

## Evidences

### Study #611

**Contributing Projects:**

- P1593 - Partnership for scaling up gender and nutrition-sensitive CSA
- P264 - [Regional Program Leader] SEA: Regional and National synthesis, engagement and support

**Part I: Public communications**

**Type:** OICR: Outcome Impact Case Report

**Status:** Completed

**Year:** 2019

**Title:** Providing a framework for the Myanmar government's policies, programs and investments on climate-smart agriculture

**Short outcome/impact statement:**

In 2015, the Ministry of Agriculture, Livestock, and Irrigation (MOALI), together with CCAFS, developed the Myanmar Climate-Smart Agricultural Strategy (MCSAS) to guide the implementation of climate actions in Myanmar. To date, MCSAS has been referenced in at least 19 government and NGO programs, 4 policy documents, and 19 investment projects (worth approximately USD 1B investments). Furthermore, other CSA technologies and approaches were mainstreamed by various stakeholders as recommended in the MCSAS, such as the Climate-Smart Village(CSV) and climate-smart rice production.

**Outcome story for communications use:**

Working together to provide a framework for implementing Climate-Smart Agriculture(CSA) in Myanmar, MOALI (then MOAI) together with CCAFS, IRRI and Yezin Agriculture University (YAU) launched the MCAS in 2015. Since then, the document has been downloaded more than 10,000 times. Since 2016, the MCSAS has been referenced in the development of technical, policy and investment conditions to achieve sustainable agricultural development. This includes about 19 investment projects approximately USD1 B in funding.

Departments under MOALI have used MCSAS to guide CSA investment in the country. The Department of Agriculture implemented two national-level CSA project on green water management and nitrogen use efficiency management in line with the Regional Trusts of MCSAS. It is currently implementing a five-year program on land resource evaluation covering the Central Dry Zone of Myanmar. The Department of Agriculture Research implemented 13 projects focusing on the MCSAS' adaptation and mitigation priority programs, where one on Climate-Friendly Agribusiness Value Chain having funds of USD 64.92 M from the Asian Development Bank and UN Food and Agriculture Organization (FAO). The Department of Rural Development implemented the "Resilient Communities Development Project" for USD230 M covering 7,000 villages in 17 selected townships to promote rural livelihood improvement through CSA practices. The International Development Research Center(IDRC) also provided the International Institute of Rural Reconstruction's (IIRR) USD500,000 to implement the CSV project in Myanmar.

The national plans addressing climate change and food security implemented by MOALI and the Ministry of Environment and Natural Resources and Conservation based on MCSAS include: the Myanmar Agriculture Development and Investment Plan, Myanmar Climate Change Master Plan, Myanmar Climate Change Policy; and Myanmar Climate Change Strategy.

MCSAS also influenced programs of international and national organizations related to climate change in agriculture. The FAO project on Sustainable Cropland and Forest Management used the MCSAS in preparing CSA handbooks for the Farmer Field School and the undergraduate and post-graduate CSA curriculum at YAU. The National Climate-Smart Agriculture Center of YAU was established in 2018, funded by FAO and the Global Environment Facility, to coordinate CSA initiatives. The Myanmar Climate Change Alliance, which is funded by the European Union and implemented by UN-Habitat and UN Environment, developed the Climate-Smart Rice Production Manual with IRRI and CCAFS. Lastly, the WorldBank's study on managing El Niño and La Niña in Myanmar's agriculture also referred to MCSAS.

**Links to any communications materials relating to this outcome:**

- <https://hdl.handle.net/10568/69091>
- <https://hdl.handle.net/10568/106513>
- <https://ccaafs.cgiar.org/news/climate-smart-villages-launch-myanmar>

**Part II: CGIAR system level reporting**

**Link to Common Results Reporting Indicator of Policies :** No

**Stage of maturity of change reported:** Stage 2

**Links to the Strategic Results Framework:**

Sub-IDs:

- Conducive agricultural policy environment

Is this OICR linked to some SRF 2022/2030 target?: Yes

SRF 2022/2030 targets:

- Reduce agriculturally related greenhouse gas emissions compared to business-as-usual scenario 2022
- Increase in water and nutrient (inorganic, biological) use efficiency in agro-ecosystems, including through recycling and reuse

Description of activity / study: <Not Defined>

**Geographic scope:**

- National

Country(ies):

- Myanmar

Comments: <Not Defined>

**Key Contributors:**

Contributing CRPs/Platforms:

- CCAFS - Climate Change, Agriculture and Food Security

Contributing Flagships:

- FP2: Climate-Smart Technologies and Practices

Contributing Regional programs: <Not Defined>

Contributing external partners:

- IIRR - International Institute of Rural Reconstruction

**CGIAR innovation(s) or findings that have resulted in this outcome or impact:**

With CCAFS help MOALI developed the CSA strategy of Myanmar in 2016. The document enumerates the possible actions that Myanmar can undertake to upscale CSA.

**Innovations:** <Not Defined>

### **Elaboration of Outcome/Impact Statement:**

MCSAS was developed by MOALI (then MOAI) together with CCAFS, IRRI and Yezin Agriculture University (YAU) after a national consultation meeting on 'CSA Strategies in Myanmar' in 2014(1). Since its launch in September 2015 (more than 10,000 downloads), MCSAS has guided the development of technical, policy and investment conditions to achieve sustainable agricultural development(2).

Departments under MOALI have used MCSAS to guide CSA investment in the country. The Department of Agriculture implemented two national-level CSA project on green water management and nitrogen use efficiency management in line with the Regional Trusts of MCSAS. It is currently implementing a five-year program on land resource evaluation covering the Central Dry Zone of Myanmar(3). The Department of Agriculture Research implemented 13 projects focusing on the MCSAS' adaptation and mitigation priority programs, where one on Climate-Friendly Agribusiness Value Chain having funds of USD 64.92 M from the Asian Development Bank and UN Food and Agriculture Organization (FAO)(3). The Department of Rural Development implemented the "Resilient Communities Development Project" for USD 230 M covering 7,000 villages in 17 selected townships to promote rural livelihood improvement through CSA practices(3). Since 2016, about 19 investment projects on CSA referenced the MCSAS, approximately USD1 B in funding(3). This included the International Institute of Rural Reconstruction's (IIRR) USD500,000 project for full implementation of the CSV program in Myanmar from the International Development Research Center(4,5)

The national plans addressing climate change and food security implemented by MOALI and the Ministry of Environment and Natural Resources and Conservation based on MCSAS include the Myanmar Agriculture Development and Investment Plan(6), Myanmar Climate Change Master Plan(7), Myanmar Climate Change Policy(8); and Myanmar Climate Change Strategy(9).

MCSAS also influenced programs of international and national organizations related to climate change in agriculture. The FAO project on Sustainable Cropland and Forest Management used the MCSAS in preparing CSA handbooks(10) used in Farmer Field School and the undergraduate and post-graduate CSA curriculum at YAU(11). The National Climate-Smart Agriculture Center of YAU was established in 2018, funded by FAO and the Global Environment Facility, to coordinate CSA initiatives (12). The Myanmar Climate Change Alliance, which is funded by the European Union and implemented by UN-Habitat and UN Environment, developed the Climate-Smart Rice Production Manual with IRRI and CCAFS(13). Lastly, the WorldBanks study on managing El Niño and La Niña in Myanmar's agriculture also referred to MCSAS(14).

**References cited:**

- 1 Myanmar's climate-smart agriculture strategy: a roadmap to resilience and sustainability  
<https://ccafs.cgiar.org/research-highlight/myanmar%E2%80%99s-climate-smart-agriculture-strategy-roadmap-resilience-and#.Xkd-J2gzZPb>
- 2 Hom NH, Htwe NM, Hein Y, Than SM, Kywe M, Htut T. 2015. Myanmar Climate-Smart Agriculture Strategy. Ministry of Agriculture and Irrigation (MOAI). Naypyitaw, Myanmar: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), International Rice Research Institute (IRRI).  
<https://hdl.handle.net/10568/69091>
- 3 Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).  
<https://hdl.handle.net/10568/106513>
- 4 IDRC approval letter for CSV project implementation  
[https://www.dropbox.com/s/v72hzrro5ms9jqd/IDRC\\_Myanmar%20CSV%20Letter%20of%20Approval.pdf?dl=0](https://www.dropbox.com/s/v72hzrro5ms9jqd/IDRC_Myanmar%20CSV%20Letter%20of%20Approval.pdf?dl=0)
- 5 Climate-Smart Villages launch in Myanmar  
<https://ccafs.cgiar.org/news/climate-smart-villages-launch-myanmar>
- 6 MOALI. (2018). Myanmar Agriculture Development and Investment Plan (2018-2022). NayPyiTaw, Myanmar: Ministry of Agriculture, Livestock and Irrigation.  
[https://www.lift-fund.org/sites/lift-fund.org/files/publication/MOALI\\_ADS\\_June2018\\_compressed\\_EN.pdf](https://www.lift-fund.org/sites/lift-fund.org/files/publication/MOALI_ADS_June2018_compressed_EN.pdf)
- 7 MONREC. (2018a). Myanmar Climate Change Master Plan (2018-2030). NayPyiTaw: Republic of the Union of Myanmar, Ministry of Natural Resources and Environmental Conservation.  
[https://myanmarccalliance.org/mcca/wp-content/uploads/2015/12/MCCMP\\_ENG\\_READY-TO-PRINT\\_27-May-2019.pdf](https://myanmarccalliance.org/mcca/wp-content/uploads/2015/12/MCCMP_ENG_READY-TO-PRINT_27-May-2019.pdf)
- 8 MONREC. (2018b). Myanmar Climate Change Policy. NayPyiTaw: Republic of Union of Myanmar, Ministry of Natural Resources and Environmental Conservation.  
[http://unhabitat.org.mm/wp-content/uploads/2019/06/MCCP\\_2019.pdf](http://unhabitat.org.mm/wp-content/uploads/2019/06/MCCP_2019.pdf)
- 9 MONREC. (2018c). Myanmar Climate Change Strategy (2018-2030). NayPyiTaw: Republic of the Union of Myanmar, Ministry of Natural Resources and Environmental Conservation.  
[https://myanmarccalliance.org/mcca/wp-content/uploads/2015/12/MCCS\\_ENG\\_UNH-Website.pdf](https://myanmarccalliance.org/mcca/wp-content/uploads/2015/12/MCCS_ENG_UNH-Website.pdf)
- 10 FAO. 2019. Handbook on Climate Smart Agriculture in Myanmar. Nay Pyi Taw.  
<http://www.fao.org/3/ca3662en/ca3662en.pdf>
- 11 FAO. 2019. Climate Smart Agriculture Curriculum/Module for B. Agr. Sc. and M. Agr. Sc Degree Programme at Yezin Agricultural University in Myanmar. Yangon.  
<http://www.fao.org/3/ca3676en/ca3676en.pdf>
- 12 Launching of National Climate Smart Agriculture Center <https://www.yau.edu.mm/climate-smart/>
- 13 Labios, R.V. and Wassmann R.2018. Climate-smart Rice Production Manual: Myanmar Context. Los Baños (Philippines), International Rice Research Institute. 171p.  
[https://drive.google.com/file/d/1YK2uzZKbg5foRdPFWKbHlgO\\_cqmdhm2x/view](https://drive.google.com/file/d/1YK2uzZKbg5foRdPFWKbHlgO_cqmdhm2x/view)
- 14 William R. Sutton, Jitendra P. Srivastava, Mark Rosegrant, James Thurlow, and Ioannis Vasileiou. 2019. Striking a Balance: Managing El Niño and La Niña in Myanmar's Agriculture. RepNo 132066. World Bank, Washington, DC.  
<https://openknowledge.worldbank.org/bitstream/handle/10986/31523/Striking-a-Balance-Managing-El-Ni%C3%B1o-and-La-Ni%C3%B1a-in-Myanmar-s-Agriculture.pdf?sequence=1&isAllowed=y>

**Quantification:**

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IIRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cesvi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IIRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cesi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IIRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IIRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cesci, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Type of quantification:** b) Extrapolated estimates

**Number:** 1000000000.00

**Unit:** USD

**Comments:** The list of Climate Change and Agriculture projects that have referenced the Myanmar Climate-Smart Agriculture Strategy: 1. Climate Friendly Agriculture (2015-2016, DOA) 2. Green Water Management (2016-2018, DOA) 3. Nitrogen Use Efficiency Management (2017-2018, DOA) 4. Land Resource Evaluation for productive and Resilient Landscape in Central Dry Zone of Myanmar (2016-2020, DOA) 5. Climate friendly agribusiness value change (2019-2026, DAR) 6. Climate resilience variety with market preferences traits (2019-2022, DAR) 7. Development of short duration & BB resistant rice variety (2016-2021, DAR) 8. Development of submergence tolerant BB resistant rice varieties (2016-2021, DAR) 9. MAS in rice for salt & submergence tolerant & BB resistant Line (2015-2021, DAR) 10. MAS in tomato for TYLCV tomato Yellow leaf Curve Virus resistance line (2017-2020, DAR) 11. Development of drought tolerant groundnut variety (2018-2022, DAR) 12. Development of green gram for yellow mosaic resistance (2018-2021, DAR) 13. Implementation of comprehensive vulnerability assessment in Labutta, Pakokku and Hakha Townships and implementation of local adaptation plans (MCCA) 14. Master Plan for Climate Smart Agriculture, Livestock and Fisheries, through development of training module for ToT (MCCA, IIRRI) 15. Sustainable cropland and forest management in priority agro-ecosystems of Myanmar (SLM-GEF) (2016-2020, FAO) 16. Scaling Out Community-based Adaptation (CBA) via Climate Smart and Nutrition Villages as Platforms to Address Food Insecurity in Myanmar (2018-2020, IIRR) 17. Applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in SE Asia (2019-2022, IIRR) 18. Addressing Climate Changes Risk on Water Resources and Food Security in the Dry Zone of Myanmar (2015-2019, Cevi, UNDP Myanmar, Adaptation Fund) 19. Rural Livelihoods and Climate Change Adaptation project (2014-2017, HIMILICA, MIID) Reference: Htwe NM, The NEM, Naing NNZ, Hein Y. 2019. Documenting the application of the Myanmar Climate-Smart Agriculture Strategy. CCAFS Working Paper No. 292. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/106513>

**Gender, Youth, Capacity Development and Climate Change:**

**Gender relevance:** 0 - Not Targeted

**Youth relevance:** 0 - Not Targeted

**CapDev relevance:** 0 - Not Targeted

**Climate Change relevance:** 2 - Principal

Describe main achievements with specific **Climate Change** relevance: It provides a strategy to upscale CSA to cope with climate change.

**Other cross-cutting dimensions:** No

**Other cross-cutting dimensions description:** <Not Defined>

**Outcome Impact Case Report link:** [Study #611](#)

**Contact person:**

Leo Sebastian  
Regional Program Leader  
CCAFS Southeast Asia  
l.sebastian@irri.org