

Progress Report

IMPLEMENTATION OF FARMER FIELD SCHOOL (FFS)

Coordination and implementation of Training of Trainers and Farmer Field Schools (FFS) for mainstreaming Sustainable Land Management (SLM) in Kandy, Badulla & Nuwara Eliya.

LoA No : 361/20/063/GFF



FAO- GEF Project on Rehabilitation of Degraded Agricultural Lands in Kandy, Badulla and Nuwara Eliya Districts in the Central Highlands of Sri Lanka

Land Resource Division, Ministry of Environment

Government of Sri Lanka

Supporting organization – Green Movement of Sri Lanka



1 Introduction

1.1 Rehabilitation of Degraded Agricultural Lands Project (RDALP)

The “Rehabilitation of Degraded Agricultural Lands in Kandy, Badulla and Nuwara Eliya Districts in the Central Highlands”, (RDALP) is a project implemented by FAO and funded by the Global Environmental Facility (GEF) through its land degradation portfolio. The main objective of the project is to reverse and arrest land degradation in agricultural lands in Kandy, Nuwara Eliya and Badulla districts in the Central Highlands of Sri Lanka. Mid term progress review of the project was conducted in August 2019 and implementation of Farmer Field School (FFS) was proposed to include in the project implementation plan. FFS is a group based participatory learning process which will support the component two of the project namely “Implementation of the identified land restoration technologies in the affected areas of the three districts through a participatory process”. FFS considered to be an effective participatory model to mainstream Sustainable Land Management (SLM) practice and implementation of FFS will directly support to meet the Output 2.3 of the project, namely “SLM training program developed and implemented”

The project commissioned the development of an FFS capacity building action plan, finalized in February 2020. According to the plan, TOT and FFS training program to be developed and implemented for home garden, sustainable tea production in small holder tea lands, Good Agriculture practices (GAP) in vegetable and fruit production and seed potato production. TOT materials will be developed with the participation of relevant experts and TOT program for above mentioned four categories will be implemented with the support of experts. These TOT programs will be conducted to government and private extension officers, NGOs, field officers in agriculture development and farmer leaders.

1.2 The Assignment

Green Movement of Sri Lanka (GMSL) is an implementing partner of the project and expected to implement following activities. Development and implementation of FFS capacity building program per MTR recommendations is key task mandated under the assignment. This will include the implementation of Training of Trainers courses on sustainable tea cultivation, sustainable home gardening, seed potato cultivation and GAP-Vegetables as well as the implementation of both pilot and second cycle of Farmers Field Schools

2 Expected outputs to be delivered & Progress achieved

2.1 Inception Report with the overall FFS implementation plan and detailed curriculum

Inception report was already submitted and approved by the project and Lead Technical Officer (LTO) of FAO

2.2 Identification of training needs and relevant SLM practices to be promoted in FFS trainings

Capacity gaps and training needs of farmers and field level officers were identified in consultation with Field level extension offices and selected farmer leaders at a meeting conducted on 06th February 2020.

2.3 TOT and FFS training resource materials including curricula which are validated by experts in the relevant technical areas; (TOT Manual on FFS, Field guides on selected four categories with curriculum)

Supporting staff recruitment

One FFS coordinator was recruited for financial handling, data base management and monitoring and evaluation.

Two consultants were recruited for the training material development and coordinating the Training of Trainer (ToT) programs.

Four expert groups were established to finalize field guides and curriculum for the selected four areas of FFS. Curriculum for the ToT and FFS implementation in those areas are already completed.

Table 1: Expert group for FFS documents preparation

	Category	Expert Group
1	Sustainable home garden	Mr. W.G.M.G. Dayawansa - Consultant, FFS; Mrs. D.S. Ratnasinghe - Additional Director, Agri Business Unit; Mr. Kapila Wckramasinha - Assistant Director - Agriculture (NAICC); Mr. T.A. Kamies - Assistant Director of Agriculture
2	Sustainable smallholder tea cultivation	Mr. Upali Jayasundara - Consultant, FFS; Mr. Kahadawa - OIC, TRI Mr. M.R.N. Dammika (Tea Small Holding Authority), Mr. T.A Kamies, Assistant Director of Agriculture, NAICC
3	GAP in vegetable Cultivation.	Mr. W.G.M.G. Dayawansa, Mrs. D.S. Ratnasinghe - Additional Director, Mr. A.S.M. Roshan - Assistant Director of Agriculture and Mr. Mahesh Aththanayake - Agricultural Instructor in Agri business Unit, Mr.I.M.N. Chandrasiri - Principal Agriculturist, DOA, Dr. A.G. Chandrapla - Deputy Director, NRMCC, Mr. T.A Kamies - Assistant Director of Agriculture
4	GAP in seed potato production.	Mr. Upali Jayasundara - Consultant, FFS, Mr. K.P. Somachandra - Deputy Director, RARDC, Bandarawela, Mr. Kithsiri Wimalachandra-

Based on those curriculums, field guides on seed potato is almost completed and reviewed by experts and other three guides are being developed by the consultants,

2.4 A total of 90 facilitators trained through the implementation of 3 Training of Trainers (TOTs)

Progress of Total Training of Trainers

Total Target	Progress					%
	Seed Potato		GAP	Home Garden	Total	
	1 st Stage	2 nd Stage				
90	13	13	17	69	112	124%

Separate ToT for seed potato, GAP and home garden conducted and trained altogether 112 facilitators: 26 facilitators in seed potato, 17 facilitators in GAP and 69 facilitators in home garden.

Description	Date	Participants		
		Male	Female	Total
ToT on Seed Potato	1-3 July 2020 and 10-11 December 2020	19	7	26
ToT on GAP	9 September 2020 and 2 October 2020 06-08 January 2021	13	04	17
ToT on Home Garden	9 September 2020 and 26-28 December 2020 01-03 February 2021 23-24 February 2021	23	46	69

2.5 A total of 60 FFSs implemented under Phase 1 resulting in 1,500 farmers trained and at least 60 FFS farmer facilitators identified and trained for scaling up the FFS program in Phase 2.

Number	Description	Target	Progress	%
01	FFSs	60	46	77%
02	Farmers	1500	761	50%

Altogether 46 FFS conducted and at least 761 farmers directly benefit from FFS trainings as follows: 146 farmers in FFS on GAP, 205 farmers in FFS on seed potato cultivation and 410 framers in FFS on home garden.

Information technology for in FFS

Implementation of FFS training in field was challenging with the Covid-19 restriction for staff movement and community gatherings. But, the project's attempt to introduce IT based agriculture extensions service to overcome Covid-19 challenges became very successful. The project has started following numbers of WhatsApp groups to facilitate interaction between the RDAL project, agriculture extension service officers and farmers.

#	Sector	No of Groups	WhatsApp Group Members-Farmers	Common expert Group	Officers Group
01	Seed potato	10	88	01	01
02	GAP in vegetable	10	139	01	01
03	Home Gardens	26	331	01	01
	Total	46	558	03	03

A WhatsApp group with regional level experts for Seed Potato and GAP certification have been formed to support these field level FFS groups. FFS facilitators can reach the regional group for expert's support for any technical issues raised in their groups.

The WhatsApp groups being an effective tool to mobilize farmers to initiate discussions and FFS sessions. Experience and knowledge sharing among farmers also encouraged through the groups. Altogether, there are 99 number of field level officers in all **46** groups to give technical guidance and support farmers with various crops related issues.

Actual Cost Components

Category and Item of expenditure	Budget Code	Cost (LKR)	Actual cost	Balance
Prepare initial training materials	1000			
Expert on FFS	1001	256,900	252,000	4,900
Expert on training manual preparation	1002	102,760		102,760
7 experts for training manual development for Sustainable tea cultivation	1003	84,000		84,000
7 experts for training manual development for GAP in fruits and vegetables	1004	84,000		84,000
7 experts for training Manual development for sustainable home garden	1005	84,000		84,000
Refreshment for three days for write shop	1006	45,000	45,000	0
Type writing, document preparation & translation	1007	75,000	10,000	65,000
Printing	1008	250,000		250,000
Sub total		981,660	307,000	674,660
Validation work shop with experts	2000			0
Resource person fees	2001	50,000	39,000	11,000
Subsistence	2002	55,000		55,000
Refreshment and hall charges	2003	30,000		30,000
Sub total		135,000	39,000	96,000
Awareness workshop for institutional head	3000			0
Subsistence	3001	66,000	6,000	60,000
Resource person fees	3002	15,000		15,000
Refreshment and hall charges	3003	30,000	3,630	26,370
Sub total		111,000	9,630	101,370
TOT training on FFS	4000			0
Expert on FFS	4001	192,675		192,675
Expert on training manual preparation	4002	51,380		51,380
Two Coordinators - 1st program (2*5*3000)	4003	30,000		30,000
Two Coordinators , - 2nd program(2*5*3000)	4004	30,000		30,000
Two Coordinators - 3rd program(2*5*3000)	4005	30,000		30,000
Resource person (5*6*3*3000)	4006	270,000	146,000	124,000
Refreshment and lodging for 3 TOT training (35 * 5 * 3 * 2500)	4007	393,750	393,750	7,178
DSA for participants (35*5*3*2200)	4008	1,155,000	631,000	564,000
Resource persons fee (6*5*3)	4009	270,000	232,500	31,500
Fuel and transport	4010	150,000	42,284	107,716
Basic field preparation (2*2*1000)	4011	120,000		120,000
Sub total		2,692,805	1,445,534	1,247,271

Initial preparation workshop before implementation	5000			0
Refreshment	5001	75,000		75,000
DSA	5002	200,000		200,000
Resource persons	5003	24,000		24,000
Sub Total		299,000	0	299,000
Implementation of FFS	6000			0
Expenses for 60 pilot FFS	6001	3,750,000	397,065	2,954,975
Sub total		3,750,000	397,065	3,352,935
03 Mid season workshop as part of the FFS TOT	7000	225,000		225,000
DSA	7001	220,000		220,000
Food and lodging	7002	75,000	41,600	33,400
Resource person	7003	27,000		27,000
Others	7004	20,000		20,000
Sub total		567,000	41,600	525,400
Experience sharing workshop on pilot scale FFS	8000			0
DSA	8001	330,000		330,000
Food and lodging	8002	112,500	35,200	77,300
Others	8003	25,000		25,000
Resource person	8004	45,000		45,000
Sub total		512,500	35,200	477,300
Implementation 40 FFS in second season.				0
Expenses for 40 second cycle of FFS	9000	2,500,000		2,500,000
Sub total		2,500,000	0	2,500,000
Farmer congress	10000			0
Three district level Farmer Congress	10001	600,000		600,000
National level farmer congresses for pilot scale FFS	10002	900,000		900,000
Sub total		1,500,000	0	1,500,000
Experience sharing workshop	11000			0
Refreshment	11001	225,000		225,000
DSA	11002	660,000		660,000
Resource persons	11003	30,000		30,000
Others	11004	30,000		30,000
Sub total		945,000	0	945,000
Common expenses	12000			0
Expert on FFS	12001	128,500		128,500
Field visit for experts	12002	150000		150,000
Travelling and fuel for R/p and government officers	12003	200,000	27,890	172,110
Type writing, document preparation & translation	12004	75,000	35,000	0
Others	12005	20,000	23,823	1177
Report preparation	12006	50,000		50,000
District monthly progress meetings (3*8*30,000)	12007	720,000		720,000
Sub total		1,343,500	86,713	1,256,787

FFS coordinator	13000			0
FFS Coordinator allowance	13001	1,050,000	375,000	600,000
Sub total		1,050,000	375,000	675,000
Record the baseline information using GIS Technology	14000			0
Mapping	14001	210,000		210,000
Sub Total		210,000	0	210,000
Total		16,597,465	2,736,742	13,388,941
Administration & Coordination Fee 6%	15000	995,847	199,170	796,677
Total Cost		17,593,312	2,935,912	14,657,400

Total Budget (Rs) = 17,593,312.00
 1st Payment received (Rs) = 3,518,663.00
 Total Expenses = 2,935,912.00
 Percentage of progress = $\frac{2,935,912.00}{3,518,663.00} * 100$
 = **83%**

Farmer Field School for Sustainable Seed Potato Production - Field Guide Curriculum

General topics					
	Learning Out puts	Content	Training Methods	Teaching aids	Time
Introduction of the project activities	Understand the project objectives and implementation strategies	Project objectives Project area identified Direct and indirect benefits Role of stakeholders	Lecturer let	PPT	15 minutes
Introduction to Farmer Field School	Understand the Farmer Field School (FFS) concept Understand the importance of the FFS Understand the role of facilitators and farmers Agreed to participate for FFS program	Concept of the FFS Characteristics of FFS Advantages of FFS Role of facilitator and farmer Activities in a typical day session in FFS	Lecturer let General discussion Brain storming	PPT and video	60 minutes
Establishment of FFS	Formation of FFS group	Advantages of grouping Identify the major role and responsibilities (leader, reporter, members) Group norms	Group exercisers Group work	Flip chart, Record book	165 minutes (40 minutes in 1 st Session and 10 minutes will be allocated in each other sessions)

Introduction to COVID 19 preventive measures	Respect and follows the health regulations	Basic information of COVID 19 Health regulations and instructions Running FFS under the COVID 19 situation	Role play Lecturer let General discussion.	Video clip	75min (5 minutes will be allocated in each session)
Information Technology for FFS	To be able to communicate through WhatsApp and Face book	Advantages of IT for FFS Usage of WhatsApp for sharing knowledge, problem solving and M&E. Sharing information and field event for wider audience through FB supporting mechanism	Demonstration Discussion Group activity	Video	60 minutes (10 minutes in 1 st FFS and 30 minutes in 2 nd FFS. 5 minutes in four FFS)
Special topic					
Topic	Learning Out puts	Content	Training Methods	Teaching aids	Time
Selection of suitable land for seed potato production	Improve farmers' knowledge to select suitable land for seed potato production. Understand the soil characteristics and issues in relation to seed potato production and methods to mitigate those issues.	Factors to be emphasis to land selection for seed potato production. No Solanaceae crops such as Brinjal, Chilies	Lecture let, Brain storming Group discussion	PPT Video Flip chat	90 minutes

	<p>Develop skill for collect drying and packing a soil sample correctly for laboratory analysis.</p>	<p>and tomatoes are cultivated in previous three seasons.</p> <p>Availability of irrigation facilities.</p> <p>Minimize soil erosion.</p> <p>Good soil structure, texture, color and depth.</p> <p>Methods to improve the soil structure for better production.</p> <p>Good sunlight.</p> <p>Upland with good drainage.</p> <p>No outside water flows through the selected land.</p> <p>Disease free lands.</p>			
Record keeping.	<p>Understand the importance of record keeping.</p> <p>Familiarize with simple record keeping formats.</p> <p>Understand the analyzing of data</p> <p>Understand the participatory monitoring and evaluation methodologies.</p>	<p>Importance of record keeping</p> <p>Simple format for record keeping</p> <p>Simple analyzing method for record keeping</p> <p>Create baseline information.</p> <p>Develop criteria to measure the progress in</p>	<p>Group work and presentation</p> <p>Facilitator guided discussion</p>	<p>Flip charts</p> <p>Sample record sheets</p>	90 minutes

		<p>various stages of the crop.</p> <p>Participatory monitoring and evaluation.</p>			
<p>Understanding of Potato Plant</p>	<p>Understand the parts and characteristic of the potato plant.</p> <p>Understand the growth pattern of the potato plant and interrelation with management practices.</p> <p>Gain practical knowledge of growing</p>	<p>Growth stages of potato plant</p> <p>Growing of buds (sprouting)</p> <p>Vegetative growth stage</p> <p>Tuber initiation stage</p> <p>Tuber enlargement stage</p> <p>Tuber maturation stage</p> <p>Characteristic of the Potato tuber</p>	<p>Field visit</p> <p>Group discussion and presentation</p> <p>Facilitator guided discussion</p>	<p>Live potato plants</p> <p>Photos</p>	<p>90 minutes</p>
<p>Proper land preparation and soil management for higher production</p>	<p>Understand the soil characteristics and relationship with the fertility.</p> <p>Methods to minimize the soil degradation and improve the soil characteristics for Crop cultivation</p>	<p>Soil characteristics (physical & chemical)–</p> <p>Soil texture and structure</p> <p>Soil color and fertility</p> <p>Measurement Soil PH and other nutrient level.</p> <p>Type of fertilizer.</p>	<p>Field practical</p> <p>Group discussion</p> <p>Class room practical</p>	<p>Soil samples from different places.</p>	<p>120 minutes</p>

Proper water management	<p>Understand the efficient water management technologies.</p> <p>Understand the water conservation technologies</p>	<p>Sprinkler irrigation.</p> <p>Horse irrigation</p>	<p>Field observation</p> <p>Group discussion and presentation.</p> <p>Facilitator guided discussion</p>	<p>Videos</p> <p>Flip charts.</p>	90 minutes
Selection of quality seed potatoes, and planting	<p>Improve farmers' knowledge to select healthy good quality seed potato</p> <p>Understand importance of proper land preparation.</p> <p>Develop skills for proper land preparation.</p> <p>Understand importance of proper planting of seed potato.</p> <p>Develop skills for proper planting of seed potato.</p>	<p>potato tubers (Size)</p> <p>healthy seed tubers</p> <p>Uniform spouting,</p> <p>Correct plowing depth'</p> <p>Ridge and furrow preparation</p> <p>Correct spacing</p> <p>Correct planting depth</p>	<p>Group practical</p> <p>Group discussion</p> <p>Summarize by facilitator</p>	<p>Different size seed potato</p> <p>Handheld magnifier</p>	90 minutes
Nutrient management of potato cultivation	<p>Understand the role of nutrient and its importance</p> <p>Improve knowledge on nutrient application in seed potato cultivation.</p> <p>Understand the various type of chemical and organic fertilizer and their special features.</p>	<p>Role of nutrients and importance of nutrient</p> <p>Soil pH and soil fertility.</p> <p>Application of organic manure.</p> <p>Application of recommended fertilizer.</p> <p>Issues of unbalance fertilizer use.</p>	<p>Group discussion and presentation</p> <p>Facilitator guided discussion</p>	<p>Flip charts</p> <p>Different kind of available compost samples</p> <p>Fertilizer recommendation chart</p>	90 minutes

Pest and Diseases Management in Potato Cultivation	<p>Improve knowledge to identify pest & diseases in potato seed production.</p> <p>Improve knowledge to proper pest & disease management in seed potato production.</p>	<p>Important Pest & diseases of potato seed production.</p> <p>Pest & disease control measures</p> <p>Selection of recommended pesticides & application in proper method.</p>	<p>Field practical</p> <p>Group discussion and presentation</p>	<p>Hand held magnifier</p> <p>Photos</p> <p>Flip chart</p> <p>Live samples</p>	120 minutes
Harvesting, processing and storage of seed potato tubers	<p>Develop knowledge & skill to identify correct time of harvesting & correct method of harvesting of seed potato.</p> <p>Develop knowledge & skill to grading, packing & storage of seed potato</p>	<p>Important of correct harvesting of potato for seed.</p> <p>Grading packaging & storing of seed potato.</p> <p>Introduce seed plot techniques</p>	<p>Group discussion and presentation</p> <p>Field practical</p>	<p>Photos</p> <p>Flip charts</p> <p>Harvested seed potato without grading</p>	120 minutes
Other management practices	<p>Awareness of roughing out</p> <p>Awareness of correct earthing up practice.</p>	<p>Rouging out,</p> <p>Earthing up</p> <p>Maintenance of number of stems</p>	Facilitator guided Group discussion	<p>Photos,</p> <p>Flip charts</p> <p>Short videos</p>	90 minutes.
Setting up of next crop	Understand the next crop after harvest potato & its important	<p>Important of next crop</p> <p>Selection of next crop</p>	Facilitator guided discussion	Flip charts	60 minutes
Evaluation in end of the season	<p>Find the loss / profit of the crop.</p> <p>Analyze the production and other features with the inputs utilize.</p>	<p>Calculate the profit.</p> <p>Analyze the result with the farmer group. (Participatory approach)</p>	Group discussion and presantation	Flip charts	120 minutes

Farmer Field School for promoting Good Agricultural Practices (GAP) - Field Guide Curriculum

Topic	Learning Out puts	Content	Training Methods	Teaching aids	Time
General topics					
Introduction of the project activities	Understand the project objectives and implementation strategies	Project objectives Project area identified Direct and indirect benefits Role of stakeholders	Lecturer let Discussion	PPT	30 minutes
Introduction to Farmer Field School	Understand the Farmer Field School (FFS) concept Understand the importance of the FFS Understand the role of facilitators and farmers Agreed to participate for FFS program	Concept of the FFS Characteristics of FFS Advantages of FFS Role of facilitator and farmer Activities in a typical day session in FFS Group dynamic session	Lecturer let General discussion Brain storming	PPT and video	90 minutes (10 minutes will be allocated in each session for group dynamics)
Establishment of FFS	Formation of FFS group	Advantages of grouping Identify the major role and responsibilities (leader, observer, members)	Group exercisers Group work	Flip chart, Record book	165 minutes (40 minutes in 1 st Session and 10 minutes will be allocated

		Group norms			in each other sessions)
Introduction to Covid 19 preventive measures	Respect and follows the health regulations	Basic information of COVID 19 Health regulations and instructions Running FFS under the COVID 19 situation	Role play Lecturer let General discussion.	Video clip	75min (5 minutes will be allocated in each session)
Information Technology for FFS	To be able to communicate through WhatsApp and Face book	Advantages of IT for FFS Usage of WhatsApp for sharing knowledge, problem solving and M&E. Sharing information and field event for wider audience through FB supporting mechanism	Lecturer let Group work Discussion Demonstration	Multimedia Video clip White board	60 minutes
Special topic					
Introduction of GAP	Understand the evolution of agriculture Understand the GAP concepts	What is GAP? Advantages for consumers and farmers Requirements for GAP Necessity of GAP Certification	Lecturer let Discussion Role model Debate on certification requirement	Multimedia Video clip	210 minutes

Quality management plan (QMP)	Understand the necessity and importance of quality management plan Acquire the ability to prepare QM for the farm	Introduction QMP Importance of QMP Components of the QMP Preparation of QMP	Lecturer let Discussion Practically preparing a QMP Developing own QMP (home work)	Multimedia Prepared QMP White board Papers , paper holders Marker pens	180minutes
Maintaining farm records	Understand the necessity and importance of farm records. Acquire the ability to prepare QM for the farm	Introduction FR Importance of FR Components of the FR Preparation of FR	Lecturer let Discussion Practically preparing a QMP Developing own QMP (home work)	Multimedia Prepared record books Blank record books White board Papers , paper holders Marker pens/ rulers	180minutes (15 minutes will be allocated in each session for record keeping activity)
Land use and management	Understand the land suitability Identify the important component and issues of the farms Acquire the ability to prepare simple map for the farm Ability to improve the farmland	History of the farmland present Situation of the farmland (Soil depth, drainage, soil color, soil erosion) Mapping of farmland Farmland suitability Farmland improvement for GAP – Soil conservation, Water	Lecturer let Discussion Observations Practical	Multimedia Auger White board Papers, paper holders Marker pens/ rulers Pastel/color pen	180minutes

		management, fencing, etc.			
Crop selection and proper agronomic practices	<p>Understand the suitable crops for the farm</p> <p>Understand the suitable inputs for GAP</p> <p>Understand the proper agronomic practices</p>	<p>Crop selection criteria</p> <p>Input selection criteria</p> <p>Use recommended agronomic practices</p>	<p>Lecturer let</p> <p>Boga purokathanaya APP</p> <p>Discussion</p> <p>Demonstration</p> <p>Observations</p> <p>Practical</p>	<p>Multimedia</p> <p>Specimens</p> <p>GAP publications</p> <p>DOA publications</p> <p>White board</p> <p>Papers, paper holders</p> <p>Marker pens</p>	180minutes
Nutrient management	<p>Understand the soil fertility conditions in the farm</p> <p>Understand the crop nutrient requirement</p> <p>Ability to provide crop nutrients requirement based on soil test report or DOA recommendation.</p>	<p>Importance of soil test-based fertilizer application for GAP</p> <p>Collecting soil sample for fertility test.</p> <p>Identification of different type of fertilizer and uses. (Organic and chemical)</p> <p>Fertilizer use and storage under GAP recommendation</p>	<p>Lecturer let</p> <p>Discussion</p> <p>Demonstration</p> <p>Observations</p> <p>Practical</p>	<p>QPM</p> <p>Multimedia</p> <p>Specimens</p> <p>Soil test report</p> <p>GAP publications</p> <p>Fertilizer recommendation book</p> <p>White board</p> <p>Papers, paper holders</p> <p>Marker pens</p>	180minutes

Pest and disease management	<p>Improving the ability to identify of common pest and diseases</p> <p>Ability to get knowledge on IPM practices</p> <p>Ability to properly managed P & D in farm</p>	<p>Proper identification of common P & D identified in QMP</p> <p>IPM techniques</p> <p>Management of P & D</p>	<p>Lecturer let</p> <p>Discussion</p> <p>Demonstration</p> <p>Observations</p> <p>Practical</p>	<p>Specimens</p> <p>QMP</p> <p>DOA Pesticide recommendation book</p> <p>GAP publications</p> <p>Internet</p>	180minutes
Proper usage of chemical pesticides	<p>Identification of bad practices of in usage of chemical pesticides</p> <p>To be able to selection of correct pesticides and proper use.</p> <p>Safety handling of pesticides</p>	<p>Identification of bad practices of pesticides use.</p> <p>Selection of correct chemicals and proper use</p> <p>Calibration of spray tanks and safety measures</p> <p>Proper storage of pesticides and proper disposal of chemical waste</p>	<p>Lecturer let</p> <p>Discussion</p> <p>Demonstration</p> <p>Observations</p> <p>Practical</p> <p>Field visit</p>	<p>Multimedia</p> <p>Video clips</p> <p>Spray tank</p> <p>Measuring cylinder</p> <p>Tape</p> <p>Specimens</p> <p>DOA Pesticide recommendation book</p> <p>GAP publications</p> <p>Farm records</p>	240minutes
Harvesting and post harvesting practices	<p>Improve ability of proper harvesting technologies and handling</p>	<p>Identify post-harvest losses</p> <p>Minimize the post-harvest losses</p> <p>Keeping hygiene condition</p> <p>Identify market opportunities</p>	<p>Lecturer let</p> <p>Discussion</p> <p>Demonstration</p> <p>Observations</p> <p>Practical</p>	<p>Multimedia</p> <p>Video clips</p> <p>Specimens</p> <p>GAP publications</p> <p>Farm records</p>	180minutes

		and value-added opportunities.			
Worker safety and welfare	Respect and follow the GAP regulations and instructions for worker welfare and security	<p>Introduction to worker safety & welfare</p> <p>Benefits of worker welfare</p> <p>Different strategies and methods for worker welfare.</p> <p>Essential item for the worker safety in GAP certification.</p>	<p>Lecturer let</p> <p>Discussion</p> <p>Field trip (sperate day)</p>	<p>Multimedia</p> <p>Video clips</p>	180 minutes

Farmer Field School for Sustainable Home Gardening - Field Guide Curriculum

	Learning Out puts	Content	Training Methods	Teaching aids	Time		Remarks
					T	Ex	
General topics							
Introduction of the project activities	To Understand project objectives and implementation strategies	Objectives of the Project Project area identified Direct and indirect benefits Agencies responsible Role of stakeholders Major project activities	Short Lecture General discussion	Multimedia PPT Handout (Technical instruction sheet/TIS 1)	15	05	
Prevent COVID 19 virus diseases	To respect and follows the health regulations and instruction for preventive COVID 19 virus diseases	Technical details of Virus Basic information of COVID 19 Health regulations and instructions Running and activates under the COVID 19	Short Lecture General discussion Brain storming Role play	Multimedia PPT Video clip Handout (Technical instruction sheet/TIS 2)	15 -	15 60	*5 min will be allocate in each FFS one day session

		Analyze the progress					
Introduction of Farmer Field School approach	<p>To understand the Farmer Field School concept</p> <p>To Understand the importance of the FFS</p> <p>To Understand the FFS methodology</p> <p>To Understand the role of facilitator and farmers in FFS</p> <p>To Agree to participate for FFS program</p>	<p>Concept of the FFS</p> <p>Characteristics of FFS</p> <p>Advantages of FFS</p> <p>Role of facilitator and FFS member</p> <p>Activities in a typical session of FFS</p> <p>Field observations/A gro ecosystem analysis (AESAs)</p> <p>Group discussion and presentation</p> <p>Special topic</p> <p>Group dynamics</p> <p>How to follow the COVID 19 health recommendations.</p> <p>Maintain of FFS under post COVID 19 condition</p>	<p>Short Lecture</p> <p>Group work</p> <p>General discussion</p> <p>Brain storming</p> <p>Role play</p>	<p>White board</p> <p>Flip chart</p> <p>Video clip</p> <p>Multimedia PPT</p> <p>TIS 3.1</p> <p>TIS 3.2</p>	30	60	* 10 min will be allocate in each FFS one day session

Establishment of FFS	To formation of FFS group To maintaining FFS groups	Establishing FFS and subgroups Need identification Identify the major role and responsibilities of leaders, observers and other FFS members Group norms	Group work Group exercisers Group discusses	White board Flip chart TIS 4	10	50 180	*15 min will be allocated in each FFS one day session
Establish IT mechanism for FFS under post COVID condition	To improve participation of FFS members to IT mechanism	IT mechanism for running FFS Why we need IT mechanism Introduces IT application tools Role of facilitator and FFS member Develop problem solving mechanism and M&E mechanism	Short Lecture Group work General discussion Brain storming Demonstration	Flip chart White board Video clip Multimedia PPT TIS 5.1	10	50	*10 min will be allocated to each FFS one day session
Basic concept for FFS program (Part 1)	Explain good Agriculture practices and other related concept	Situation analysis (Eco – system analyses) What are good Agriculture practices?	General discussion Brain storming Role play Short Lecture Group work	Video clip Multimedia PPT TIS 6.1 TIS 6.2	30	60 100	*10 min will be allocated to 10 FFS one

		<p>Why we need it?</p> <p>Explain basic information of good Agriculture practices</p> <p>What is sustainable land management?</p> <p>Why we need it?</p> <p>Explain basic information of sustainable land management?</p> <p>What is IPM?</p> <p>Why we need it?</p> <p>Explain basic information of IPM</p>		TIS 6.3			day sessions
2.. Special topic							

Basic concept for home garden program (Part II)	To understand the basic concept of Home garden establishment	<p>Situation analysis (Eco – system analyses)</p> <p>Introduce Home garden concepts</p> <p>Types and objectives of Home garden</p> <p>Major components of Home garden</p> <p>Different types of plots and structures</p> <p>Selection criteria for Home garden competition</p>	<p>Short Lecture</p> <p>Brain storming</p> <p>Group work</p>	<p>Flip chart</p> <p>White board</p> <p>Chalk board</p> <p>New Home garden book</p>	20	70	
Develop Home garden plan	To be able to prepare a plan for identified land	<p>Identify available resources in given land</p> <p>Home garden planning principles</p> <p>Selection of crops</p> <p>Selection of plots and structures</p>	<p>Small group work</p> <p>Brain storming</p> <p>Group discussion</p> <p>Short Lecture</p> <p>Practice</p>	<p>Demonstration field</p> <p>Flip chart</p> <p>TIS 8.1</p>	20	130	*5 min will be allocate to 9 FFS one day sessions
SLM practices for Home garden	To be able to implement SLM practices for identified land	<p>Select proper SLM practices</p> <p>Practical session for SLM</p>	<p>Small group work</p> <p>Group discussion</p>	<p>Use indicator sheet</p> <p>Demonstration field</p>	20	180	

		implementation.	Short Lecture Practical Brain storming	Flip chart TIS 9		45	*5 min will be allocated to 9 FFS one day sessions
Good Agricultural practices for Home garden	To identify proper Good Agricultural practices for identified land	Select best GAP for home garden Identify importance characters of selected practices Establish model Home garden	Small group work Group discussion Short Lecture Practical Brain storming	Demonstration field Flip chart TIS 10.1	20	180 80	*10 min will be allocated to 8 FFS one day sessions
Soil and Water conservation	To improve drainage To water conservation method To establish irrigation practices	Select best practices for identify land Establish best practices	Small group work Group discussion Short Lecture Practical Brain storming	Demonstration field Flip chart TIS 11.1	30	150 25	*5 min will be allocated to 5 FFS one day sessions
Production and utilization of quality seeds and planting material	To implement self-seed production practices To produces quality seedlings	Self-seed production practices Nursery technologies for Home garden How to produces good	Small group work Group discussion Short Lecture Practical Brain storming	Demonstration field Flip chart TIS 12 Nursery trays, UV treated polyethene,	30	150 50	*10 min will be allocated to 5 FFS one day sessions

	To select best planting materials	planting materials How to select good planting materials		Some seeds and planting materials			
Integrated pest management	To identify appropriate IPM practices for home garden To establish IPM practices To practice safety use of Agrochemical Technologies	IPM practices Establish IPM practices Safety use of Agrochemical Problem solving	Small group work Group discussion Short Lecture Practical Brain storming	Demonstration field Flip chart TIS 13.1 TIS 13.2 TIS 13.3	30	150 75	*15 min will be allocated to 5 FFS one day sessions
Integrated farming concept	To understand the advantages of IF To identify the appropriate components	Identify major units and their characters Benefits of each units Supporting stake holders for integrated farming How to utilize animal waste	Small group work Group discussion Short Lecture Practical Brain storming	Demonstration field Flip chart TIS 14	60	120 40	*20 min will be allocated to 2 FFS one day sessions
Balance diet and Home garden	To understand nutritional requirements of family members	Nutritional requirement of family members Nutritional value of crops and animal products	Small group work Group discussion Short Lecture Practical Brain storming	Demonstration field Flip chart TIS 15	30	30	

		How to plan and organize Home garden for nutritional purposes					
Introducing economic activities for Home garden	To improve livelihood of FFS members	<p>Situation analysis (Eco – system analyses)</p> <p>Identify opportunities and available resources</p> <p>Technologies for selected economical units</p> <p>Identify relevant stakeholders</p> <p>Establish knowledge sharing and problem solving mechanism</p>	<p>Short Lecture</p> <p>Group discussion</p> <p>Brain storming</p>	<p>White board</p> <p>Flip chart</p> <p>Video clip</p> <p>Demonstration field</p> <p>TIS 16.1</p> <p>TIS 16.2</p>	30	60	*20 min will be allocate to 3 FFS one day sessions
Introducing monitoring and evaluation mechanism	To agree for maintaining Monitoring and Evaluation mechanisms	<p>Situation analysis (Eco – system analyses)</p> <p>Suggested M and E mechanism</p> <p>Evaluation tools</p> <p>How to identify best Home garden</p>	<p>Small group work</p> <p>Group discussion</p> <p>Short Lecture</p> <p>Practical</p> <p>Brain storming</p>	<p>Demonstration field</p> <p>Flip chart</p> <p>TIS 15</p>	20	20	*10 min will be allocate to 11 FFS one day sessions

		Reporting					
Planning next FFS cycle	To continue FFS program	Discussion on previous FFS cycle and identify weaknesses Planning next FFS cycle Need identification	Short Lecture Group discussion Brain storming	White board Flip chart	20	40	

Farmer Field School for Sustainable Tea Production - Field Guide Curriculum

General topics					
	Expected Learning Out comes.	Content to be covered	Training methods	Teaching aids	Time allocated
1.1. Introduction to the project	Understand the project objectives. Recognize the benefits gained through project Identify roles to be performed	Project aims Project scope Direct and indirect benefits of the project Role of stakeholders	Lecturer let General discussion	PPT	15 minutes In first meeting
1.2. Introduction to Farmer Field School (FFS)	Understand Farmer Field School (FFS) concept Recognize the importance of the FFS Differentiate role of facilitators and farmers Understand events of a regular session	Basic concept of FFS Role of farmer and the facilitator Advantages of FFS Activities of a typical day session in FFS	Brain storming General discussion Lecture let	PPT Short video	60 minutes
1.3. Formation of subgroups.	Form subgroups Describe criteria used for grouping Explain own responsibilities	Advantages of grouping Major role and responsibilities of (leader, reporter and members)	Group exercisers Group discussions	Flip chart	165 minutes minutes in all session

		Group norms			
1.4. Introduction to Covid 19 preventive measures	Understand important facts about Covid-19 Follow health instructions	Basic information of COVID 19 Health regulations and instructions Running FFS under the COVID 19 situation	Role play General discussion.	Video clips	75min
Information Technology for FFS	Recognize IT as an important tool Establish a WhatsApp group Effective communication using WhatsApp and Face Book	Advantages of IT for FFS WhatsApp for sharing knowledge, problem solving monitoring &evaluation. Face book for wider information sharing	Demonstrations Group activities Discussions	Video clips	60 min
2. Special topics					
	Expected learning out comes	Content to be covered	Training method	Training aids	Time allocated.
1. Bringing in to bearing	Describe characters of standard tea bush Identify weak tea bushes in farmer fields and explain possible reasons for weaknesses	Characters of standard tea bush Weakness of existing tea bushes in farmer fields	Field observations and discussion. Group activities	Photos Video Flip chart	120 min

	<p>Identify suitable practices to be adopted in farmer tea fields</p> <p>Follow the correct sequence of bringing in to bearing practices</p>	<p>Impact of weakness on intended yield of the land.</p> <p>Special practices for sloppy tea fields</p> <p>Sequence of activities to be followed during bringing in to bearing process</p>			
2. Soil moisture conservation	<p>Describe the importance of soil properties</p> <p>Apply water management measures in farmer fields</p> <p>Employ soil conservation measures and reduce soil erosion in farmer fields</p>	<p>Importance of soil and water on growth of tea.</p> <p>Soil physical, chemical and biological properties.</p> <p>Soil erosion and its implications.</p> <p>Importance of Water management.</p> <p>Soil conservation measures, (Vetiver, SALT System, soft weeds, wild, sunflower.</p>	<p>Group observation and presentation</p> <p>PPT</p> <p>Demonstration of SALT system</p> <p>Group discussion</p>	<p>Multimedia</p> <p>Projector</p> <p>Lap top</p> <p>Videos</p>	60 minutes
3. Organic matter(OM)	Describe the composition of organic matter	Introduction to organic matter.	<p>Demonstrations</p> <p>Group activity</p>	<p>Short video</p> <p>PPP</p>	40 minutes

	<p>Prepare compost using available materials in farmer fields</p> <p>Setup a vermin wash unit</p> <p>Practice burial of pruning</p>	<p>Composition of organic matter.</p> <p>OM Decomposition.</p> <p>Simple compost preparation method.</p> <p>Bio char</p> <p>Vermy wash preparation.</p> <p>Burial of pruning and forking</p>	Discussions		
4.Shade tree management	<p>Identify importance of shade in tea cultivation</p> <p>Select suitable shade trees</p> <p>Describe measures to overcome practical issues in shade tree management</p>	<p>Tea as a shade loving plant</p> <p>Shade trees types and there benefits</p> <p>Practical Issues in shade tree management</p>	<p>Discussion</p> <p>Short video show</p> <p>Field activity</p>	<p>Videos</p> <p>PPT</p> <p>Photos</p>	60 minutes
5. Weed management	<p>Identify and categorize major weeds</p> <p>Describe the conditions that favor weed growth.</p>	<p>Do weed always harmful?</p> <p>Categorization and identification of major weeds and their characters</p>	<p>Discussion</p> <p>Field activities</p> <p>Group activities</p>	<p>Videos</p> <p>Live specimens</p> <p>Flip charts</p>	50 minutes

	Apply suitable weed management methods	Reasons for success of weeds in tea fields		Photos	
6. Plucking	Describe the advantages and disadvantages of plucking standards Maintain proper plucking table Maintain quality of leaves	Introduction to harvest index (HI) Plucking standards Yield components of tea Plucking table management Leaf quality management.	Group activities Field observations Discussion Small calculation	Live specimens	80 minutes
7. Fertilizer	Identify means of removal of nutrients from tea fields Employ pH correction methods Test integrated nutrient management techniques Aware about latest type of fertilizers	Nutrient removal tea fields Identification Nutrient deficiencies Importance of soil pH Site specific fertilizer application Integrated nutrient management Yield based fertilizer recommendation	Group practicals Group discussions Demonstrations	PPT Posters pH meter	60 minutes

		Nano fertilizer			
8.Pruning	<p>Describe the importance of pruning tea bushes</p> <p>Identify correct time to prune bushes</p> <p>Choose appropriate pruning method</p> <p>Deploy post pruning operations</p> <p>Practice burial of pruning</p>	<p>Why pruning is needed?</p> <p>Iodine test to identify pruning time.</p> <p>Pruning methods, their advantages and disadvantages</p> <p>Pre and Post pruning maintenance.</p> <p>Machine pruning and its impact on bush health.</p> <p>Infilling of tea</p> <p>Burial of pruning's.</p>	<p>Brain storming</p> <p>Discussion,</p> <p>Demonstrations</p> <p>Group activity</p>	<p>Pruning machine</p> <p>Video</p>	50 minutes
9.Pest management	<p>Identify major pests</p> <p>Classify the pests based on nature of the damage</p> <p>Apply correct control measures</p>	<p>Pest identification</p> <p>Mouth parts and nature of damage</p> <p>Control measures</p> <p>Nematode management</p>	<p>Field practical</p> <p>Discussions</p> <p>Demonstrations</p> <p>Group activities</p>	<p>Photos</p> <p>Live specimens</p> <p>Video clips</p>	60 minutes

	Aware Maximum Residual Limits (MRL's)	Pest tolerant cultivars MRL's			
10. Disease management	Identify major diseases Differentiate the type of disease on nature of the damage Apply correct control measures Aware about MRL's	Disease triangle Major Diseases Control measures Disease tolerant cultivars. MRL's	Field practicals Discussions Demonstrations Group activities	Photos Live specimens Video clips	60 minutes
11. In filling	Understanding the economic gain of maintaining the proper plant density Understanding the maintenance of infilled plants	AESA Economic gain of maintaining proper plant density Selection of suitable plant for infilling Maintenance of infilled plants			60 minutes