

Detailed work schedule: Sustainable Agro-Technologies in Sri Lanka: In Vitro Plant Propagation, Rice Water Management & the Cascade System

Time duration: From 20.07.2025 to 31.07.2025

Day 01

Common Session: Inauguration ceremony & General Introduction

Location: UCIARS Lecture Hall & UCIARS Farm

Interactive lectures 4 ½ Hours, Field exposure 3 Hours

Time	Activity	Description
8.00 – 9.30 AM	Inauguration ceremony	
9.30 – 10:00 AM	Introduction about the program	Opening remarks, program overview, and icebreaker with Sri Lankan students.
10:00 – 12:00 PM	Lecture: Overview of Sri Lankan Agriculture sector	Agro-ecological zones, Major crops, crop production, major export, engagement of labor force.
12:00 – 1:00 PM	Lunch Break	Lunch and informal interaction.
1.00 – 2.30 PM	Lecture: Dry Zone Agriculture in Sri Lanka	Cropping systems, Paddy cultivation, traditional practices and irrigation systems.
2:30 – 3.00 PM	Interactive Discussion	Comparison with Chinese practices, climate adaptation, and irrigation systems.
3.00 - 6.00 PM	Farm Visit & Demonstrations	Guided tour of paddy fields, chena plots, traditional irrigation structures, and Q&A with farm staffs.

Day 02:

Module: Plant In-vitro Propagation

Location: Tissue Culture Research and Development Laboratory lecture hall, UCIARS

Theory (6 1/2 Hours)

Time	Activity	Description
8:30 – 10:00 AM	Introductory Lecture	Introduction to plant tissue culture technology
10:00 – 12:30 AM	In-vitro propagation technology	Basics and steps of in-vitro propagation technology
12:30 – 1:30 PM	Lunch Break	—
1:30 – 3:30 PM	Tissue culture oriented laboratory designs	Design productive laboratory designs for tissue cultured plants mass production
3:30 – 4:00 PM	Low-cost input for Tissue culture productions	Readily available inputs and utilization for low cost plant productions
4:00 – 5:00 PM	Tissue culture contaminations	Discussion on microbial and chemical contaminations as major constraints of the tissue culture industry
5:00 – 6:00 PM	Noval technologies in plant tissue culture	Introduction to Bio-reactor technology, Artificial Intelligent used in tissue culture productions

Day 03

Topic: Assessing Daily Crop Water Requirement of Paddy Under Irrigated Conditions in Dry Zone Sri Lanka

Morning Session – Theory (4 Hours)		Venue : UCIARS Lecture Hall
Time	Topic	Description
8:30 – 9:15 AM	Paddy Cultivation in Sri Lanka: Historical & Traditional Context	Overview of Sri Lanka’s ancient irrigation systems (e.g., wewas – tanks, canal systems), bethma system (traditional water-sharing), rain-fed vs irrigated rice farming. Highlight traditional water conservation ethics.
9:15 – 10:00 AM	Modern Irrigation in Dry Zone Sri Lanka	Introduction to current practices in major irrigation schemes (e.g., Mahaweli, Kalawewa), seasonal planning (Yala & Maha), role of Department of Agrarian Development.
10:00 – 10:15 AM	Tea Break	—
10:15 – 11:00 AM	Comparison: Paddy Water Management in Sri Lanka vs China	Discuss: <ul style="list-style-type: none"> • Scale and mechanization differences • Water management policies in Chinese rice paddies (e.g., AWD) • Use of technology and AI in China vs traditional-integrated methods in Sri Lanka
11:00 – 12:30 PM	Brief on present research study	Previous studies, Collaboratives, Hypothesis of the present study, Objectives, methodologies, expected outcomes.
Afternoon Session – Practical (4 Hours)		Venue : UCIARS Paddy Field
1:30 – 2:00 PM	Field Orientation	Safety briefing, student group assignment, explain daily duties, tools, and measurement kits.
2:00 – 3:30 PM	Cultural Agronomy Practice	Demonstration of traditional practices: transplanting methods, bund preparation, water management without pumps. Encourage discussion with field staff.
3:30 – 4:00 PM	Data Collection: Lysimeter & Environmental Observations	<ul style="list-style-type: none"> • Staff gauge to measure water height in the paddy field • 3 Barrels in paddy field • 3 stilling wells inside the masonry chamber • E piezometers • Standard rain gauge
4:00 – 5:00 PM	Data Entry & Reflection	Students enter data into Excel/logbook, reflect on measurements, and discuss how Sri Lankan practices could inspire sustainable irrigation in other regions.
5:00 – 5:30 PM	Wrap-up & Q&A	Open floor for students to ask questions, share their thoughts about differences between Sri Lanka and China, and provide daily feedback.

Day 04

Module: Plant In-vitro Propagation

Location: Tissue Culture Research and Development Laboratory, UCIARS

Total Hours: 7 Hours Practical session

Time	Activity	Description
8:30 – 10:00 AM	Tissue culture instrumentations	Introduction to machinery and instruments used in plant tissue culture technology with working principles and standards
10:00 – 12:30 AM	Laminar Air Flow cabinet handling principles	Practical exposure on tool handling in the Laminar Air Flow cabinet
12:30 – 1:30 PM	Lunch Break	—
1:30 – 4:30 PM	Ex-plant preparation techniques	Practical exposure to preparation of ex-plants – Nodal culture

Day 05 and 06 – Cultural program

Day 07

Module: Plant In-vitro Propagation

Location: Tissue Culture Research and Development Laboratory,

UCIARS Total Hours: 1 1/2 Hours Theory + 6 Hours Practical session

Time	Activity	Description
8:30 – 10:00 AM	Physical visit to Tissue culture production laboratory	Identification of various units of the laboratory and observation visit of staff activities
10:00 – 11:30 AM	Stock solution preparation	Formulating procedures of basic salts as nutrients
11:30 – 12:30 AM	Stock solution preparation	Practical exposure to stock solution preparation
12:30 – 1:30 PM	Lunch Break	—
1:30 – 5:00 PM	Murashige & Skoog standard basic salt medium preparation	Practical exposure to MS medium preparation

Day 08

Pre-Visit Orientation & Initial Field Visit

Location: UCIARS Lecture Hall & Walawe River Basin Cascade Systems

Total Hours: 4 Hours Theory + 4 Hours Field visit

Time	Activity	Description
8:30 – 10:00 AM	Introductory Lecture	Overview of the Sri Lankan Cascade System: History, Function, and Modern Relevance
10:00 – 11:30 AM	Comparative Analysis Session	China vs. Sri Lanka: Traditional Irrigation Techniques and Climate Adaptation Strategies
11:30 – 12:30 PM	Assigned Readings & Group Task	Distribution of background materials and short group research themes
12:30 – 1:30 PM	Lunch Break	—
1:30 – 2:00 PM	Field Briefing	Safety instructions, field protocol, and team arrangements
2:00 – 6:00 PM	Field Visit 1	Visit to selected tanks and canals in the Walawe River Basin. Observation and documentation of cascade components

Day 09

Hands-on Field Work, Interaction, and Reflection

Location: Cascade Field Sites, Agrarian Service Center, Local Farm Organizations

Total Hours: 8 Hours Practical

Time	Activity	Description
8:00 – 10:00 AM	Field Demonstration	Hands-on experience: water flow measurements, and biodiversity observation
10:00 – 12:00 PM	Stakeholder Engagement	Discussion with farmers and local officers on irrigation challenges and climate change adaptation
12:00 – 1:00 PM	Lunch Break	—
1:00 – 3:00 PM	Collaborative Field Survey	<ul style="list-style-type: none"> • Interviewing local farmers about historical changes in water availability, cropping patterns, and challenges faced due to climate variability. • Mapping biodiversity: identifying aquatic plants, amphibians, birds, and insects around the water bodies using basic biodiversity checklists. • Documenting land use changes near the cascade using sketch maps, photographs, or mobile GIS apps. • Collecting GPS coordinates and field photos for each structure visited for geotagging and future analysis.
3:00 – 5:00 PM	Workshop & Presentation Prep	Teams prepare quick presentations summarizing field insights
5:00 – 6:00 PM	Reflection Session	Open forum for sharing experiences and comparing learning between both cultures

Day 10

Module: Plant In-vitro Propagation

Location: Tissue Culture Research and Development Laboratory, UCIARS

Total Hours: 8 Hours Practical session

Time	Activity	Description
8:30 – 10:00 AM	Ex-plant preparation techniques	Practical exposure to preparation and sterilizing of ex-plants – Callus culture
10:00 – 12:30 AM	Ex-plant induction protocols	Practical exposure to establishment protocols of ex-plants – Callus culture
12:30 – 1:30 PM	Lunch Break	—
1:30 – 2:30 PM	Ex-plant preparation techniques	Practical exposure to preparation and sterilizing of ex-plants – Seed culture
2:30 – 5:30 PM	Ex-plant induction protocols	Practical exposure to establishment protocols of ex-plants – Seed culture

Day 11

Module: Plant In-vitro Propagation

Location: Tissue Culture Research and Development Laboratory, UCIARS

Total Hours: 9 Hours Practical session

Time	Activity	Description
8:30 – 10:00 AM	Ex-plant preparation techniques	Practical exposure to preparation and sterilizing of ex-plants – Meristem culture
10:00 – 12:30 AM	Ex-plant induction protocols	Practical exposure to establishment protocols of ex-plants – Meristem culture
12:30 – 1:30 PM	Lunch Break	—
1:30 – 5:30 PM	Subculturing techniques of banana tissue culture	Practical exposure to banana tissue establishment in proliferation & rooting medium
5:30 – 6:30 PM	Acclimatization of tissue cultured banana plants	Practical exposure to banana plant acclimatization through protected house techniques

Day 12 - Closing ceremony

Program: Final Reflections & Closing Ceremony

Duration: 5 Hours (8:30 AM – 1:30 PM)

Location: UCIARS Lecture Hall

Time	Activity	Description
8:30 – 9:30 AM	Final Group Presentations	Student teams (Chinese & Sri Lankan) present findings and reflections from field visits and collaborative surveys.
9:30 – 10:30 AM	Panel Feedback Session	Academic panel provides feedback on student presentations, field experience, and collaborative learning outcomes.
10:30 – 11:00 AM	Tea Break	Informal mingling and photo session.
11:00 – 12:00 PM	Joint Reflection & Cultural Sharing	Sharing final thoughts, key takeaways, and cultural exchange activities.
12:00 – 1:00 PM	Closing Ceremony	<ul style="list-style-type: none"> Welcome & summary of the program Reflections from student representatives Remarks by UCIARS and Southwest University staff Distribution of certificates & group photo 1:00 – 1:30 PM Light Lunch & Departure Farewell lunch hosted by UCIARS