

# Climate Action Factsheet

## Understanding the Climate Action in Agriculture

Agriculture is both a source and sink of greenhouse gas (GHG) emissions, contributing to climate change while also having the potential to mitigate its impacts. Where on the one hand, agricultural activities, such as the use of synthetic fertilizers, livestock production, and land-use change, are responsible for a significant proportion of global GHG emissions, on the other hand, sustainable agricultural practices can help to sequester carbon in soil, reducing the amount of GHGs in the atmosphere.

Climate action in agriculture involves (a) climate mitigation both by reducing emissions and increasing carbon sequestration (b) involves adapting to the impacts of climate change, using weather advisory, adopting efficient irrigation and selecting draught tolerant crop/seed varieties and (c) involves building resilience in agriculture to reduce its vulnerability to climate change impacts. This involves building support systems around agriculture like by enhancing diversity – in crops, ecosystems and ecosystem services, through insurance, and by sustainable landscape and land use planning.

Cotton production is highly dependent on synthetic fertilizers and pesticides, which contribute to greenhouse gas (GHG) emissions through their production, transport, and use. Additionally, cotton cultivation often involves intensive irrigation practices, which can lead to water depletion and contribute to soil degradation, and erosion, reducing soil organic matter and carbon sequestration potential. Cotton done as monoculture can lead to the loss of biodiversity, which can impact ecosystem resilience and limit the potential for ecosystem services such as pollination and nutrient cycling.

**Regenerative Agriculture for Climate Action:** Regenerative agriculture has the potential to address multiple challenges associated with climate change and applying desired wholistic climate action strategy. Here are some of the ways regenerative agriculture can contribute to climate action:

### Climate Mitigation

**Mitigation of GHG emissions:** Regenerative agriculture practices such as reduced tillage, cover cropping, and agroforestry can reduce GHG emissions by minimizing soil disturbance and promoting carbon sequestration. Additionally, practices such as rotational grazing and reducing the use of synthetic fertilizers and pesticides can reduce emissions from livestock production.

**Carbon sequestration:** Regenerative agriculture practices that increase soil organic matter can sequester carbon in the soil, reducing the amount of GHGs in the atmosphere. Practices such as cover cropping, crop rotation, and reduced tillage can increase soil organic matter and promote carbon sequestration.

Research suggests improvement in soil organic matter under organic and regenerative methods can greatly increase soil carbon sequestration capacity from 1.76 to 2.46 metric tons CO<sub>2</sub>e per hectare per year.<sup>1</sup>

### Climate Adaptation

**Efficient Irrigation:** Under regenerative agriculture farmers are encouraged to adopt rainwater harvesting and drip irrigation practices, for efficient irrigation of crops.

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<sup>1</sup> Global Climate Action. "Identifying Low Carbon Sources of Cotton and Polyester Fibers [https://unfccc.int/sites/default/files/resource/UCC\\_Cotton\\_Pet\\_report.pdf](https://unfccc.int/sites/default/files/resource/UCC_Cotton_Pet_report.pdf)

**Cover cropping reducing evaporation loss:** Planting cover crops during fallow periods or between cash crops can help to improve soil health and reduce water loss through evaporation. Cover crops can also help to reduce soil erosion and improve water infiltration.

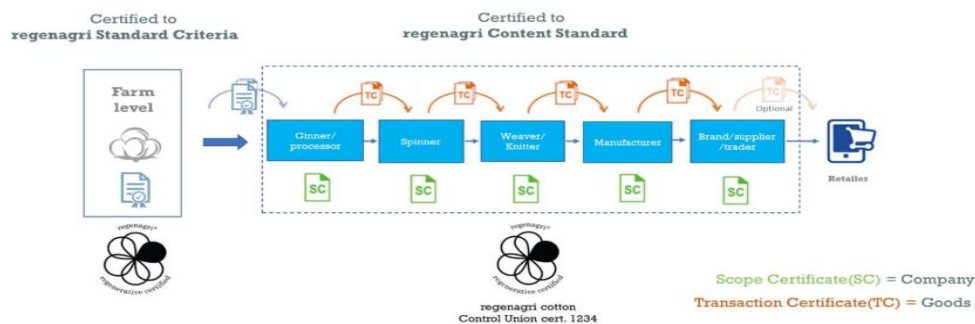
**Building Resilience**

**Water conservation:** Regenerative agriculture practices that improve soil health can also increase the water holding capacity of soil, reducing the need for irrigation and enhancing resilience to drought.

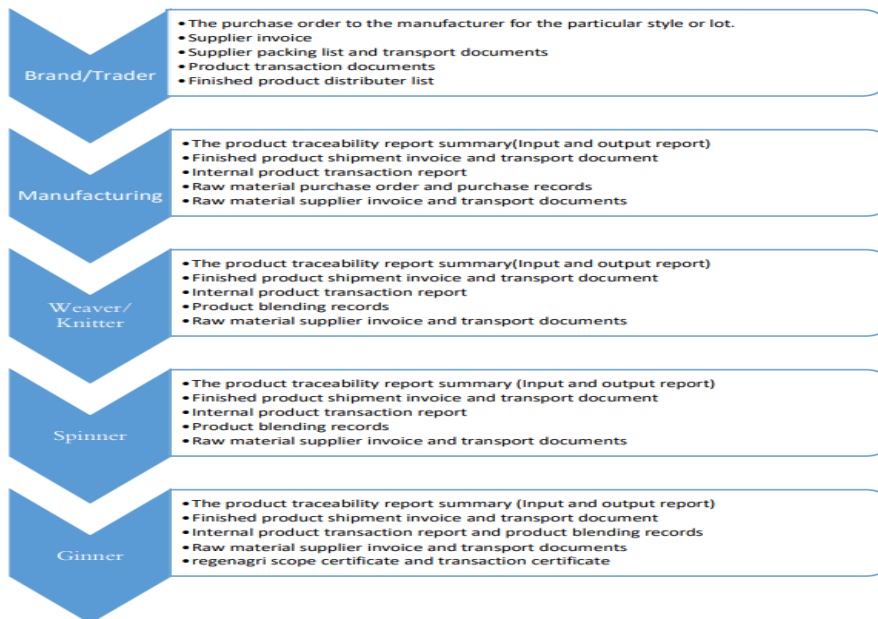
**Biodiversity and ecosystem services:** Regenerative agriculture practices can enhance biodiversity and ecosystem services, such as pollination and nutrient cycling, which can contribute to climate resilience.

**RegenAgri Certification:** RegenAgri certification standard works around the key principles and practices of regenerative agriculture, including on Carbon and climate action aspects. It requires that farmers implement practices such as cover cropping, crop rotation, reduced tillage, rainwater harvesting and efficient irrigation, conserving natural habitat (eg. Wetland, riparian buffer). For the Carbon Standard the interested project developers can choose any scientific GHG accounting methodology, that suits them, and once registered the regenagri online platform is capable to provide analysis of GHG footprint of the farm. Depending on the risk group involved and identified in assessment process, eg. farmers who would have substantially invested, can get some money back in the form of credits (upto 40%) traded and encashed. The farmers are advised to maintain proper documentation and visual proofs of recommended best practices, to be shown during audit visits. They are regularly trained and made aware of these and multiple elements reinforcing the resilience of their farms and agriculture systems.

The regenagri standard criteria are monitored at the farm level to issue the certificate which can be them complimented with traceability verification under regenagri content standard at goods level (transection certificate) and at company level (scope certificate)



Certification Process



### Traceability Flow Process

This factsheet has been created in respect of a joint program on regenerative cotton initiated by CRB and Solidaridad. This factsheet is aimed to communicate science behind regenerative agriculture, as well as approach under certification in reference to 'regenagri cotton' program.