



# Supporting Child-Wellbeing through Climate Smart Agriculture: World Vision's Approach

*'Climate change is affecting the agricultural productivity that is declining too much in our community. We see more insect pest infestation on grains and cereals. Another problem is the long drought and then the very high wind storms at the onset of the rainy season. When the annual flooding starts, it destroys our houses and livelihood.'*

—Child participant, World Vision focus group discussion in Ghana

## The issue

**While climate change affects everyone, it's the vulnerable communities — especially children and women — that are taking the hardest hit.** The effects of a changing climate include increasing temperatures, changes in precipitation patterns, rising sea levels, ocean acidification, shifting agroecosystem boundaries, invasive crops and pest outbreaks, and more frequent extreme weather events. All of these pose risks for agriculture production and food and water supplies.<sup>1</sup> Climate change has also been reducing crop yields, affecting the nutritional quality of major cereals, lowering livestock productivity, and exacerbating land degradation processes.<sup>2</sup>

**We are also in the midst of an unprecedented global hunger crisis.** According to the UN Food and Agriculture Organization (FAO), as many as 828 million people were affected by hunger in 2021, while an estimated 45 million children under the age of 5 were suffering from wasting.<sup>3</sup> The food security challenge will only become more difficult, as the world will need to produce about 70 per cent more food by 2050 to feed an estimated 9 billion people.<sup>4</sup>

**Agriculture is part of the problem.** The Agriculture, Forestry and Other Land Use (AFOLU) sector accounted for 13–21 per cent of global greenhouse gas emissions<sup>5</sup> — largely due to land-clearing and methane emissions arising from intensive livestock production. Moreover, one-third of the food produced globally is either lost or wasted.<sup>6</sup> Addressing food loss and waste is therefore critical to helping meet climate goals and reduce stress on the environment.

<sup>1</sup> FAO (2023), 'Climate-Smart Agriculture', <https://www.fao.org/climate-smart-agriculture/overview/en/>.

<sup>2</sup> The Intergovernmental Panel on Climate Change (IPCC) (2019), *Special Report on Climate Change and Land, Summary for Policymakers — Special Report on Climate Change and Land (ipcc.ch)*.

<sup>3</sup> FAO, IFAD, UNICEF, WFP and WHO (2022), *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*, <https://www.fao.org/documents/card/en/c/cc0639en>.

<sup>4</sup> World Bank (2019), 'Climate-smart agriculture', <https://www.worldbank.org/en/topic/climate-smart-agriculture>.

<sup>5</sup> IPCC (2021), *Sixth Assessment Report*, <https://www.ipcc.ch/assessment-report/ar6/>.

<sup>6</sup> World Food Programme (2020), '5 facts about food waste and hunger',

[https://www.wfp.org/stories/5-facts-about-food-waste-and-hunger#:~:text=Here's%20what%20you%20need%20to.worth%20approximately%20US\\$241%20trillion](https://www.wfp.org/stories/5-facts-about-food-waste-and-hunger#:~:text=Here's%20what%20you%20need%20to.worth%20approximately%20US$241%20trillion).

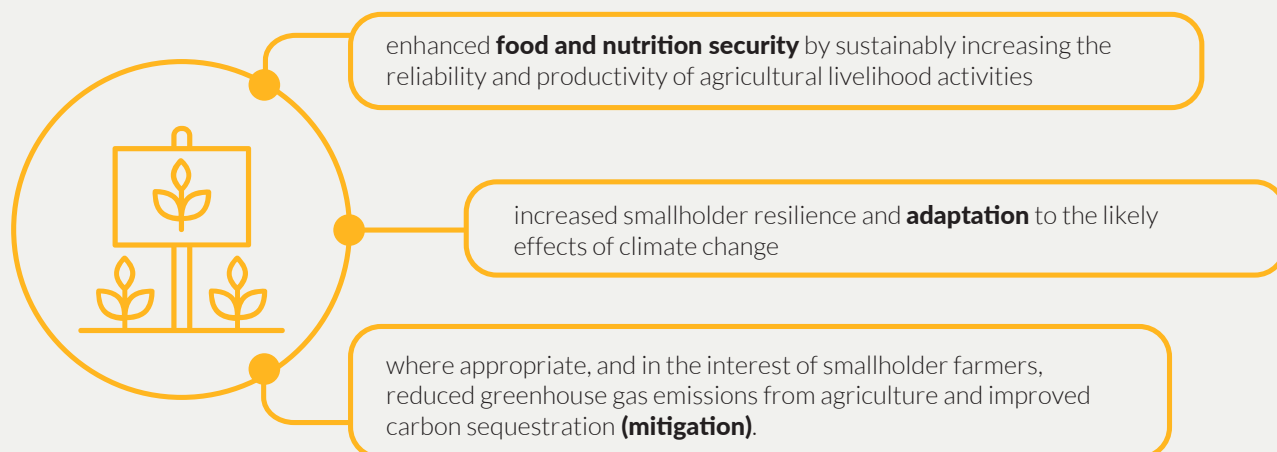
## The solution: Embedding climate-smart agriculture within agrifood systems practice

Sustainable agriculture can be part of the solution. It can be harnessed to minimise and even soak up emissions and mitigate climate change through activities such as utilising biochar and soil carbon, reducing tillage, rotating with legumes, improving fertiliser placement, adopting organic fertilisers, and supporting greening initiatives and tree growth. Sustainable agriculture can also build resilience by helping smallholder farmers and vulnerable communities adapt to the impact of climate change and be better prepared for future shocks.

Climate-smart agriculture (CSA) is an approach that helps guide the transformation of agrifood systems

towards green and climate-resilient practices, thus contributing to children's overall well-being. It is a sustainable orientation to agricultural production that enhances the productivity of agricultural systems while also responding to and reducing the impact of climate change, modifying the systems in ways that are best suited to the local context. This approach also strengthens food and nutrition security for a growing global population – especially the needs of the most vulnerable groups – through collaborative, systems-based solutions that influence climate-change drivers and land-use considerations among others. CSA relates to activities both on-farm and beyond the farm, and it incorporates a combination of technologies, policies, institutions, the private sector, markets, and investment.<sup>7</sup> For World Vision, CSA is a key component of our community-based project models, including [Market Systems Development](#) and [Building Secure Livelihoods](#).

### CSA OFFERS:<sup>8</sup>



World Vision actively links issues of poverty, inequality, food insecurity and malnutrition affecting children with the climate crisis and increasingly focuses on integrating climate action across all of our programmes. We acknowledge that CSA is an approach that requires contextualised practices and actions, with strong attention to the role of gender equality and social inclusion in shaping division of labour, access and decision-making, among others. As the FAO notes in their report on the status of women in agrifood systems, climate stressors are often felt more deeply among women due to the systemic disadvantages that women experience within the agricultural sector.<sup>9</sup> Aspects of social inclusion run parallel to this insight, as age, class and disability status also serve as determinants of differential climate impacts, particularly in poor, rural communities.

Effective efforts to scale CSA must therefore address the significant gaps in women's inclusion, representation and access, as well as in the distribution of labour norms<sup>10</sup> that impede sustainable use of resources supporting climate change adaptation.

While there is still a risk for CSA to remain a top-down, externally-driven technological fix, our experience is that successful CSA must be locally led and integrated within a holistic development approach. This community development process allows us to candidly discuss the trade-offs in adopting CSA options with the community and facilitate testing these options. Identifying contextualised components and practices – based on local climate threats, needs, resources, skills, preferences and public policies – is therefore a critical first step in the design and implementation of CSA.

<sup>7</sup> FAO (2023), 'Climate-Smart Agriculture', <https://www.fao.org/climate-smart-agriculture/overview/en/>.

<sup>8</sup> Ibid.

<sup>9</sup> FAO (2023), *The status of women in agrifood systems*, <https://www.fao.org/documents/card/en?details=cc5343en>.

<sup>10</sup> AICCRA (2023), 'Gender and social inclusion', <https://aiccra.cgiar.org/components/gender-and-social-inclusion>.



**Between 2021-22, 3.3 million farmers across 33 countries received CSA training provided by World Vision. Key outcomes of CSA interventions in World Vision programmes include:**

- Agroforestry and tree-on-farms are in place which prevent erosion, increase infiltration, build adaptation to climate change, and contribute to livelihood income.
- By-laws and community-based structures are established to prevent fire and deforestation.
- Community members established 'eco-friendly villages' through a community-led model for CSA innovation and uptake.
- Raising productivity of nutrient-dense crops has led to improved nutrition, dietary diversity and access to food for smallholder farmers and their children.
- Trained farmers are applying climate-smart agricultural practices that boost water efficiency, including utilising solar pumps, drip irrigation and mulching.
- Composts, biochar and organic amendments are used to improve soil fertility and soil health while also improving soil carbon.



- Permaculture sites are established to support household-level water management and household gardens or small-scale plantations.
- Coastal ecosystems, denuded landscapes and community-based watershed management are being restored to sustain natural resources and biodiversity for livelihoods and to enhance climate adaptation. This restoration is done using practices such as water harvesting, the [Regreening Communities approach](#), [Farmer-Managed Natural Regeneration \(FMNR\)](#) and agroforestry.

## Shaping the global evidence for CSA

**MALI:** Many communities in the Sahel region of West Africa are afflicted with chronic and increasing poverty arising from a variety of linked challenges, the most central challenge being low and unreliable production of food crops and livestock in communities with agriculture-based economies. In the absence of adequate and resilient farming output, other problems commonly cascade through communities: widespread food insecurity, decreased family income, fewer children in school and more children working, decreased safety for women and children, increased prevalence of malnutrition (both chronic and acute), increased incidence of disease, limited access to health care, and communities suffering repeated disasters such as famine. Improving the resilience of smallholder farmers to climate shocks and stresses is essential to ending hunger and poverty. In this context, World Vision – in partnership with the government of Mali

– implemented the 'Eco-Agriculture' project in the Diema and Kolokani districts of Mali from 2013 to 2018.

The project focused on restoring land, improving water availability and crop yields, and enhancing accessibility to agricultural markets, with the goal of helping farmers improve household food and nutrition security so that they can move out of poverty. The project had two phases. Phase I (2013–2015) promoted FMNR and other CSA practices, including conservation agriculture. Phase 2 (2016–2018) added [Savings Groups](#) and Local Value Chain Development interventions to strengthen financial resilience and increase income through enhanced access to markets. This project is an example of how strong collaboration between World Vision and the local government, coupled with innovative and evidence-based interventions, can build resilience, restore livelihoods and improve child health in a sustainable manner.



## **KENYA, BANGLADESH, ZIMBABWE AND**

**INDONESIA:** Through funding from the Foundation for Food and Agriculture and the Syngenta Foundation for Sustainable Agriculture, World Vision is conducting a multi-country programme and policy study to inform scale-up of CSA practice. The project, implemented in partnership with the Overseas Development Institute and the University of Sussex's Institute of Development Studies, will establish a new baseline to understand what farmers are doing and can do (considering access to suppliers and regulatory enablers) and examine how this varies across groups of small-scale farmers depending on characteristics such as poverty, gender, and social inclusion. This is complemented by an assessment of stakeholders affecting incentives and the enabling environment for CSA uptake in global/national agricultural value chains, highlighting the policy and regulatory environment, social movements and civil society, and private sector actors.

Project outputs include a comparative analysis of trends in climate financing and CSA in global and national food value chains as well as country-specific case study reports (referencing key informant interviews with a range of stakeholders and focus group discussions with farmers and other stakeholders). These reports will offer lessons on the multi-stakeholder incentive environment, informing future programming and policy priorities in Kenya, Bangladesh and Indonesia.

**BANGLADESH:** World Vision has been a forerunner in integrating climate actions under its 'eco-friendly villages' initiative. An eco-friendly village strives to reduce negative impact on the natural environment through resident behaviour choices. The programme focuses on sensitising communities about the negative effects of environmental degradation. To strengthen the community's climate resilience, World Vision implemented training on natural resources management and non-farm production, supported value chain development, and established environment-friendly production systems.

In Kisoreganj, World Vision Bangladesh piloted eco-friendly village activities in four villages in 2020. One such activity the village development committees are replicating is vermicomposting production. In 2021, World Vision Bangladesh initiated a total of 177 eco-friendly villages to build more socially, culturally, economically and/or ecologically sustainable communities where children can thrive. The villages do this through tree plantation, biofortified crops, Bondhu Chula (Friendly Stove), compost and biopesticides usage, hygienic latrines, climate adaptive technologies, floating gardens in coastal bed districts, hydroponic fodder cultivation, solar power use, and permaculture.



## Contributions to the Sustainable Development Goals (SDGs)



CSA supports reaching internationally agreed goals such as the SDGs and the Paris Agreement. This includes:

- **Zero Hunger:** ensuring sustainable food production systems and implementing resilient agricultural practices that increase productivity and production; help maintain ecosystems; strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters; and progressively improve land
- **Climate Action:** taking action to combat climate change and its devastating impacts to save lives and livelihood
- **Life on Land:** combatting desertification, restoring degraded land and soil (including land affected by desertification, drought and floods), and striving to achieve a land degradation-neutral world

Learn more about World Vision's [Environmental Sustainability and Climate Action](#) and [Livelihoods](#) programming.



World Vision is a Christian relief, development, and advocacy organisation dedicated to working with children, families, and communities to reach their full potential by tackling the root causes of poverty and injustice. Inspired by our Christian values, we are dedicated to working with the world's most vulnerable people. We serve all people regardless of religion, race, ethnicity or gender.