



# The Progress of ACMECS Project in Myanmar

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**Daw Thuzar Myint**  
**Director**  
**Land Use Division**  
**Department of Agriculture**

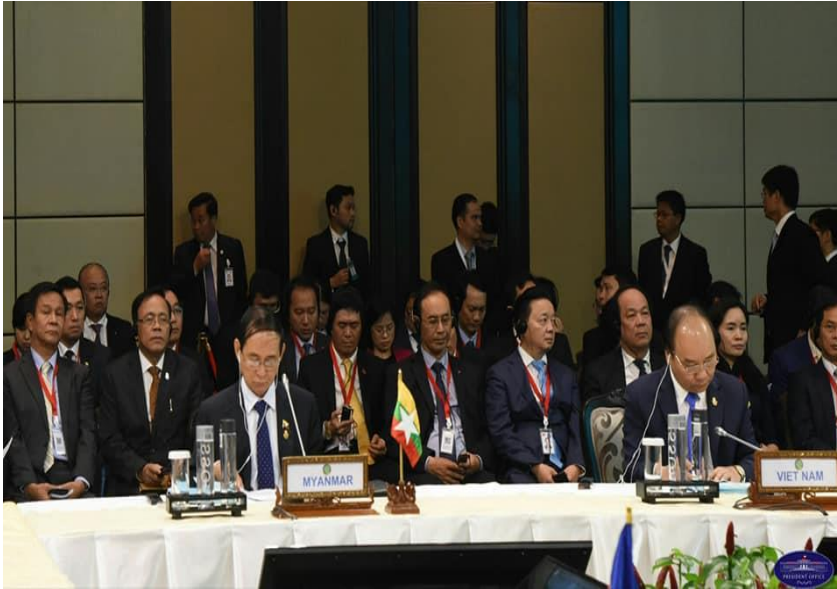
**12<sup>th</sup> September 2019**

# ACMEC cooperation

- Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS) is a political, economic, and cultural organization among Thailand, Laos, Vietnam, Cambodia and Myanmar.
- The objectives of this new initiative are
  - to bridge the economic gap among the four countries, and
  - to promote prosperity in the sub-region in a sustainable manner
- Cooperating with the sectors of trade and investment, agriculture, industry and energy, transportation, tourist, human resource development, public health and environmental conservation.



# President U Win Myint attended 8<sup>th</sup> ACMECS Summit in Bangkok, 2018



# Background

## Goal for ACMECS project in Myanmar

**one selected watersheds catchment  
for the examples of all land management activity**

(under the conceptual model for land development in watershed area)

**2017- 2021**

### Operational framework (2017-2021)

Land Development Department (LDD): *Technology transfer for land development, rehabilitation and improvement*

***Strategy 1: Database for soil resource and land use planning***

Strategy 2: The use of technology for land development.

Strategy 3: Human resources development

Strategy 4: Supporting for sustainable land development network

## **Purpose**

- 1. To enhance the capacity of human resources on land use planning**
- 2. To create a land use and soil databases.**
- 3. Zoning by land use potential, then apply for the local level frameworks.**



## ACMECS project plan in 2017-18

- The consultation meeting for the chief executive officers level (5 days, Thailand)
- Training on introduction to Soil Survey and Land Use Planning process in sub-watershed (Thailand)
- Training course on Basic GIS and Remote Sensing (Thailand)
- On-site training on land use ground check and land use planning (Myanmar)



# Strategy 1: Database for soil resource and land use planning

- **Soil survey:** soil resources database/soil mapping/soil interpretation/soil analysis/soil monolith (Myanmar)
- **Land area potential assessment:** present land use mapping/socio-economic survey/land use planning/land evaluation (Myanmar)



## Soil survey

- Training on introduction to Soil Survey and Land Use Planning process in sub-watershed, 14-24 March, 2016 (Thailand)

## Land Use Analysis

- Training course on Basic GIS and Remote Sensing, 7-14 April, 2017 (Thailand)
- On-site training on land use ground check and land use planning (Myanmar)





# Soil survey and mapping

Geopedology approach: Relation between soil and landform/topography

Tatkon Township



Land form

- (1) Flood Plain  
(River Levee)
- (2) Flood Plain  
(River Basin)
- (3) Low River Terrace
- (4) Upper River Terrace
- (5) Hill and Mountain

Levee

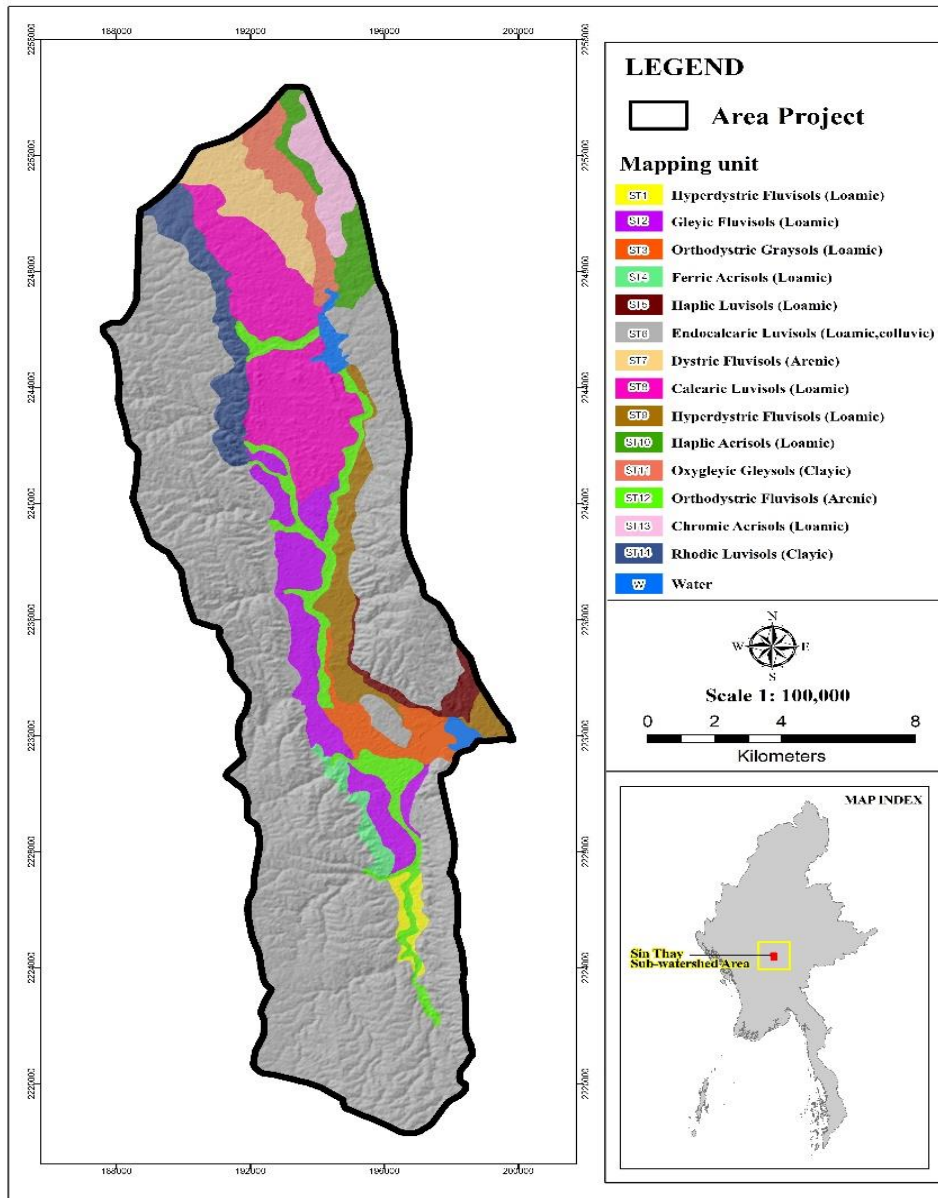
Basin

Terrace

Mountain



# Final Soil Map (scale 1:25,000)



- 14 Soil mapping units
- Lowland soil (2 SMU)
- Upland soil (12 SMU)

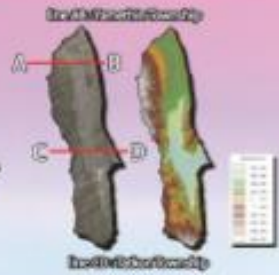
# Land Use Analysis

## Sin Thay Subwatershed

### Location

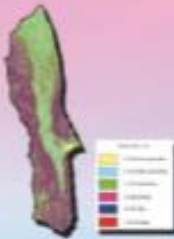
Sin Thay subwatershed is located in Tatkon township of Nagaland. It covers an area of approximately 23,000 ha.

### Topography and Elevation



The elevation of Sin Thay subwatershed is 120-600 meter high. It consists of two parallel mountain chains, with the valley of the Sin Thay River in the middle. The topographical features within this area include the mountains and hills parts of total area surrounded by forested mountains, flat hill slope (20%) and plain areas (10%) along both sides of the Sin Thay River which are mainly used for agriculture.

### Relief and Slope



The relief and slope of Sin Thay subwatershed related to the topographical features is mountainous and hills area is mostly rolling to steep slope ranged from 12 to 30%. In addition, the flat hill slope area is partly undulating to undulating (12-17%) and flat to nearly flat (0-10%) located in the valley.

### Soil resources



The different soil characteristics are described as follows:  
**Low land soil or soil with (Aquic Condition)**

**Upland Soil** mostly occur in the low-lying terrain (hills) are formed under the influence of long-term saturation by ground water. The major soil texture classification are sandy loam, sandy clay loam and silty clay loam. Soils are most suitable for paddy cultivation. In addition, this soil can be used for arable cropping, dairy farming and horticulture, which provided the groundwater table is lowered.

According to the World Reference Base of soil resources, most of soils are classified into 3 reference soil groups consisting Fluvisols, Aridisols and Luvisols.

**Fluvisols** mostly occur on river terraces, the soils are stratified throughout the soil profile which have coarse-textured and appreciable amounts of carbonate. These soils are very important for upland crops including vegetables, beans, sugarcane and maize.

**Luvisols** are mostly found in the undulating relief of hill slopes. The soil textures are sandy with well drained. The soil contains a certain amount of lime with rich in calcium (Ca) and magnesium (Mg). The soil has low nutrients such as nitrogen (N), phosphorus (P) and potassium (K). In addition, at the present there is a lot of soil degradation caused by strong soil erosion. In order to plant cultivation, soil management is should be considered by using green manure or organic manure and applied with suitable nitrogen and phosphate fertilizers.

### Topographic cross section line AB of Yaimethin Township

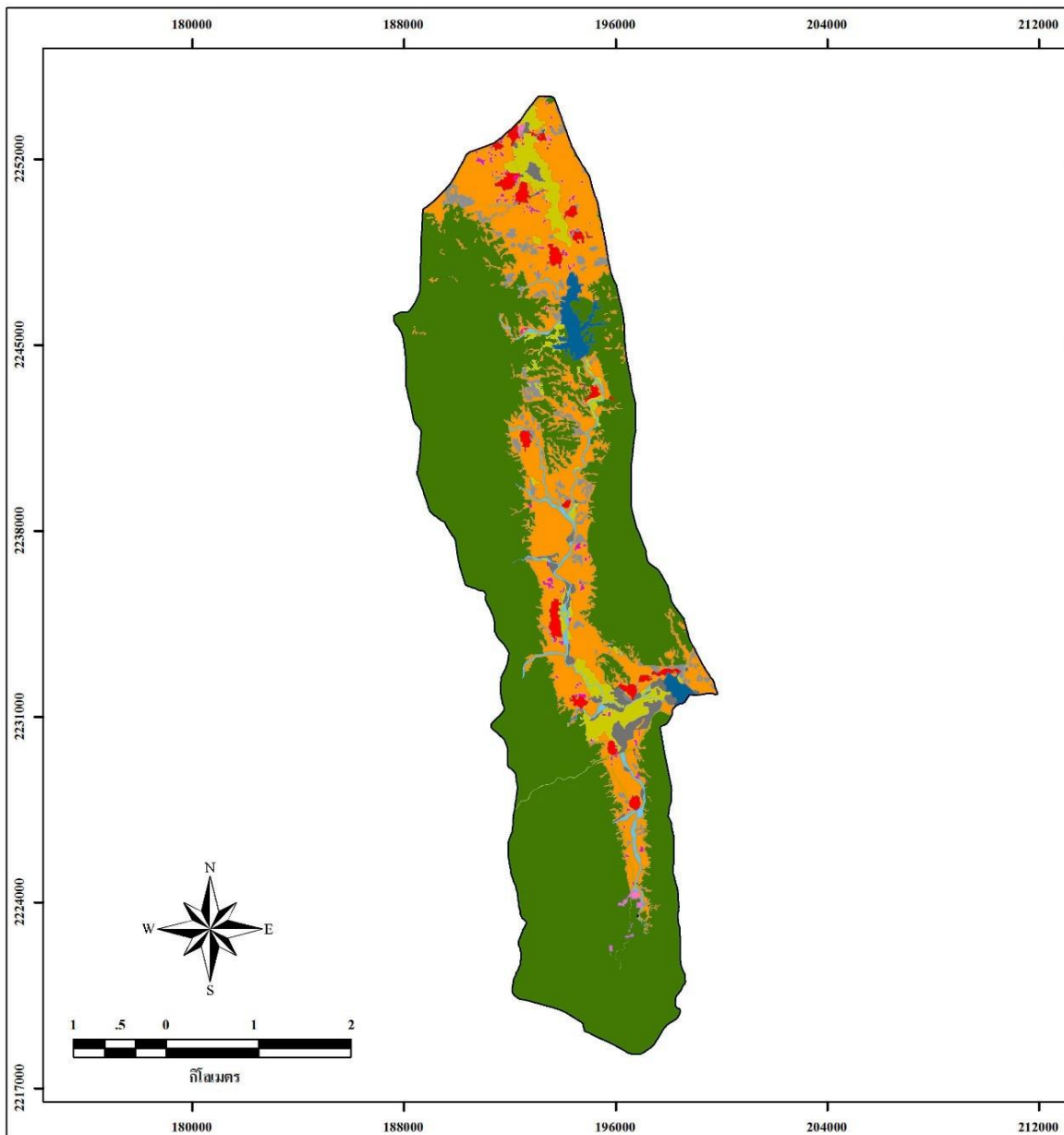


### line CD of Tatkon Township





# Present Land Use of Sin Thay Sub-watershed



## Present Land Use of Sin Thay Sub-watershed

Legend	Landuse Type	Area (ha)	Percentage																																																				
<b>Urban and Built-Up Land</b>																																																							
U2	Village	385	1.66																																																				
U3	Institutional Land	37	0.16																																																				
U4	Transportation, Communication and Utility	34	0.15	<b>Agricultural Land</b>				A1	Paddy Field	833	3.59	A2	Field Crop (Soybean, Mungbean)	5,219	22.49	A4	Orchard (Mango, Banana)	105	0.45	<b>Forest Land</b>				F2	Deciduous Forest	15,308	65.97	<b>Water Land</b>				W1	Natural Water Body	276	1.19	W2	Reservoir (Built-Up)	300	1.29	<b>Miscellaneous Land</b>				M1	Rangeland	400	1.72	M2	Marsh and Swamp	308	1.33	<b>Total Area</b>		<b>23,205</b>	<b>100.00</b>
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**Division of Land Use Planning and Policy**  
**Land Development Department**



## ACMECS project plan in 2018

- The consultation meeting for the chief executive officers, 5 days (Myanmar)
- To conduct the workshop on soil database and mapping and soil analysis for Myanmar staff
- To monitor the land use planning project

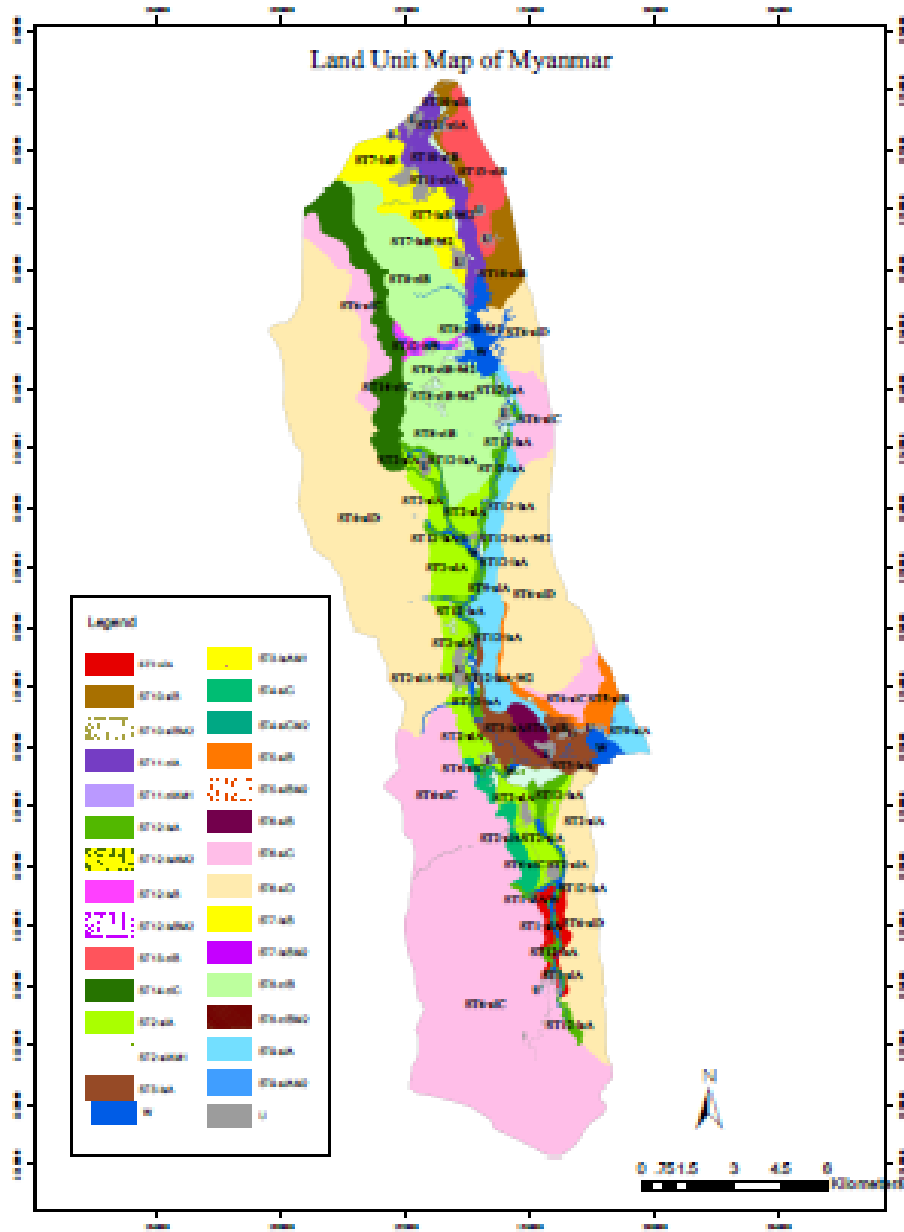


# Land Use Planning

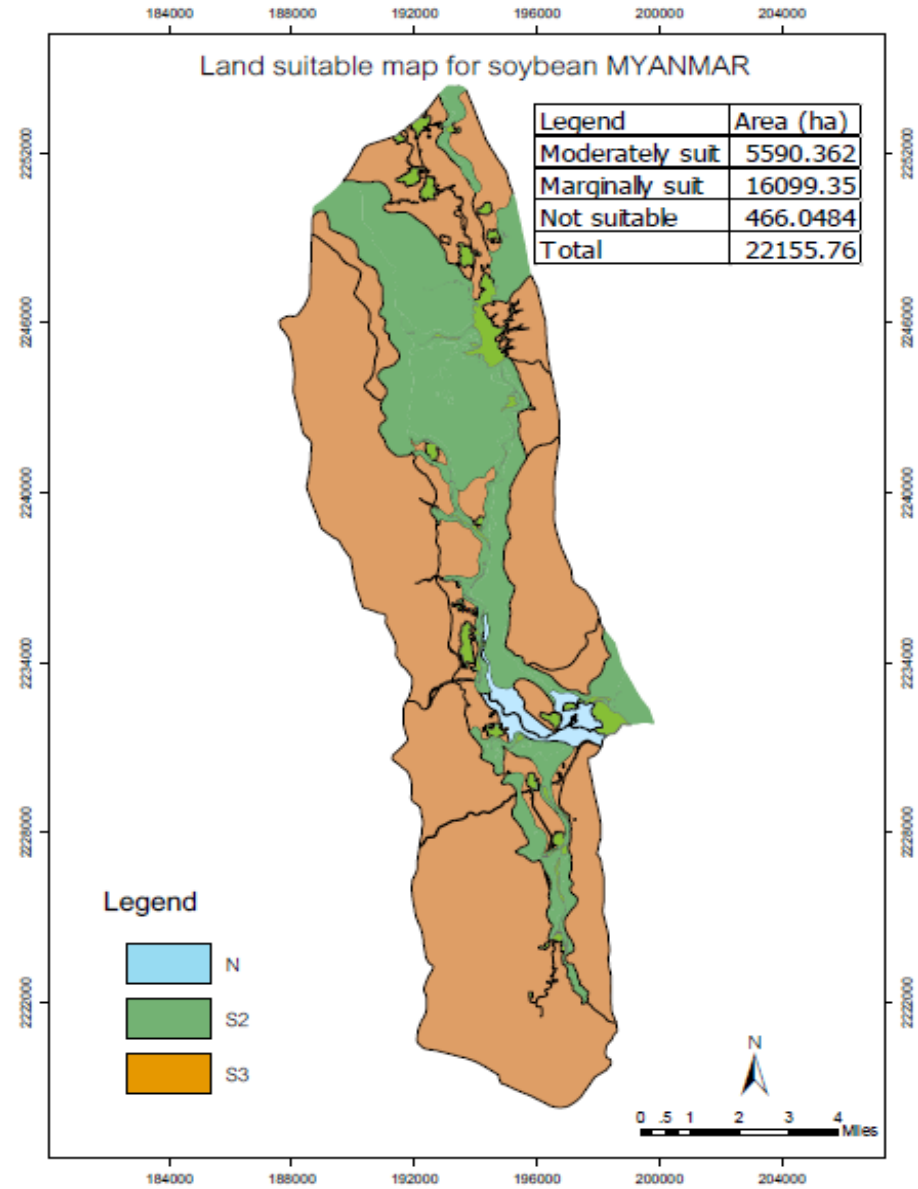
- Training on Land Use Planning for sustainable agriculture, 11-17 March, 2018 (Thailand)



## Land Unit Map of Sin Thay Sub-watershed



## Land Suitability Map for soy bean crop



# Monitoring the land use planning project





## ACMECS project plan in 2019

- The consultation meeting for the chief executive officers- 5 days (Myanmar)
- Workshop on Analysis and evaluation of soil fertility, soil improvement and the use of biotechnology for soil fertility improvement (Myanmar)
- Conducting the training on Arc GIS tools for SWC, soil test kit formulation and soil biotechnology (Myanmar)

# An executive meeting and planning for activities in 2019

- Discussing on ACMECS activities plan for 2019-2020, 4-8 Dec 2018 (Thailand)



# Soil analysis, soil improvement and soil fertility improvement

- Workshop on Analysis and evaluation of soil fertility, soil improvement and the use of biotechnology for soil fertility improvement, 24-28 June 2019 (Thailand)



# Soil improvement

- Training on Arc GIS mapping for SWC, 27-29 August 2019 (Myanmar)





# Soil fertility assessment

- Training on soil test kit formulation, 27-29 August 2019 (Myanmar)



# Soil fertility assessment

- Training on soil biotechnology, 27-29 August 2019 (Myanmar)



## Project outcomes

- LUD gained the practice of GIS techniques using its own program data, and present maps using program data specific to its organization.
- The human capacity of concerned organization in the area of soil fertility analysis, soil fertility improvement and land use planning are improved.
- Consequently, this improves will benefit the livelihoods and resilience of farmers in Myanmar.



# Thank you for your kind attention!

