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The "Building Capacity in the Apparel Sector on Reducing and Managing the Water Footprint" project

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Summary

Improving environmental performance in the apparel supply chain is critical for the long-term viability of the sector as well as the sustainability of ecosystems and communities. Water is a key natural resource for the apparel sector: the production of cotton and other fibers is dependent upon water resources but also impacts water quality through the use of fertilizers, pesticides and tillage practices; washing, dyeing, finishing (WDF) of fabrics and other textiles uses water and releases effluents that contain residual chemicals used in the processes. The Water Footprint Network has a strategic partnership with the clothing retailer C&A calculating the water footprint of its supply chain, assessing its sustainability and formulating responses to improve its sustainability. In the project: "Building Capacity in the Apparel Sector on Reducing and Managing the Water Footprint" data was collected from 702 cotton farms from 3 states in India using three agricultural practices: conventional, REEL and organic. The green, blue and grey water footprint was calculated and analysed against the practice types to identify where significant water footprint savings can be realized. A guidance document on agricultural practices relative to the water footprint and training materials for farmers are developed for dissemination.

Keywords

Water footprint, agricultural practices, cotton farming, resource efficiency

Issues addressed

Water resources management (water-use efficiency, integrated water resources management, transboundary cooperation, sustainable extraction and supply of freshwater)

The study focused on water use efficiency with regard to a range of agricultural practices used in India. Using the water footprint as an indicator of water use allowed an assessment of specific agricultural

practices relative to the quantity of green and blue water consumed and the yield of cotton thereby identifying the practices with the lowest water footprint, i.e., the highest water use efficiency.

Water quality (pollution, dumping of toxic materials, wastewater management, recycling, reuse, restore ecosystems and aquifers)

The grey water footprint was calculated for the range of chemicals and nutrients used in cotton farming. The grey water footprint is an indicator of the load of pollution entering freshwater from each farm based on the resulting impacts on water quality. By calculating the grey water footprint for each pesticide and fertilizer used, it was possible to rank agricultural practices from highest polluting to lowest polluting; this information can be used to select agro-chemicals and fertilizer applications which will result in lower pollution levels in the receiving bodies.

Tools for implementation

Capacity Development: The goal of this study is to develop capacity within the cotton supply chain of C&A to reduce and manage its water footprint. This will include providing guidance and training materials which will be used by local service providers who engage directly with the farmers to build farmers' awareness of their water footprint and how they can manage it to reduce their environmental impact.

Who is involved? Water Footprint Network, C&A, CottonConnect, farmers.

What were the objectives? To improve the farmers' capacity to contribute to improving the sustainability of cotton production, specifically for C&A's supply chain.

Implementation challenges: Collection of accurate and comparable data to enable the detailed analysis required to provide relevant guidance and training materials.

Main task/activities undertaken /Tools used: Data collection by CottonConnect, transfer to Water Footprint Network, modeling and analysis by Water Footprint Network, expert input guidance materials, development of training materials and capacity building in trainers to deliver these materials.

Main outcomes / impacts (what has changed?): A quantified understanding of the impacts of specific agricultural practices including an assessment of the trade-offs between environmental and economic considerations, e.g., the changes in yield due to changing practices.

Lessons learned

Triggers: Recognition of the importance of a sustainable supply chain in long-term business viability.

Drivers: Water scarcity, water pollution, regulations, consumer demands, business ethics.

Barriers: Globally disbursed supply chain with many individual actors.

What has worked well?: On the ground capacity in CottonConnect, an enterprise founded to work specifically in the cotton supply chain in South Asia.

What can be improved?: More resources to support the farmer capacity building/training and education.

The way forward: Dissemination of guidance document and training with the intended result of continued improved performance by farmers.

Links: www.waterfootprint.org