

Climate Smart Agriculture to Mitigate Climate Change

In the past few years, climate change was being dealt with as a secondary problem expected to initiate after 100 years and always described as the problem of the next generations. Therefore, this issue has been held in the decision makers' drawers for so long, prioritizing more revenue making industries. But now this issue must be out on the frontline of our priorities, since we've already crossed the threshold. Many sectors are being affected by climate change and some activities are implemented to conquer it, but these activities are considered timid and don't solve the problem from the core. The most affected sector is the agriculture sector where it depends by all means on the climate and on its contribution to the soil, crop yield, harvesting season, and water resources scarcity.

Climate change is the biggest obstacle facing the agricultural sector in the meantime. Millions of farmers are affected worldwide due to loss of water resources, loss and deprivation of farming land, shift of rain seasons, and huge alteration in temperatures affecting the crop growth pattern. And it's important to keep in mind that the agricultural sector is one of the biggest contributors to climate change.



Due to the devastation of forest land in the favor of agricultural land, the excessive farming releasing huge amounts of methane into the atmosphere, various pesticides and chemicals thrown into the environment, and excessive use of machinery responsible for carbon dioxide emissions in the atmosphere. Thus, it's a dynamic and interrelated relation, where better agricultural practices will lead to better crop yield and less contribution to climate change. Climate change is expected to hit developing countries the hardest. Its effects include higher temperatures, changes in precipitation patterns, rising sea levels and more frequent extreme weather events. Climate change is expected to hit and affect third world countries the hardest. The effects are expected to be an increase in temperature, changes in precipitation patterns, rising sea levels and more frequent extreme weather events. The agricultural sectors in developing countries absorb around 22 percent of the economic impact caused by medium-/large-scale natural hazards and disasters. The agricultural sector can be better equipped to face these threats in the future by implementing “Climate Smart Agriculture” approaches.

Climate-smart agriculture (CSA) is an approach that helps to guide and shift actions of farmers and people working in the agriculture sector needed to transform and reorient agricultural systems to effectively support sustainable development and ensure food security in regards to a changing climate. Climate-smart agriculture seeks to increase sustainable productivity, strengthen farmers' resilience, reduce greenhouse gas emissions and increase carbon sequestration. It strengthens food security and delivers environmental benefits. These practices must be implemented on both technical and innovative practices.



CSA includes proven practical techniques — such as mulching, intercropping, conservation agriculture, crop rotation, integrated crop-livestock management, agroforestry, improved grazing, and improved water management — and innovative practices such as better weather forecasting, more resilient food crops and risk insurance. It aims to tackle 3 main pillars; sustainably increasing agricultural productivity and incomes; adapting and building resilience to [climate change](#);_and reducing and/or removing greenhouse gas emissions, where possible.

CSA contributes at the economic, social, and environmental levels. It has the potential to increase productivity and resilience of crops, while reducing the vulnerability of hundreds of millions of smallholder farmers at the same time. CSA can benefit smallholder farmers directly by increasing efficiency of precious inputs such as labor, seeds and fertilizers, increasing food security, and opportunities for income generation. And it can benefit the environment by protecting ecosystems and landscapes, CSA helps protect natural resources for future generations. Climate Smart Agriculture will contribute to the environment and lead to more sustainable resources and will cut down emissions and pollution leading to global warming. The main problem started from unorganized and reckless agricultural practices, so we must get back to this point and change our contribution to agriculture and have a systematic vision towards the future. Key factors of CSA are population, climate change, energy and sustainability. They are probably the most important challenges to food and nutrition security, access to climate-smart solutions, climate change policy and practice, index-based weather insurance, drought resilient seeds and crops, and adoption of climate-smart solutions.

