPMDC, DOA		
	CSIAP, EP		
	David Gram Stores		
Black gram	MA's Company	4 PSs in NP provide seed materials to DoA	Linked with PSs in NP.
	SPMDC, DOA		
Vegetables	Keels supermarket collection center at Pannegamuwa		
	Cargills supermarket collection center at Tambuttegama		

8.3.14.5 Farm Business School Training

Farm Business School (FBS) training is given for the selected farmer groups in each of the six provinces. For these farmer training, initially, the project conducted Training of Trainers (ToT) programs for 113 Agriculture Instructors (AI) and 46 CSIAP Agriculture Facilitators. Those trained AIs are now conducting training for the selected farmer groups. For FBS training 22600 farmers have been identified and AIs have now started conducting training. The progress of the FBS trainings conducted are given in the table below.

Table 21: Farm Business School Training Progress

Province	ToTs (AIs & AFs trained)	Target No. of Farmers	Farmer Groups	Farmers at training	Training completed
EP	38	5760	192	3980	1100
NP	26	3420	114	528	54
NCP	25	3840	128	700	300
NWP	48	6000	200	2102	1050
SP	10	1920	64	2530	1200
UP	12	1680	56	482	131
Total	**159**	**22620**	**754**	**10322**	**3835**

For completion of the FBS training, the Farmers have to complete 12 modules. At the end of 2023 it has been reported that 3,835 farmers have completed the training by covering all 12 modules. There are 10,332 farmers are under training in different level of completion of modules.

8.4 Progress of Component 2 – Water for Agriculture

8.4.1 Rehabilitation of Irrigation Systems

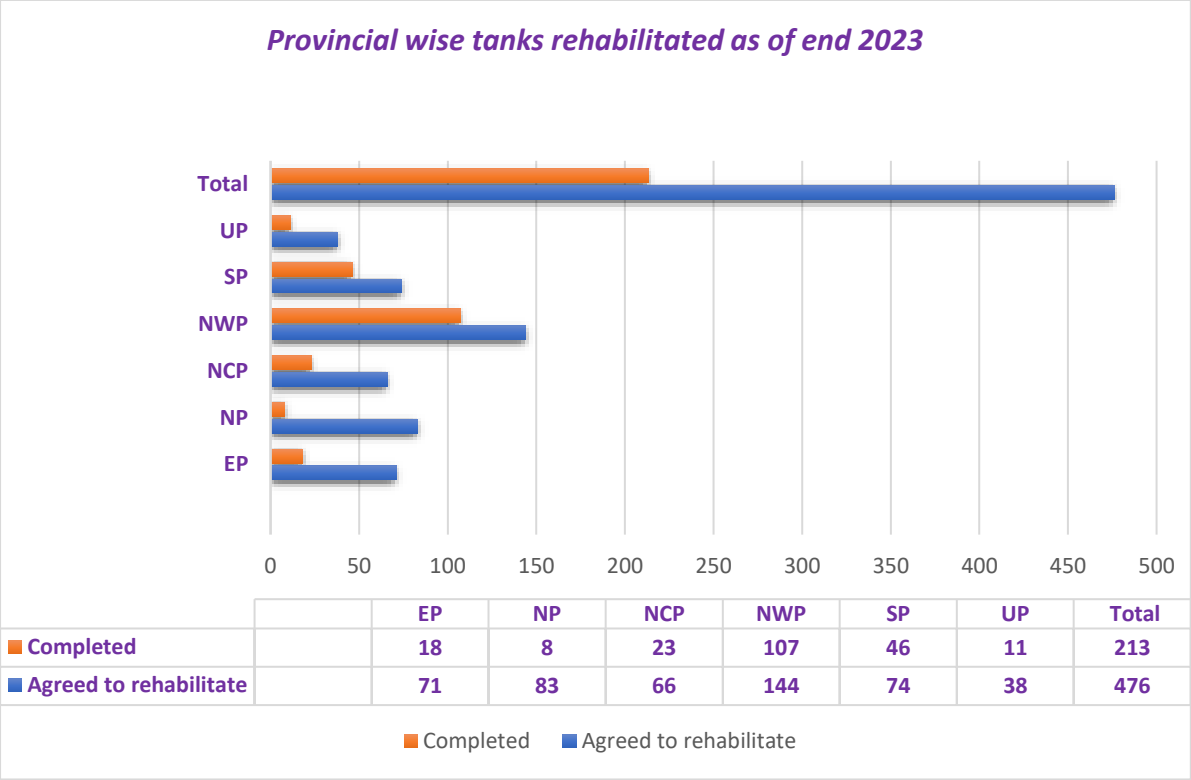
Project Component – 2 is for rehabilitation of irrigation systems. The activities which are implemented under this component mainly focus on the planning for water and other infrastructure necessary to support climate-resilient irrigated agriculture, construction of the planned infrastructure, and co-management of this infrastructure by central/provincial governments and the local community.

8.4.1.1 Tank Rehabilitation

The sub-component 2.1 is for rehabilitation of irrigation systems. At the planning stage of the project, 971 tanks have been identified and agreed to rehabilitate. However, with the restructuring of the project, the fund cancellation has been activated by the funding organization. With this revision, the project has identified 476 tanks for rehabilitation. Up to end of year 2023, it was reported that, 213 tanks have been rehabilitated and from that 89 tanks have been handed over. Out to the remain tanks to be rehabilitated, 220 tanks are over 50% of work completion while 43 tanks are below 50% of work completion. The overall progress of the irrigation systems rehabilitation is illustrated in the table below.

Table 22: Achievement of Tank Rehabilitation

Province	No of Cascades	Agreed to rehabilitate	Current Status			Completed	Handed Over
			<50%	51<94%	95<99%		
EP	11	71	09	34	10	18	4
NP	10	83	23	44	08	08	0
NCP	14	66	01	28	14	23	0
NWP	20	144	00	24	13	107	65
SP	9	74	05	13	10	46	20
UP	7	38	05	20	02	11	0
Total	**71**	**476**	**43**	**163**	**57**	**213**	**89**



	EP	NP	NCP	NWP	SP	UP	Total
Completed	18	8	23	107	46	11	213
Agreed to rehabilitate	71	83	66	144	74	38	476

8.4.1.2 Impact of rehabilitation of Irrigation Systems

The table below illustrates the irrigable areas and tank water capacity with the project and without project at district level in six provinces. Accordingly, up to end 2023 cultivable area incre

Table 23: Impact of rehabilitation of irrigation systems

Province	District	Capacity (WOP)	Capacity (WP)	Capacity Increase (Ac.ft)	Irr Area (WOP) (Ac)	Irr Area (WP) (Ac)	Area increase (Ac)
EP	Trincomalee	7857	8910	1053	2409	3844	1435
	Batticaloa	6495	8372	1877	5285	8503	3218
	Ampara	4426	5353	927	1913	2977	1064
NP	Kilinochchi	8000	11736	3736	2372	2796	424
	Mullaitivu	5645	6106	461	4165	4313	148
NCP	Anuradhapura	7531	7938	407	2332	2623	291
	Polonnaruwa	1511	1544	33	172	202	30
NWP	Kurunegala	7085	7530	444	3050	4780	1730
	Puttalam	4195	4407	212	2527	2,915	388
SP	Hambantota	9480	10204	724	686	1334	648
UP	Monaragala	5205	5919	714	2789	3590	801
Total		**67430**	**78018**	**10,588**	**27700**	**37,877**	**10,177**

8.4.1.3 Implementation Issues on rehabilitation of Irrigation Systems

Due to the reduction of initial allocation for this sub-component, the number of tanks identified for rehabilitation had to be reduced from 971 to 476 thus avoiding some tanks in selected cascades that affected the fulfilment of cascade development. It also caused not to complete downstream development of 176 tanks. Without improving the canal systems, project was under difficulty in introducing water management practices. It also affected the formation of cascade management committees without rehabilitation of all the tanks in the entire catchment area.

8.4.2 Operation and Maintenance of Irrigation Systems

Operation and Maintenance of Irrigation Systems aim to ensure the sustainable operation and maintenance (O&M) of tanks systems at the individual tank level and systems. Established Cascade Management Committees and strengthened Farmer Organizations should work on O&M of rehabilitated irrigation systems on sustainability while a monitoring system for water use and availability will be designed and implemented. All these activities are covered under the sub-component 2.2. Under this sub-component, the work progress for water management and water use efficiency, is given in the below table.

Table 24: Work done for Water Management

#	Water Management—Description of Works	Target (Nos.)	Completed (Nos)	Remarks
1	Design and supply of fabricated Aluminum Cutthroat Flume including supervision of qualified Hydraulics/ Irrigation Engineer	35	35	
2	Calibrate Cutthroat flume in the recognized laboratory Transport to the relevant districts	35	35	
3	Training of officers to Calibrate Canal Depth Gauges in D/S of sluice by using Calibrated Cutthroat Flume in 2 pilot tanks in 11 districts	11	11	181 officers
4	Training of Farmer Organization leaders/Water issuing leaders to use Cutthroat flume for water measurements in 2 pilot tanks in 11 districts	11	11	280 farmers
5	Supply of printed data entry books for recording and maintaining water-measuring data for five-year period and training officers/ farmers in data entering/recording/ transferring /calculating WUE in 11 districts	500	500	500 books were printed and distributed.
6	TOT for Officers on O & M works and Water Management activities in 2pilot Tanks in 11 districts	11	11	181 officers
7	Training of farmers for the & O & M works and Water Management activities in 2pilot Tanks in 11 districts	11	11	280 farmers


Plate 17: Calibrate Canal Guage - Karangahawewa, Trinco- EP

Plate 18: Maha Panikatiyawa tank- Gomarankadawala, Trinco EP

8.5 Progress of Component – 3 : Project Management

8.5.1 Environment , Social Safeguard and Gender Mainstream activities

8.5.1.1 Environmental safeguard

The project is classified as Environmental Category B due to civil work activities to be undertaken through small-scale nature. A screening process was implemented to identify the impact and a management plan was developed to mitigate the negative impact. Monitoring activities carried out to identify the impact mitigation process. During the screening and monitoring process, several impacts were identified to produce mitigation measures.

8.5.1.1.1 Environmental and Social Safeguard Screening Reports

Social and Environment Safeguard Unit of the Project is responsible for environmental safeguards related to the CSIAP investments and proper monitoring and reporting of safeguard implementation. Accordingly, Environmental and Social Safeguard Screening Reports (ESSR) on tank rehabilitation are submitted by the Safeguard Unit of the Project. At end of year 2023, the PMU has received 160 reports covering all the planned tanks. Below table highlights the details of provincial wise ESSRs completed by the Social & Env. Safeguard Unit.

Table 25: Submission of ESSR

Province	District	No of ESSR	Total tank in cascade	ESSR submission	
				Received From DPD	WB submitted
EP	Ampara	18	20	15	11
	Batti	21	24	17	14
	Trinco	11	29	6	6
NCP	Anuradapura	14	63	4	4
	Polonnaruwa	1	10	0	0
NP	Mullitivu	48	48	48	48
	Kilinochchi	30	35	30	30
Uva	Monaragala	8	38	8	5
NWP	Puttalama	3	29	3	3
	Kurunegala	19	117	16	15
SP	Hambanthota	13	74	13	13
Total		186	487	160	149

8.5.1.1.2 Tree Planting for Catchment Area Management

Environment and Social Safeguard Unit of the project also carried out tree planting process as reforestation, agro-forestry, wind barrier, Kattakaduwa (the land between the dam of the tank and cultivated area under the tank) development and compensation tree planting. The table below shows the current achievement of tree planting and tree removal.

Table 26: Tree Planting for Catchment area management

Province	No of Tanks	No of Tree removal	No. of trees planted
NP	4	5	775
SP	25	120	3220
UP	1	2	3619
NWP	9	131	1855
EP	5	6	225
NCP	24	213	2717
Total	**68**	**477**	**12411**

8.5.1.2 Social Safeguard

The project is expected to have significant social benefits, including smallholder farmers. Some activities supported under the project such as infrastructure necessary to support climate-resilient irrigated agriculture, are likely to cause, in some instances, substantial social risks and impacts, including land acquisition to be paid by the GoSL, impacts on livelihoods, loss of assets, and so on.

8.5.1.2.1 Citizen Engagement

The project is designed to mainstream citizen engagement activities through a coherent approach that advocates for a critical role for citizen voices in development planning and monitoring to increase transparency, accountability, and effectiveness of the public institutions engaged in project implementation. The two beneficiary feedback indicators are: (a) grievances registered related to the delivery of project benefits that are addressed - percentage by gender; and (b) beneficiaries that feel the project investment reflected their needs, it has been calculated by the safeguard unit of the project that at the end of the third quarter 15256 (7320 male and 7936 female) participants have been participated in community consultation programs. Provincial wise detailed information on citizen engagement is given in the below table.

Table 27: Citizen Engagement

Province	SAC Participants (No.)			No. of Trainings	Community Consultation/ Citizen Engagement Programs				Total participants (No.)		
	Male	Female	Total		No of Programs	IEC	During screening	Number of group discussions	Male	Female	Total
SP	59	26	85	2	27	4	23	4	351	92	443
NWP	770	308	1078	127	41	18	19	4	1086	1,619	2,705
EP	65	44	109	16	83	36	23	24	883	1,129	2,012
NP	298	143	441	63	111	69	34	8	3,816	4,131	7,947
NCP	144	87	231	7	65	29	18	18	1078	894	1,972
UP	16	12	28	0	4	1	2	1	106	71	177
Total	**1,352**	**594**	**1913**	**215**	**331**	**157**	**119**	**59**	**7,320**	**7,936**	**15,256**

8.5.1.2.2 Grievance Redress Mechanism

According to the World Bank Policies, the CSIAP Grievance Redress Mechanism (GRM) operates through Grievance Redress Committees (GRC) established at four different levels. Based on the lesson, learned through Mid Term Review Missions, Social Audit Committees (SAC) take part as one of the GRC levels (GN / DPD Office Level) as an active channel for receiving grievances in the GRM Process. 109 grievances were resolved from 118 recorded grievances along with processing of resolving methods for 09 unresolved grievances with the interference of officers of DPD offices and relevant stakeholders.

Table 28: Grievance Redress mechanism progress

Province	No. of GRCs established (cumulative)				No. of Reported Grievances	No. of resolved Grievances	No. of Un-resolved Grievances
	Provincial	DSD	GN (SAC)	Total GRCs			
EP	1	3	78	82	13	13	0
NP	1	7	80	88	17	16	1
NCP	1	3	66	70	35	30	5
NWP	1	8	146	155	10	9	1
SP		3	84	87	11	11	0
UP	1	2	41	44	32	30	2
Total	**5**	**26**	**495**	**526**	**118**	**109**	**9**

8.5.1.2.3 Agro-Ecological Landscape Plan

CSIAP with a concern that natural biological diversity strengthens agro-ecological resilience in production landscapes commissioned the study. The overall aim is to understand the ecological character, both in production and non-production habitats, current issues, and challenges and to seek opportunities to bring in greater environment and social resilience via integration of sustainable agro-ecological practices within HHSA. At the reporting period, study of the Hambantota District is completed, and Monaragala District study is ongoing.

8.5.1.2.4 Gender Inclusion

In the project measuring indicators, Gender Inclusion in project activities is included in KPI and output indicators. It has been reported` that the gender wise participation is in a satisfactory level in the CSA activities. All CSA trainings, home garden programs, IEC programs, Producer Societies, Producer Associations, Social Audit Committees etc., women participation is at a remarkable stage. Furthermore, the community level societies such as PS, PA, SAC etc. women in the key positions can be seen.

An important point is that, in the year of 2019 and 2020 female participation was 38% for IEC activities but in 2021 it had increased to 42 % and the following year it was 55%. This is a good evidence of increasing women participation and contribution in project activities.

In addition, gender related trainings are carried out in all project implemented provinces. From January 2023, CSA trainings have been started in Thirappane Farmer Training School and out of 1105 lead farmers who participated in training, 446 (40%) participants are women.

Average gender participation of the project is 56% males to 44% female.

8.5.1.2.5 Crop Protection Seasonal Electric Fences

A considerable amount of crop damage, human and elephant deaths are identified every year in hotspots areas. Hence, to minimize the HEC, CSIAP proposed to establish movable paddy field fences around the paddy field in hotspots areas of 8 districts. The safeguard team of CSIAP is closely coordinating this subproject activity with the Department of Agrarian Development. Climate Smart Irrigated Agriculture has been implemented in a seasonal paddy filed electric fencing subproject in 08 Districts. This subproject mainly focused on community-based solutions to HEC in hotspot areas.

Community-Based Seasonal Solar-Electric Elephant Fence to mitigate the HEC in Northern Province

Story of Seasonal Elephant Fence Erected in Periyaeththimadu

For a long time, firecrackers and bio-fences (e.g., thorn, Palmyrah) have been used by village farmers, which become ineffective as the elephants are accustomed to them. Therefore, it is essential to find alternative effective solutions, and CSIAP in Northern Province introduced a community-based seasonal crop protection fence in Mullaitivu district (131.95 km) to keep elephants away from the agricultural lands and help the farming community as well as help to find a way for coexistence without physically harming the animals.

This elephant fence gives advantages more than their expectation. Earlier, they used firecrackers as well as solar-powered permanent elephant fences on a small scale, in which, they used wooden poles for holding the wire, and can easily be pulled off by the elephants. But in this newly erected fence, electric current is passed even through the poles, which are made of GI pipes and thus cannot be easily broken by an elephant. Earlier, they had to establish 50-60 watch huts for 240 Ac, but after installing this elephant fence, they established only one hut for the protection of this system. Only 2-3 farmers guard the line, and there is no necessity for staying in day and night.

"After installation of this fence, no single kernel is eaten by elephants. We farmers are obliged to all CSIAP and other officials who helped us to install this elephant fence" a one farmer said. For the time being, this electric seasonal fence is the phenomenal solution to mitigate the HEC in the Mullaitivu district, as long as the elephant finds a smart solution for this barrier!

Human elephant conflict (HEC) is one of the key issues that need an immediate solution in Sri Lanka, and is a serious problem in the Mullaitivu district as well. In Mullaitivu district, an increased number of HEC incidents, including property damage, crop damage, and loss of life/ injuries to both humans and elephants, have been recorded in the past 10 years. As per the Department of Wildlife Conservation (DWLC), 27 cases (includes 20 elephants death, 4 human death, and 3 human injuries) were recorded in since 2020. Residents of this area claimed that the elephant population suddenly increased in these areas due to the relocation of elephants from other districts by the DWLC.

Periyaeththimadu Farmer organization, Odduauddan ASC, successfully installed this seasonal solar-powered elephant fence covering 240 Ac of paddy land in November 2023, just before starting the Maha season paddy cultivation. According to them, they are highly satisfied with this fence as they have not encountered any elephant incidents after the installation of this fence. Further, they expect a good production from this Maha season without any loss due to the elephant attack.

Resettlement and encroachments after the war would also have contributed to the increasing HEC incidents.

Beneficiaries said that "from their experience, for the past 15 years, in each season out of the total of 550 Ac, more than 120 Ac is damaged by elephant crop raiding, which is about ¼ of the cultivated extent."

M&E Unit - CSIAP

Figure 4: Importance of installing crop protection seasonal fences

Crop protection seasonal electric fences offer several advantages for farmers looking to safeguard their crops from wildlife, pests, and other potential threats. Electric fences act as a deterrent for wildlife, preventing animals such as deer, rabbits, and rodents from accessing and damaging crops. The electric shock delivered by the fence serves as a humane but effective method to discourage animals from entering protected areas. Seasonal electric fences are often a cost-effective solution for short-term crop protection needs and they can be installed and dismantled relatively easily, making them suitable for seasonal or temporary farming operations. Moreover, they can be set up quickly, providing a rapid response to emerging threats to crops.

Seasonal electric fences are highly portable and can be moved to different locations within the field as needed. Compared to permanent physical barriers, electric fences have a lower environmental impact. They can be installed without significant ground disturbance, and their temporary nature minimizes long-term alterations to the landscape. Electric fences generally require less maintenance compared

to traditional physical barriers. Routine checks and occasional repairs are usually sufficient to keep the fence in good working order, reducing the time and effort required for upkeep.

Table 29: Progress of erecting crop protection seasonal electric fences

District	Targeted Length to Cover (km)	Progress of length covered (km)	Targeted Area to cover (ha)	Progress of areas covered (ha)	Target of Benefitted families (No.)	Progress of benefitted families	Remarks
Anuradhapura	87.1	30.7		266		258	
Kurunegala	441.0	84.7	1877.5	334.2	5,385	808	
Puttalam	204.3	49.4	1168.0	163.2	1,506	300	
Hambanthota							At procurement
Trincomalee	61.3	61.3	685.6	685.6	1,870	1870	
Mulative	131.9	131.9	3165.5	3165.5	2,196	2196	
Killinochchi	83.8		1211.0		499		At procurement
Monaragala	89.7	66.0	729.6	604.7	1,477		
Total	**1099.0**	**424.0**	**8837.2**	**5219.2**	**12933**	**5432**	

The above table illustrates the current achievement of establishing electric fences in the field and there is also a good demand from farmer for these seasonal electric fences. The following photographs visualized the established fences in Mullaitivu District – NP.

Plate 19: Elephant fence at Periethithimadu GND, Oddusuddan , Mullaitivu district

8.5.2 Institutional Development and Capacity Building

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8.5.2.1 Development of Institutions

The following table shows the update of institutions formed and operated under the project. The formation of community institutions has been achieved and the capacity building of the members of such institutions is in progress.

Table 30: Institutional Development of the Project

Institution	EP		NP		NCP		NWP		SP		UP		Total	
	T	P	T	P	T	P	T	P	T	P	T	P	T	P
Formation of Producer Societies (Nos.)	77	77	50	50	120	120	230	230	65	65	30	30	**572**	**572**
Formation of Producer Associations (Nos.)	13	13	9	9	6	6	12	12	2	2	3	3	**45**	**45**
Strengthening Farmer Organizations (Nos.)	21	10	28	18	24	15	61	40	28	20	14	14	**176**	**117**
Forming Cascade Mgmt. Committees (Nos.)	6	6	10	10	7	7	18	18	8	8	5	5	**54**	**54**
Formation of Social Audit Committees (Nos.)	70	79	80	80	74	69	167	167	105	83	42	42	**538**	**520**

The formation of Producer Societies and Producer Associations plays to collectively address common challenges, pool resources, and improve their overall socio-economic conditions. The formation of Producer Associations provides farmers with increased bargaining power when dealing with input suppliers, buyers, and other stakeholders in the agricultural value chain. Collective marketing through producer societies allows farmers to access markets more effectively. By selling their products in bulk, farmers can often secure better prices for their produce, reducing the impact of price fluctuations and market uncertainties.

The formation of Producer societies is expected to help farmers for pooling resources to mitigate risks associated with agriculture, such as crop failure, natural disasters, or market volatility. Collective action enables members to share risks and losses, reducing the financial burden on individual farmers. Moreover, the producer societies empower smallholder farmers by providing them with a collective voice and platform for decision-making. This empowers farmers to actively participate in discussions on policies, market trends, and other issues affecting their livelihoods.

Strengthening farmer organizations is essential for promoting sustainable agriculture, improving farmers' livelihoods, and enhancing the resilience of agricultural communities. The provision of training and capacity-building programs for members of farmer organizations is required. This includes technical training on modern farming practices, financial literacy, leadership skills, and organizational

management. Strengthening the skills of farmers enhances their ability to manage and grow their organizations effectively. Building financial management skills within farmer organizations is essential. This involves training members in budgeting, accounting, and financial planning. Additionally, help organizations access financial services, grants, and credit facilities to support their activities and investments. Integration of climate-smart agriculture practices within farmer organizations is done by the CSIAP through the capacity building of the members of farmer organizations. It provides training on sustainable and climate-resilient farming techniques where this includes water management, agroecology, and practices that enhance resilience to climate change.

The formation of Social Audit Committees (SACs) is crucial for promoting transparency, accountability, and social responsibility in all rehabilitation related civil works done by the project. SACs play a vital role in promoting accountability and transparency within project activities. By independently reviewing and reporting on the project's social and environmental performance, SACs help ensure that relevant stakeholders have access to accurate and comprehensive information. SACs often involve representatives from the community and this fosters community participation in the decision-making process, ensuring that the perspectives and concerns of those impacted by project activities are considered. The existence of a Social Audit Committee enhances the project's public trust and credibility where it demonstrates a commitment to openness and accountability. SACs facilitate stakeholder engagement by providing a platform for dialogue between a project and its beneficiaries. This engagement ensures that diverse perspectives are considered, leading to more inclusive and well-rounded decision-making. Social Audit Committees contribute to identifying and addressing social inequities within field implementations and it can recommend measures to reduce disparities and promote social justice. Finally, the formation of Social Audit Committees is a valuable mechanism for promoting project activities, ensuring accountability, and fostering sustainable development. SACs contribute to a culture of transparency and social responsibility that benefits the project, its stakeholders, and the smallholder farming community benefitted by the project.

8.5.2.2 Formation and Operationalize of Cascade Management Committees

Under sub-component 2.2 i.e., the Operation and Maintenance of Irrigation Systems, the project intervened to establish the Cascade Management Committees (CMCs) in six provinces as given in the below table. This is for ensuring the sustainable operation and maintenance of tank systems at the individual tank level and system-wide too.

Table 31: Formation of Cascade Management Committees

Province	Target No. of CMCs	Formed No. of CMCs
EP	06	06
NP	10	10
NCP	07	07
NWP	18	18
SP	08	08
UP	05	05
Total	**54**	**54**

The purpose of formation of CMCs is to manage the irrigation and drainage structures as completed by the project and to maintain the functionality of such structures with a view to sustaining the project. For the achievement of this objective CMCs have been formed and strengthening the capacity of the members of the CMCs will also be done by the project. For the achievement of this objective, cascade management plan for each cascade has to be developed by the project to ensure the sustainability of cascades and the water productivity of the tank system.

For the preparation of effective cascade management plans for each province, the project has completed the basic need of developing cascade profiles using the data collected through transect walks conducted by the project with the participation of key stakeholders. Additionally, the project has secondary data in hotspot area agriculture development plans, engineering surveys, hydrological survey conducted in advance. Accordingly, up to now 11 cascade management plans have been completed by the project.

The formation of Village Tank Cascade Management Committees in selected cascades involves creating community-based committees to oversee and manage the water resources associated with village tanks (reservoirs) in a cascading manner. Village tanks are traditional water storage systems in Sri Lanka that play a crucial role in agriculture, water supply, and ecosystem management. Establishing management committees helps ensure sustainable use, maintenance, and equitable distribution of water resources. Conduct awareness programs to educate local communities about the importance of managing village tanks sustainably is required for encouraging active participation and involvement in the formation of committees. Moreover, the conducting of periodic reviews of committee performance and adapt strategies based on lessons learned and changing circumstances need to be carried out. This ongoing process allows committees to evolve and improve their effectiveness over time. The formation of these Committees is an integral part of community-driven water resource management, fostering sustainability and resilience in agricultural practices and local ecosystems. It promotes a collaborative and participatory approach to address the challenges associated with water management in Sri Lanka. The following table illustrates the summary of roles and responsibilities in

each identified themes which should be previewed under the formed Cascade Management Committees.

Table 32: Identified themes and associated roles/ responsibilities of the CMCs

Identified Themes	Summary of Roles and Responsibilities
Identifying and Mapping Village Tanks	Identify and map the village tanks in the area. This includes understanding the connectivity and cascading nature of tanks within the landscape. Recognize the interdependence of tanks in managing water resources.
Formation of Primary Committees	Establish primary management committees at the level of individual village tanks. These committees should consist of local community members, including farmers, representatives from user groups, and individuals with knowledge about water management.
Cascading Structure	Implement a cascading structure of committees, linking primary committees to a higher-level committee responsible for overseeing multiple village tanks. This cascading approach allows for localized decision-making while ensuring coordination at a broader level.
Committee Roles and Responsibilities	Clearly define the roles and responsibilities of each committee level. Primary committees may focus on day-to-day maintenance and water allocation at the local level, while higher-level committees could address broader issues such as infrastructure development and policy advocacy.
Water Allocation and Distribution	Develop transparent and equitable mechanisms for water allocation and distribution. Ensure that water resources are distributed fairly among farmers and user groups based on agreed-upon criteria.
Conflict Resolution Mechanisms	Establish conflict resolution mechanisms within the committees to address disputes related to water use, allocation, or maintenance. A fair and transparent process for conflict resolution helps maintain harmony within the community.
Capacity Building	Provide training and capacity-building programs for committee members. This includes education on water management practices, infrastructure maintenance, and the use of technology for efficient water distribution.

Identified Themes	Summary of Roles and Responsibilities
Community Empowerment	Empower local communities by involving them in decision-making processes. Encourage the active participation of women, marginalized groups, and other community members to ensure a diverse and inclusive approach to water management.
Collaboration with Government Agencies	Collaborate with relevant government agencies responsible for water resource management. Establish clear communication channels and partnerships to ensure that the committees work in alignment with national policies and regulations.
Data Collection and Monitoring	Implement systems for data collection and monitoring of water levels, usage patterns, and infrastructure conditions. Regular monitoring helps committees make informed decisions and respond to changing conditions.
Resource Mobilization	Explore avenues for resource mobilization to fund infrastructure development, maintenance, and other water-related projects. This could include seeking support from government programs, non-governmental organizations, and other stakeholders.
Community-Led Initiatives	Encourage community-led initiatives for the conservation and sustainable use of water resources. This may include promoting water-saving practices, watershed management, and afforestation around tank areas.
Legal Framework and Governance	Establish a legal framework for the functioning of the committees and their adherence to relevant regulations. Ensure that the committees operate within a governance structure that promotes transparency, accountability, and compliance.
Periodic Review and Adaptation	Conduct periodic reviews of committee performance and adapt strategies based on lessons learned and changing circumstances. This ongoing process allows committees to evolve and improve their effectiveness over time.

8.5.2.3 Capacity Building Activities

CSIAP capacity building activities are carried out for farmer/community level organizations and the project staff. Strengthening of Producer Association, Strengthening of Producer Societies, Strengthening of Farmer Organizations, capacity development and training workshops for cascade

management committees, awareness and trainings for stake holders, training and workshops for program staff in different categories are conducted under the IDCB unit of the project. Training plan has been developed to address the training need of all such categories.

8.5 Monitoring and Evaluation

8.5.1 Results Frame work of the Project

Regular updating the Results Frame Work of CSIAP has been completed. Updated results framework with KPIs and output indicators are given in the Annexure. At the end of 2023, the weighted average project progress is 78%. The key performance indicators have been achieved to a satisfactory level and output indicators also achieved as expected.

8.5.2 Monitoring Visits by the M&E Team and Reporting

Field monitoring visits are a need to measure the relevancy, efficiency and effectiveness of the project activities implemented in the field. Project monitoring team at provincial level do the field monitoring and they submit the reports on their monitoring visits. In the reports they clearly mention the locations visited, the issues or gaps identified with suggestions and the good practices. At their visits, the best cases found are being reported separately. These reports were brought to the notice of the project implementation team for their attention. Sample reports are annexed for reference.

Plate 20: Monitoring visit by M&ES in EP

Plate 21: Monitoring visit by M&EO in Trincomalee (Gomarankadawala) - EP

8.5.3 CSIAP Success Stories

Within the Monitoring visits by the M&E team, the best practices found in the field have been reported during the year 2023. Such best practices have been documented and sometimes were provided as small video clips and shared in the communication channels/electronic media of the CSIAP. In addition, all such documentation has been shared with all the staff for information and use for whenever needed. Few success stories are annexed for reference.

8.5.4 Progress Reporting

Progress reporting is one of the main tasks of M&E Unit and this task has been regularly attended to by the M&E Unit. Monthly progress reports have been submitted to the Ministry of Agriculture, Department of Project Management and Monitoring (under the Treasury – Ministry of Finance) on the 10th of each month. Quarterly progress reports have been submitted to the World bank regularly. Annual Report for the year 2022 was submitted in January 2023 and report for 2023 will be submitted by mid-February 2024. In addition to those regular reports, the information required on the CSIPA by various stake-holders have been submitted timely on requests.

All provincial level M&E Officers submitted monthly progress report to the PMU ad the monthly progress reports at PMU level have been prepared in consolidation of such reports. In addition, on a requirement by the Ministry, monthly progress on google sheet has been updated monthly by the M&E Team.

In addition, the M&E Unit has been introduced an 'at a glance progress' on the project that could easily be referred for current status of the project and it has been updated monthly with the support of project team.

Moreover, information needs for the progress review meetings conducted by the Ministry, National Steering Committee meetings conducted by the Ministry and other urgent meetings by stakeholders were provided and presented by the M&E Unit.

8.5.5 Annual Work Plan and Budget

The annual work plan and budget prepared for 2023 had to be revised with the need of additional funds to the project activities and the plan was revised and obtained approval for the revised plan from the Ministry. Annual work plan with budget has been prepared for the year 2024 and submitted for Ministry approval. The Plan is annexed for reference.

8.5.6 Training on M&E work

Required trainings on need have been conducted by the M&E Specialist for the M&E team, Agriculture Facilitators and other staff officers. These trainings are as follows:

a) Trainings for Agriculture Facilitators in 6 provinces –
    i. Data feeding to MIS using mobile application
    ii. Using Kobo-toolbox for data collection
b) Online and physical participation sessions for M&E Officers –
    i. Preparation of workplan with budget

ii. Data feeding to MIS,
iii. Data analyzing tools (SPSS), Data management
iv. Importance of M&E
v. Using Kobo-toolbox for data collection
vi. Monitoring visits and how to write monitoring visit reports
vii. Reporting best practices highlighting CSA concepts
viii. Data feeding to google sheets and google file transfers etc.

A training plan for the need of M&E unit has been prepared and submitted to the IDCB unit for further training requirements.


Plate 22: M&E related trainings

8.6 Information Education and Communication (IEC) and Information Communication Technology (ICT)

8.6.1 Management Information System (MIS)

Management Information System was established and 75% of data entering has been completed. Field level M&E Officers have attended to the data feeding under the guidance of M&E Specialist. At the time of data feeding to the system there were some identified issued, and the MIS consultants addressed the main issues. The responsibility of MIS was assigned to ICT/IEC specialist of CSIAP in mid July 2023 and all work relating to MIS work will be handled ICT/IEC unit. The system data feeding and further developments are being carried out and it is expected to have a fully functional system by March 2024.


Plate 23: MIS Training in SP

8.6.2 IEC Campaigns

Regular IEC campaigns are conducting at farmer/beneficiary level covering all ASC areas in six project provinces. At the end of the year totally 1864 such IEC campaigns have been conducted covering six provinces. Provincial wise IEC campaigns conducted are given in the table below:

Province	No. of programs conducted
EP	428
NP	291
NCP	215
NWP	330
SP	192
UP	408
Total	1864

Plate 24: Village level IEC campaign

8.6.3 ICT activities by the CSIAP

Both electronic and printed media is used to highlight project activities. There are five social media links handled under the ICT activities. CSIAP Web page, Blog, Twitter, Linked-in and Facebook are the social media where CSIAP work illustrated. All important events, success stories, project work, work-plan and reports on project activities have been uploaded to these media links as relevant. As printed media, posters, leaflets and handbooks have been prepared for Agriculture Production and Marketing component to handle Farm Business School activities, promote product selling stoles etc. Following illustrations highlights the work done under this category.

Daily News

President to set up General Secretariat for Modern Agricultural Technology

Agriculture and Plantation Industry Minister Mahinda Amaraweera said that the Presidents Rural Wickremesinghe's attention has been focused on establishing a General Secretariat of Modern Agricultural Technology for the development of agriculture in this country.

A delegation of the World Bank and the European Union are currently in the country and on Sunday (29) the delegation participated in monitoring the progress of two agricultural projects in the country under the assistance of the World Bank. They observed several projects under the Agricultural Sector Modernization Project and the Climate Smart Agricultural Irrigation Project.

First, the group observed South Asia's first climate-friendly agriculture school established in Tyrappane and then observed the activities of the near banana export village and processing centre established in Rajagiriya.

Agriculture and Plantation Industry Minister Mahinda Amaraweera, State Finance Minister Shehan Semasinghe, MP Damitha Dissanayake and other Deputy Ministers and officials also participated in this observation tour.

The Head of the World Bank delegation was the World Bank's Managing Director (Operations) Anna Bjerde, Senior Vice President (JICA) Sachiko Inano, Vice President (South Asia Region) Martin Raiser, Dario H. Hadad-Zervos, Country Director of Nepal, Sri Lanka and Maldives of WB, Anjali Kaur, Deputy Assistant Administrator and others participated.

The Minister said that the President Ranil Wickremesinghe has proposed to the Cabinet to establish a General Secretariat for Modern Agricultural Technology in Sri Lanka with the aim of introducing modern agricultural technology to farmers.

He also said that the relevant papers will be presented to the Cabinet in the next two weeks and that it will propose a number of work arrangements to introduce new technology to the agricultural sector.

Annexure 1: Updated Results Frame Work

Updated Results Framework for 11th Implementation Support Mission

(Update as of October 2023)

PDO level indicator	End of Project Target	Target for end of 4th Year	Proposed End project Target	Proposed Target for end of 4th Year	Actual as of 30 Oct 2023	Remarks, if any
Cropping intensity – percentage	150	150	150	140	143	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Share of non-paddy crops in the command area – percentage	50	50	50	40	48	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Area under improved CSA practices – ha ('000)	35	35	35	35	42	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Direct project beneficiaries – total	470,000	200,000	470,000	200,000	365,471	Original indicator and measured annually as guided by the PAD.
Direct project beneficiaries - female	50,000	60,000	150,000	60,000	160,807	Original indicator and measured annually as guided by the PAD.
Intermediate Indicators						
Component 1: Agriculture Production and Marketing						
Farmers reached with agriculture assets or services - Total (Number)	80,000	40,000	40,000	40,000	65,539	Original indicator and measured seasonally.
Farmers reached with agriculture assets and extension services – Female (Number)	24,000	18,000	18,000	18,000	27,067	Original indicator and measured seasonally.
Farmers adopted Improved Climate Smart Technologies and Practices for increased yield (Number)	60,000	40,000	40,000	40,000	32,233	Original indicator and measured seasonally.
Farmers adopted improved technologies and Practices for increased yield - Female (Number)	15,000	10,000	10,000	10,000	13,731	Original indicator and measured seasonally.

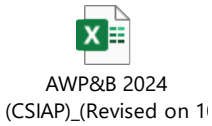
PDO level indicator	End of Project Target	Target for end of 4th Year	Proposed End project Target	Proposed Target for end of 4th Year	Actual as of 30 Oct 2023	Remarks, if any
Farmers graduating from Farmer Business Schools, adopting the CSA practices learned and linked to market (Number)	60,000	40,000	22,000	10,000	3,835	Original indicator and measured annually.
Farmers graduating from Farmer Business Schools, adopting the CSA practices learned and linked to market - Female (Number)	20,000	10,000	7,300	3,500	1,534	Original indicator and measured annually.
Home gardens assisted with project benefits – Number	65,000	65,000	65,000	65,000	65,539	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Demonstration plots established - Number	450	450	450	450	397	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Trainers in competencies with CSA practices - Number	1,800	1,000	1,800	1,000	893	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Producer societies formed and operational - Number	560	560	560	560	572	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Producer associations formed and operational - Number	45	45	45	45	45	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Crop protected seasonal electric fences established and operational - Km	1,000	500	1,000	500	350	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Component 2: Water for Agriculture						
Land under sustainable land use management practices (Hectare (Ha))	375,000	50,000			42,000	Original indicator and it has been decided to omit this indicator from RF during the 9th Restructuring Mission held between 18-30 Oct 2023.

PDO level indicator	End of Project Target	Target for end of 4th Year	Proposed End project Target	Proposed Target for end of 4th Year	Actual as of 30 Oct 2023	Remarks, if any
Functional FOs managing irrigation and drainage structures effectively (Number)	1,400	750	400	300	78	Original indicator and proposed to revise the target from 1400 to 400.
Functional CMCs managing irrigation and drainage structures effectively (Number)	28	10	53	54	54	-
Number of hot-spot area water management plans under implementation (Number)	11	11			47	The project has developed 'Hotspot Area Agriculture Development Plans' instead of 'Hotspot Area Water Management Plans'. There project has proposed to omit this indicator from RF.
Cascades completed with hydrology assessments and modelling for sustainable water management - Number	121	121	120	120	121	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022.
Rehabilitated cascade and individual tanks in operation - Number	476	100	476	200	170	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Rehabilitated field canals in operation - Km	75	50	75	50	19	New indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally.
Area provided with improved irrigation and drainage services - Ha	5,000	1,000	5,000	4,000	1,378	A new indicator proposed during the 9th Restructuring Mission held between 18-30 Oct 2022 and measured seasonally. This includes the area provided with the micro-irrigation and agro-wells (one unit of micro irrigation is covered 0.1ha and assuming an agro-well is covered 1ha).
Component 3: Project Management						
Grievances registered related to delivery of	100	80	100	80	95% (Male-96% and	Original indicator and measured quarterly.

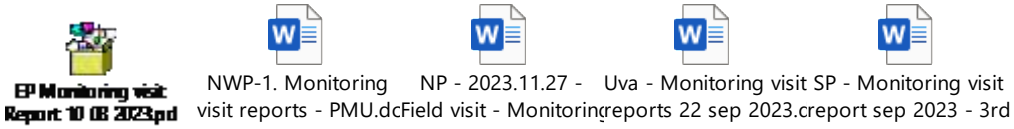
PDO level indicator	End of Project Target	Target for end of 4th Year	Proposed End project Target	Proposed Target for end of 4th Year	Actual as of 30 Oct 2023	Remarks, if any
project benefits, addressed percentage disaggregated by Gender (Percentage)					Female-95%)	
Beneficiaries that feel project investment reflected their needs disaggregated by gender (Percentage)	80	60	80	60	54	Original indicator and measured annually. This was measured during the assessment done at MTR.
Trainings delivered using agreed capacity development approach (Percentage)	90	80	90	80	70	Original indicator and measured quarterly.
Progress reports meet World Bank quality and timely delivery requirements (Text)	Yes	Yes	Yes	Yes	Yes	Original indicator and measured quarterly.

Annexure 2: *Revised Annual Action Plan and Budget for 2023*

Annexure 3: *Annual Action Plan and Budget 2024 sent for approval*



Annexure 4: *Sample Monitoring Visit Report*



Annexure 5: *Sample Success Stories*

Annexure 6: *At a Glance Project Progress*