# Water Sustainability Factsheet

## Understanding Water Sustainability in Agriculture

Water sustainability in agriculture refers to the responsible and efficient management of water resources used in agricultural production systems, while considering the ecological, social, and economic implications. From a scientific perspective, water sustainability in agriculture involves the management of both blue water and green water resources.

Cotton, often known as a thirsty crop, is done under intensive tilling, high input doses, intensive irrigation which leads to, soil compactness impacting water infiltration, higher runoff and pollution of surrounding water bodies, putting a question mark to the sustainability of such a farming system.

Blue water refers to surface and groundwater resources that are withdrawn and used for irrigation and other agricultural activities. In many regions, blue water is a limited resource, and overuse or inefficient use of blue water resources can lead to water scarcity, drought, and other negative impacts on ecosystems and human societies. Green water, on the other hand, refers to the water that is naturally available in the soil and used by crops for transpiration and evapotranspiration. Sustainable water management practices in agriculture aim to maximize the use of green water resources through varied sustainable practices.

**Existing Agriculture is Detrimental for Water sustainability:** Agriculture accounts for approximately 70% of global freshwater withdrawals, and with the increasing demand for food due to population growth and changing diets, this pressure is only expect. Many irrigation systems are criticized for being inefficient, wasting large amounts of water due to leaks, evaporation, and other factors. Poor land management practices such as overgrazing and excessive tillage can lead to soil erosion and sedimentation in waterways, reducing water quality and causing damage to aquatic ecosystems. Practices that lead to soil compactness result into loss of water infiltration opportunity. This can lead to increased surface runoff, soil erosion, and reduced water availability for plants. Unsustainable agricultural activities can lead to water pollution through the use of synthetic fertilizers, pesticides, and herbicides, which can leach into groundwater and surface water, contaminating drinking water sources and

**Understanding Regenerative Agriculture for Water Sustainability**: Water sustainability is a key component of regenerative agriculture, which focuses on restoring and improving the health of soil, biodiversity, and ecosystems. Regenerative agriculture practices aim to optimize water use efficiency and reduce water losses, while also improving the quality and availability of water resources.

**Reduced tillage improving porosity:** Reducing the frequency and intensity of tillage can help to improve soil structure and increase water infiltration. Reduced tillage can also help to reduce soil erosion and improve soil health.

**Conservation tillage improving Water Holding:** This practice involves minimizing soil disturbance during planting and tillage operations, which helps to reduce water runoff and soil erosion. Conservation tillage practices can also help to increase soil organic matter, which improves the water-holding capacity of soil.

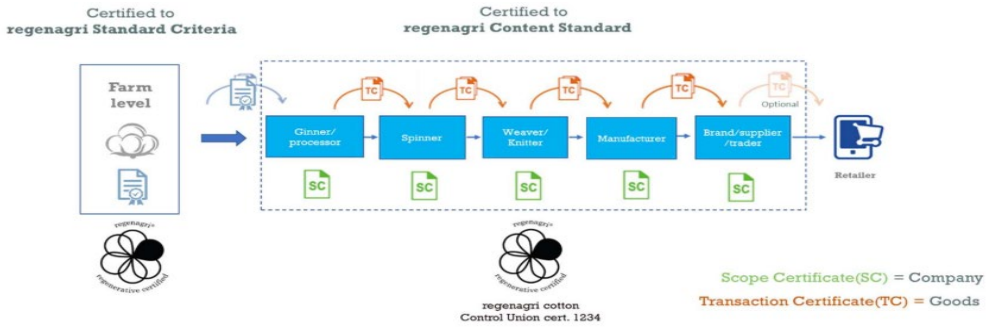
**Cover cropping reducing evaporation loss:** Planting cover crops during fallow periods or between cash crops can help to improve soil health and reduce water loss through evaporation. Cover crops can also help to reduce soil erosion and improve water infiltration.

**Crop rotation reducing need of pesticides:** Alternating different crops in a field can help to reduce soil erosion, improve soil health, and increase water use efficiency. Crop rotation can also help to break disease and pest cycles, reducing the need for synthetic inputs that can contaminate water resources.

**Natural fertilizers and reducing water pollution potential**: Using natural fertilizers and soil amendments, such as compost, manure, and green manure, can help to improve soil health and reduce the need for synthetic fertilizers that can contribute to water pollution.
**Agroforestry:** Combining trees with crops or livestock can help to improve soil health, increase water use efficiency, and reduce water loss through evaporation. Trees can also help to stabilize soil, reduce soil erosion, and improve water quality.
***Wetland restoration and conservation:*** Protecting and restoring wetlands and other natural water storage systems can help to improve water availability and quality, reduce the risk of flooding and erosion, and promote the growth of aquatic biodiversity.

**RegenAgri Certification**: RegenAgri certification standard works around the key principles and practices of regenerative agriculture, including on water sustainability. It requires that farmers implement practices such as cover cropping, crop rotation, reduced tillage, but also rainwater harvesting, conserving natural habitat (eg. Wetland, riparian buffer), efficient irrigation, waste management to avoid pollution of water bodies. 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 reenforcing 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.