

# Impact of COVID19 on Agriculture in SLM Project Townships



## About the assessment

The “Sustainable cropland and forest management in priority agro-ecosystems of Myanmar” project (SLM project) of the Food and Agriculture Organization of United Nations (FAO) conducted a telephone survey in September - when there was rapid surge of COVID19 cases in late August and movement restrictions put in place again throughout the country - to assess the drivers affecting crops plantation area and productivity of monsoon crops during COVID19 pandemic in four project pilot townships in three agro-ecological zones. Prior to this survey, in May 2020, a rapid assessment to identify immediate barriers and challenges of 171 rural smallholder farmers amid COVID19 pandemic was also conducted by the SLM project. Full report can access [here](#).

## Highlights

- ❖ Rural farmers are bearing the double burden of COVID19 crisis and Climate Change
- ❖ Sustainable agricultural investment and upscaling of climate smart agriculture practices in rural area is urgently needed to build resilience of vulnerable farmers
- ❖ Main agriculture inputs need to be available, affordable and accessible by all small-scale farmers to ensure sustainable production and alleviate poverty

## Summary

The report provides an overview of the drivers such as accessibility, availability and affordability of agriculture inputs and access to microfinance by rural small holder farmers, impact of climate change and practicalities of Climate Smart Agriculture (CSA) techniques in addition to the impact of COVID19 on total planted area of monsoon crops in some selected project villages located in three agro-ecological zones.

The first-time data collection was conducted from 14-23 September 2020 to measure the changes in monsoon crops planted area and the key drivers for those changes. Four pilot townships of the FAO SLM project were included in this survey i.e. Mindat (Hilly Region), Nyaung U and Kyaukpadaung (Central Dry Zone), and Labutta (Delta Region) townships. A total of 273 randomly selected farmers (i.e. 4 farmers/ village) were interviewed by telephone. A second time data collection is expected to take place in December 2020 to collect information on post-harvest aspects by assessing productivity and market accessibility of all monsoon crops.

## Objectives of the Survey

The SLM project of FAO, funded by Global Environment Facility, conducted the assessment with an aim to support COVID19 Economic Relief Plan's (CERP) section 2.1.7 focus area and to assess the impact of two main drivers such as climate change and COVID19 on rural farmers in project townships.

Early identification of drivers affecting the plantation area for monsoon crops and agriculture productivity will enable SLM-GEF and government counterparts to take early response actions and hence, contribute to improve food and nutrition security and livelihoods.

## Study Area and Population

The project has been promoting climate smart agriculture practices through Farmer Field School (FFS) approach since 2016. The project is piloting these schools in the five townships from three priority agro-ecological zones in Myanmar. All trained FFS farmers who have a personal or phone contact with township Department of Agriculture (DoA) or FAO's Field Technical Officers in respective townships were included.

## Sampling Method

In considerations of the current situations, sampling strategy was not so strict, however, proper sample size was calculated to have certain representativeness. The randomization was followed to avoid potential bias, to improve gender proportions and to cover different socio-economic strata in selection of FFS farmers for each township. Therefore, simple random sampling strategy was utilized to recruit key opinion farmers.

## Sample Size

There are **2564** FFS farmers trained in 89 villages (through 96 FFS school established) in five project townships. Sample size was determined with 95% confidence level, 5% margin of error and 5% attrition rate, a total of **350** participants needed to be recruited. A total estimation of **4 participants/ FFS village** were randomly selected except Kanpetlet due to little/no telephone connectivity.

Sr.	Township	Total # of Village	Required Sample size	Completed Interview
1.	Mindat	15	60	42
2.	Kanpetlet	15	60	0 <sup>1</sup>
3.	Nyaung-U	18	70	70
4.	Kyaukpadaung	21	80	81
5.	Labutta	20	80	80
Total Sample Size			<b>350</b>	<b>273</b>

<sup>1</sup>Villages in Kanpetlet township were excluded due to no/poor telephone connectivity

## Data collection and Analysis Procedure






Context specific, simple and short questionnaire in both English and Burmese Languages was developed by using KoBo Toolbox. Pre-testing of the questionnaire was conducted with SLM-GEF team in Nay Pyi Taw. All FAO Field Officers and recruited surveyors, who have strong agriculture and contextual knowledge, were thoroughly explained and trained about this survey through Microsoft Teams before data collection began. Data collectors interviewed the selected respondents by phone conversation and filled the mobile data collection form by using tablets provided by SLM project.

## Ethical considerations

Interview guideline was developed in Burmese language to help the interviewers to conduct interview properly. The objectives of this follow up survey was thoroughly explained to the farmers and informed verbal consent was taken prior to interview. Farmers were allowed to independently decide whether to participate or not. And they were also allowed to ask questions before, during and after the survey and skip question if they do not want to answer. Participants were not provided with any incentive in-kind or in-cash for participating in this survey.

Completed surveys are automatically saved in a central server, and the stored data relating to household identification number and participant's village name or any information that could identify the participant are only accessible to the NPT survey team and are not mentioned in any report disseminated to the public.

## Key Findings of the Survey

-  Approximately **40%** of participants were female
-  **5%** decreased in access to loan when compare to last year
-  **87%** of farmers took loan from Myanmar Agriculture Development Bank (MADB)
-  **74%** of participant farmers and 60% of their peer farmers responded “No Changed” in area
-  **62%** of farmers have less than 10 acres of land

### I. Household demographic characteristics

- A total of **71** project villages were included in this survey except villages in Kanpetlet, Chin state where the interview could not be conducted owing to poor/no telephone connections. In order to increase the voices of female farmers, the survey purposely selected at least one or more women participants in each village. Approximately, **4 out of 10** survey participants are female. The average household size is **5.5 members**. The average **population size** is **850** per village in all study townships; however, it ranges from minimum **258 in Mindat** and **maximum 1105** in Nyaung-U township.

### II. Affordability, Availability and Accessibility of agri-inputs

- The affordability, availability and accessibility of main agriculture inputs such as **organic or chemical fertilizers, high quality seeds, organic or chemical pesticides/insecticides, farm machinery and cattle and farm labor** were assessed.
- Generally, **41%** of participant farmers reported that they could not afford to buy and use adequate quantity of inputs for their monsoon crops because of higher input prices and limited revenue of farmers, particularly in Mindat township. Therefore, as a coping mechanism, majority of farmers practice little/no use of fertilizers and pesticides and help each other for labor to **save money** and use local or their own varieties to avoid buying seeds from outside.
- The situation of availability of inputs are satisfactory in all study townships except Mindat township. In general, **40% (17/42)** farmers in Mindat reported that inputs are not available since there are no agri-input shops in the town.

### III. Access to microfinance

- 72%** of respondents reported that they had taken agriculture loan **before COVID19** for growing crops. However, there is slight drop in this monsoon planting season as only **67%** of farmers took agriculture loan. The access to loan in Mindat is very poor where only **12% (5/42)** of participants reported that they have taken loan from Mya Sein Yang and private money lenders as the microfinance institutions are very rare in town.

- Approximately **90%** of farmers responded that the main purpose for borrowing loan is to buy key agricultural inputs, however few farmers used loan for other purposes such as health and education.
- Overall, **87%** of farmers took loan from Myanmar Agriculture Development Bank (MADB) which is followed by MoALI Cooperative Department Loan (**24%**), Pact Global Microfinance Fund (PGMF) (**23%**) and private money lender (**16%**) etc.
- **66%** of farmers responded that they got agriculture surplus loan or loan with reduced interest rate in response to COVID19 either by MADB or other MFIs.
- Only **23%** reported that they faced barriers/ problems in accessing new loan. Two main reasons are difficulty in reimbursement of former loan(s) and uncertainty of MFIs operations due to COVID19 when accessing to loan for this monsoon season.



Sustainable agriculture investment is most needed to ensure sustainable production

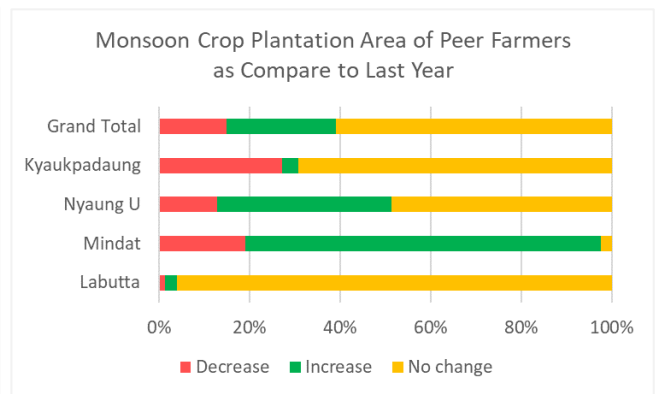
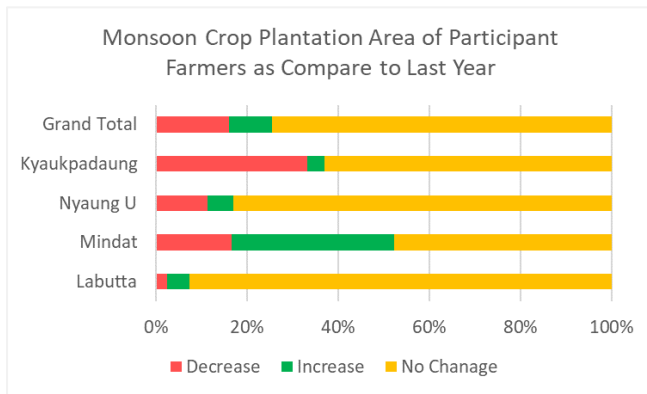
#### IV. Impact on Total planted Area for Monsoon Crops

- Total area of land (owned, leased or used) that the household use to grow monsoon crops are as follows. Less than or equal to 5 acres **28%**, 6 to 10 acres **34%**, 11 to 20 acres **25%**, 21 to 30 acres **7%** and more than 31 acres **5%** In total, the majority (**62%**) of participants have less than 10 acres of planted land.
- Regarding monsoon crops plantation area, **74%** of farmers responded that this year planted area has **not changed** when compare to last year. However, 16% reported that the planted area has reduced. In contrast, **10%** reported that the area has increased.
- Generally, the participants reported that the area under monsoon crops of their peer farmers has increased (**24%**), decreased (**15%**) and not changed (**60%**).

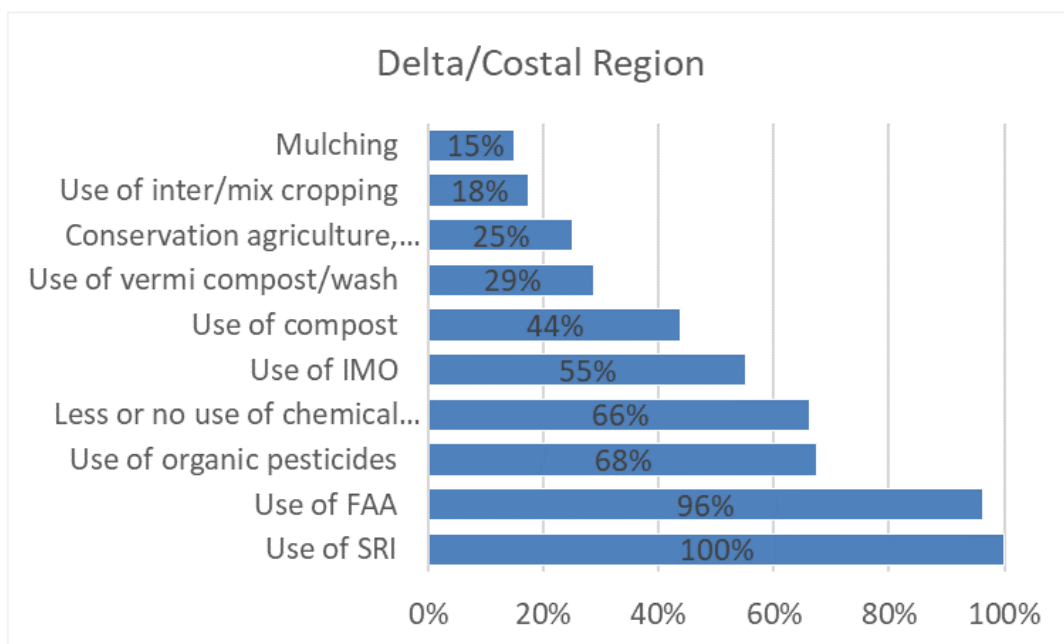


Majority of farmers said the monsoon crops plantation area has not changed.

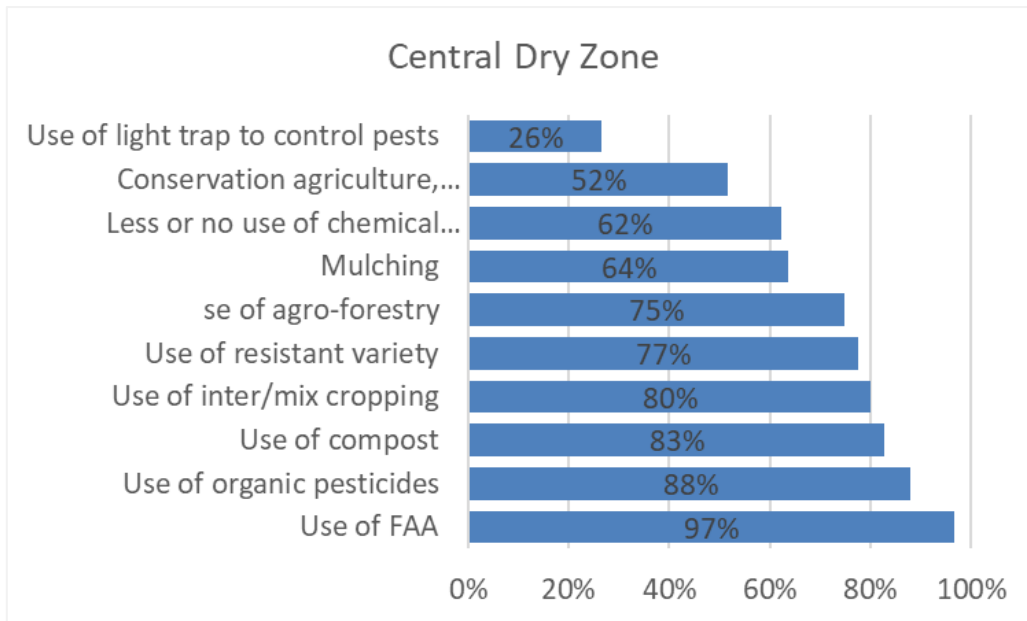




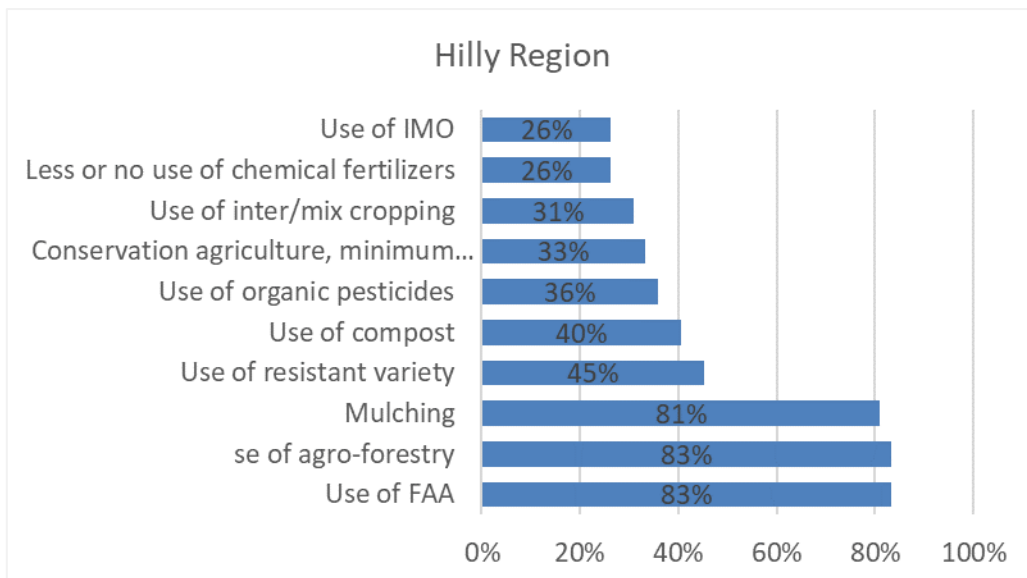
The above bar charts show the township wise monsoon crops planted area by both participants and peer farmers. In Kyaukpadaung, **35%** responded decreased in area under monsoon crops when compared to last year monsoon season for both themselves and their peer farmers. In contrast, farmers in Mindat responded that proportion of plantation area in participant farmers (**36%**) and peer farmers (**79%**) has increased. The type of crops grown, and cropping patterns are varied depending on agro-ecological zones.



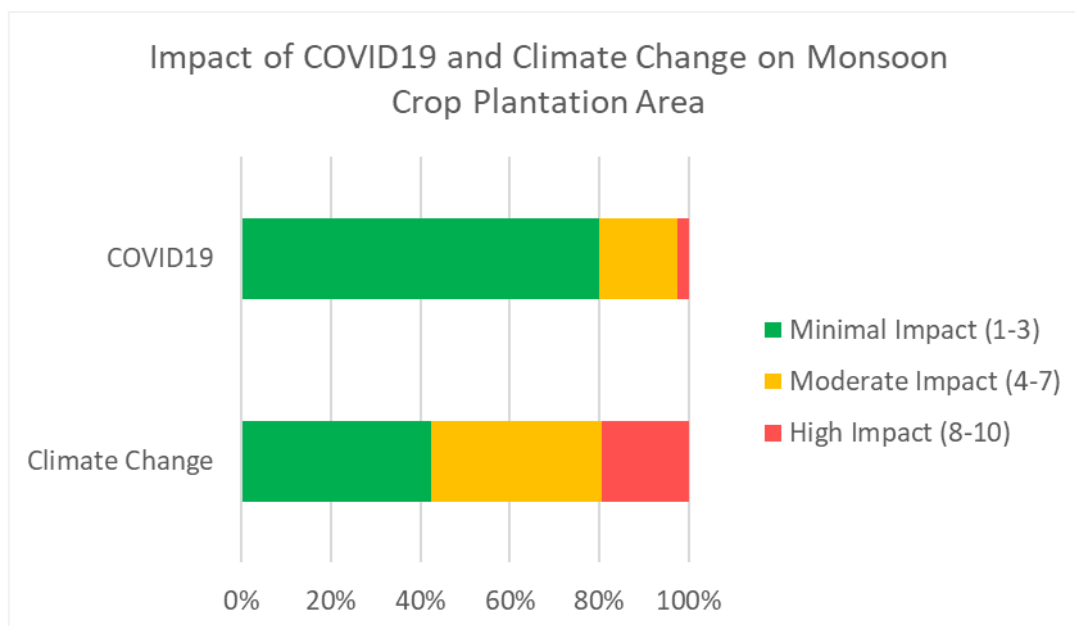
In Labutta (Delta Region) all participants grew paddy as their main seasonal crop. At the same time, farmers in Labutta also grew pluses (**3%**) and kitchen garden vegetables (**31%**). Above figure shows the percentage of ten most common CSA practices used in Delta/Costal Region according to participants.



In Kyaukpadaung and Nyaung U (Central Dry Zone), since the cropping patterns are quite varied, participants reported that they grew paddy (56%), pulses (87%), oil seeds crops (92%) and kitchen garden vegetables (47%) as monsoon crop(s). Above figure shows the percentage of ten most common CSA practices used in Central Dry Zone according to participants.



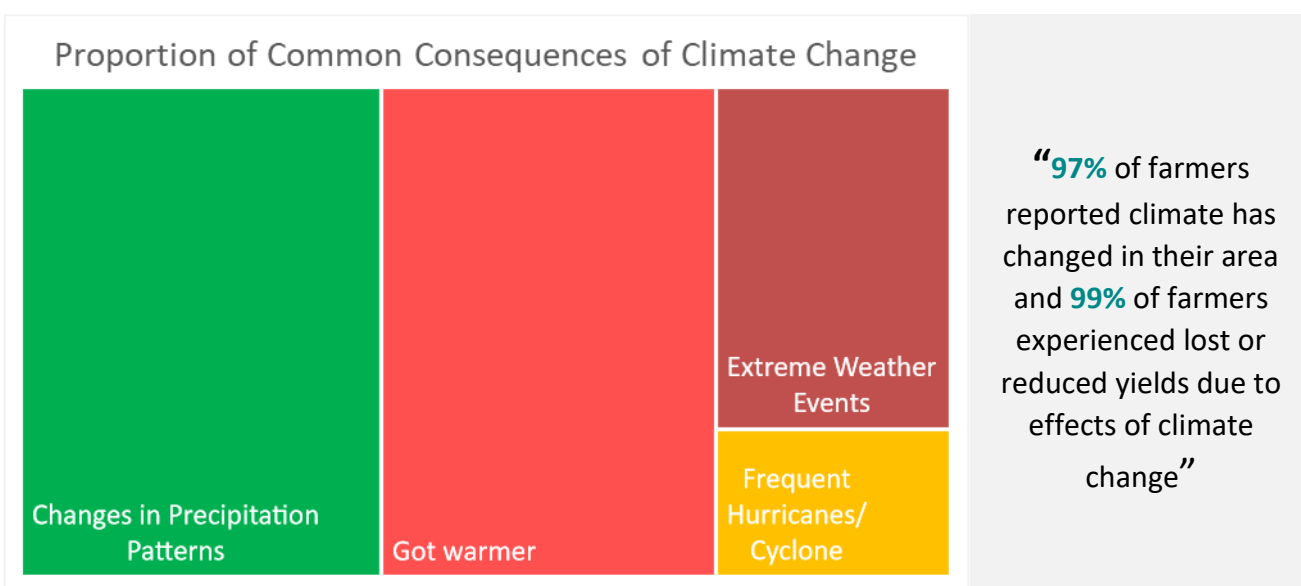
In contrast, the respondents in Mindat grew local varieties of cereals (38%), pulses (62%), kitchen garden vegetables (67%), elephant foot yam (74%) and other perennial plants (coffee/ avocado etc.) (43%). Above figure shows the percentage of ten most common CSA practices used in Hilly Region according to participants.



- **80%** of farmers responded that **impact of COVID19** on area of plantation for their monsoon crops is minimal. The rest reported that the impact is moderate (**17%**) and high (**3%**).
- Participants also reported that **impact of climate change** on area of plantation for monsoon crops is high (**19%**), moderate (**38%**) and minimal (**42%**).

#### V. Impact of climate change and practicalities of Climate Smart Agriculture techniques

- **97%** of farmers reported that the climate has changed in their area over the past decades. And **95%** of farmers reported that they have experienced **lost or reduced yields** due to effect of climate change.





- Among them, farmers reported that they have noticed the changes in precipitation patterns including heavy/irregular/less rain/ flooding/ drought (99.6%), rising temperature (92%), extreme/bad/irregular weather including extreme cold or heat waves (45%) and occurrence of frequent/ stronger and more intense cyclone (20%).
- **All survey participants** reported that they have heard of CSA practices. Overall, farmers responded that they are knowledgeable about using fish amino acid (95%), organic pesticides (74%), organic compost (65%), less or no use of chemical fertilizers (58%), use of agro-forestry (56%), use of resistant variety (54%), use of inter/mix cropping (54%), mulching (52%), use of conservation agriculture such as minimum tillage (41%), use of system of rice intensification (38%), use of indigenous microorganisms (21%), use of light trap to control pests (19%), use of vermi compost/wash (16%) and contouring (3%). The following charts describe 10 most common CSA practices with information on type of crops grown in each agro-ecological zone.
- Participants reported that the use of CSA practices is highly important (48%) and moderately importance (46%) in order to adapt to the climate change.
- However, only 18% of farmers responded that they applied the practices fully in their farm. The rest of the farmers use the CSA practices moderately (45%) and minimally (36%) in their own farm.
- Similarly, only 17% of farmers share the **knowledge regularly**. The remaining farmers share the knowledge of CSA practices quite often (53%) and rarely (30%) to their peers.



## Conclusion and Recommendations

- Majority of farmers responded that impact of Climate Change and COVID19 on monsoon crops plantation is minimal. The findings are also consistent with lower COVID19 caseload in study townships where farmers can maintain their farming activities in their own villages despite movement restrictions.
- Even though farmers know that the CSA practices are important in order to adapt climate change, majority of farmers (82%) moderately and minimally applied the CSA practices in their own farms.
- Increasing access to microfinance by ensuring land tenure rights, longer loan duration, flexible payback mechanism, lower interest rate is crucial.
- Improving access, affordability and availability of main agricultural inputs is very important by facilitating access to high quality seeds/inputs, providing subsidized price etc.
- Expansion and promotion of CSA practices to outside pilot townships is also important.
- Further study is needed to assess productivity and market accessibility of monsoon crops.

## About FAO SLM project

The “Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM)” project is a five year project implemented with the financial support of Global Environment Facility (GEF) and has been promoting the climate smart agriculture (CSA) and sustainable forest management(SFM) practices in five pilot townships in three agro-ecological zones (Upland/hills, central dry zone and delta/coastal zone).

The project provides not only policy and regulatory framework support relating to goal of the project but also implements field activities through Farmer Field Schools and community-based forestry management approaches in partnership with two distinct ministries – “Ministry of Agriculture, Livestock and Irrigation” (MOALI) and “Ministry of Natural Resources and Environmental Conservation (MONREC).”

## Contact

Building no. 39, Forest Department  
Ministry of Natural Resources and Environmental Conservation  
Nay Pyi Taw, Myanmar  
Phone: 09 423334625  
Email: [slmmyanmarinfo@gmail.com](mailto:slmmyanmarinfo@gmail.com)  
Website: [www.slmmyanmar.info](http://www.slmmyanmar.info)

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