Global Program on “Sustainability and Value Added in Agricultural Supply Chains | Cotton, tea and spices”
Global Programme
Sustainability and Value Added in Agricultural Supply Chains I Cotton

Duration: 04/2019 – 03/2025
Implementation: India
Value Chain: Cotton

Goal
Increasing sustainable cotton production and strengthening of domestic supply chains for processing sustainable cotton.

Target Group
Cotton Producer, Small and Marginal Farmers

Targeted impacts
a. Outreach: 218,000 small-scale farmers on sustainable cotton production that aligns with global sustainability standards.

b. Measuring training impact: 163,465 farmers individuals, 30% of whom are women and 25% are young adults, have enhanced their skills by participating in trainings and capacity building programmes.

c. Out of them, 58,293 individuals, 31% of whom are young adults and 8% are women, have seen an improvement in their employment situation.

d. Cotton Doctor App: Information services pertaining to management of disease, pests, irrigation and nutrients management, rain and weather alerts, etc were disseminated to the farmers.

Country* Political Partner
India Ministry Of Textiles, Government of India

Country* Others Project partners
India Welspun India Private Limited

Country* Sustainability Standards
India Better Cotton Initiative, Fairtrade standards, Organic standard and BioRe

Geographical Outreach

* This refers to the headquarter of the partner organization.

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Implementation agreement between MoT and GIZ (October 7th, 2021)

Project indicators:

- Implement social, environmental and economic sustainability criteria primary cotton production in 90,000 ha
- 150,000 participating cotton producers in selected regions of which 60% increased their yield per hectare of sustainable cotton by 10%
- Introduction of innovations to increase local value addition
- Capacity building of 150,000 persons for value-enhancing activities
- Commitment by lead firms in the global cotton supply chain for the promotion of sustainable cotton
- Facilitate cross-country exchange of good governance and best practice examples in cotton production and processing

Initiated by the German Federal Ministry for Economic Cooperation and Development (BMZ) under the special Initiative of “One World, No Hunger”
Our programme contributes to the following SDGs

**Improving living conditions of small-scale farmers**
through a sustainable increase in productivity, quality and access to international standard organisations

**Support rural development**
by strengthening local value addition

**Support companies in meeting their responsibility**
through realising development partnerships

**Make supply chains more sustainable**
by promoting cross-sectoral exchange between actors throughout the supply chain
Innovations

Use of **Cotton Doctor App** for Pest Management in collaboration with IKEA, WRMS and WWF

The ‘Cotton Doctor’ app, an Android and web-based Decision support System (DSS), alerts farmers about weather vulnerabilities and assists them in making informed and effective decisions on cotton growing.

**Source Trace Application** is a digital application that facilitates **real time data collection** on farmer and crop profiling, crop management, field training and data management for the farmer in addition to field staff monitoring. Farmers are able to make better use of the data arising out of the expenses incurred and profits they are able to generate, and the alerts assist in taking remedial measures against issues that the farmers or the crop might be faced with.

**Wadhwani AI** The AI based application is used for **pest surveillance** wherein the farmer sends data on the pests identified on the farms and gets back advice for managing pest infestation in real time.
## Partnerships in Maharashtra (I)

<table>
<thead>
<tr>
<th>Name of cotton standard/ textile company</th>
<th>Key support areas</th>
<th>Geography, farmers, area covered</th>
</tr>
</thead>
</table>
| **Better Cotton Initiative (BCI Standard)** | - Baseline study  
- **Training and capacity building** of farmers to transit to better cotton production system (governed by 6 principles)  
- Providing **support system** for farmers to continue with BCI  
- Monitoring and result-based evaluation  
- Emphasis on gender, water-stewardship, federating PUs into FPOs, etc. | Nagpur, Chandrapur and Nandurbar  
195,466 farmers in 286,902 ha |
| **Welspun India Ltd (BCI Standard)**     | - **Plant** protection measures (IPM, INM, biological control measures)  
- **Water stewardship** (farm tillage, mulching)  
- **Fiber quality** as per industry-specifications  
- **AI-based pest surveillance** & management system (pest identification in advance & real-time advisory)  
- **Traceability** (Real time data collection, farmers’ interface, Geo-tagging of farms, BCI supply chain) | Wardha  
5,500 farmers in 12,415 ha |
## Partnerships in Maharashtra (II)

<table>
<thead>
<tr>
<th>Name of the partner / agency</th>
<th>Activity</th>
<th>Geography, farmers, area covered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aldi &amp; AFPRO</strong></td>
<td>• Training and capacity building of the farmers as per organic standards</td>
<td>Nanded</td>
</tr>
<tr>
<td>(Organic standard)</td>
<td>• Premium financial incentive to the farmers</td>
<td>1,000 farmers in 1,916 ha</td>
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<tr>
<td></td>
<td>• Dedicated supply chain backed by purchase guarantee</td>
<td></td>
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<tr>
<td><strong>Welspun India Ltd</strong></td>
<td>• Non-GMO seed support to the farmers</td>
<td>Aurangabad</td>
</tr>
<tr>
<td>(ELS Cotton)</td>
<td>• Low-cost ELS cotton cultivation</td>
<td>4000 farmers in 4,856 ha</td>
</tr>
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<td></td>
<td>• Clean cotton harvesting &amp; reduction of trash %</td>
<td></td>
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<tr>
<td></td>
<td>• Improving the yields</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dedicated supply chains</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Assured market for the farmers</td>
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</tbody>
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## Partnerships in Madhya Pradesh

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<th>Name of cotton standard/textile company</th>
<th>Key support areas</th>
<th>Geography, farmers, area covered</th>
</tr>
</thead>
</table>
| **bioRe India** (organic standard)     | • Microbia consortia production (improved soil & nutrient optimisation)  
• GMO-free seed multiplication, germ-plasm maintenance & storage  
• Soil testing  
• Cotton integrated with Brand bioRe & Remei-AG: exclusive licensee of bioRe | Khargone, Badhwani, Dhar, Dhule, Nandurbar, Jalgaon  
3,000 farmers in 1214 ha |
| **French retailer and Prerana** (Organic standard) | Training and **hand holding support to FPOs:**  
• Organic cotton production & **primary ginning**  
• Combat GMO contamination  
• Traceability, ICS and quality testing  
• Integration of organic cotton with global supply chain | Khargone, Khandawa  
2,000 farmers in 2011 ha |
| **Fairtrade**                          | • **Installation of biogas** units for the farmers | Khargone  
15 households |
## Partnerships in Gujarat

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<th>Geography, farmers, area covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welspun India Ltd (BCI Standard)</td>
<td>• <strong>Plant</strong> protection measures (IPM, INM, biological control measures)</td>
<td>Kutch 3.948 farmers in 11,306 ha</td>
</tr>
<tr>
<td></td>
<td>• <strong>Water stewardship</strong> (farm tillage, mulching)</td>
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<td></td>
<td>• <strong>Fibre quality</strong> as per industry-specifications</td>
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<td>• <strong>AI-based pest surveillance</strong> &amp; management system (pest identification in advance &amp; real-time advisory)</td>
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<td>• <strong>Traceability</strong> (Real time data collection, farmers' interface, Geo-tagging of farms, BCI supply chain)</td>
<td></td>
</tr>
<tr>
<td>Fairtrade</td>
<td>• Ensuring food security, crop diversification and enhanced income</td>
<td>Kutch 500 farmers approx. 200 ha</td>
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<td></td>
<td>• Besides organic cotton, seed kits of food crops, vegetables and Biocide being made available to the farmers, along with electronic spray pumps</td>
<td></td>
</tr>
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</table>
| IKEA, WWF & GGRC (Digital agri-advisories) | - Upscaling of existing **Cotton Doctor App (Decision Support System)** in collaboration with GGRC  
- Training BCI IPs and farmers on DDS usage and benefits  
- Real time agri advisories to the farmers, including forecasting risks  
- Provides advisories on multiple aspects including pest control, production forecast, soil health, weather, market information, etc | Botad, Amreli and Rajkot  
26,000 farmers |
| Brands Fashion | - Creating sustainable organic cotton cultivation and primary processing (ginning) through  
- Training and capacity building of farmers in producing cotton in line with the supply chain requirements | Raphar  
450 farmers  
approx. 885 ha |
Partnership Initiative for organic cotton in India

- Project under BMZ Partnership for Sustainable Textiles
- Organic Cotton Accelerator (OCA) to anchor the project

Objectives:
- Deliver tangible benefits to organic cotton farmers and those converting to organic farming to strengthen their business case and create the right conditions for organic cotton supply to grow
- Facilitate the access to organic cotton and cotton in-conversion for PST members at the farm-level and ensure their sustained and long-term demand
- Increase the amount of available organic cotton on the world market

Outreach:
11,500 farmers
### Piloting of industry-backed Extra Long Staple (ELS) Cotton production

<table>
<thead>
<tr>
<th>Company</th>
<th>Outreach</th>
<th>Focus areas</th>
</tr>
</thead>
</table>
| Welspun India Pvt Ltd (WIPL)                 | 4000 farmers in Aurangabad district, Maharashtra | • Seed support to the farmers  
• Low-cost ELS Cotton cultivation  
• Clean cotton harvesting & reduction of trash %  
• Improving the yields  
• Improving the livelihoods of small ELS cotton farmers  
• **Dedicated Supply Chains**  
• **Assured market for the farmers** |
| Indo Count Industries Limited (ICIL)          | 3500 farmers in Alirajpur district, Madhya Pradesh | • Seed support to the farmers  
• Low-cost ELS Cotton cultivation  
• Clean cotton harvesting & reduction of trash %  
• Improving the yields  
• Improving the livelihoods of small ELS cotton farmers  
• **Dedicated Supply Chains**  
• **Assured market for the farmers** |
| Anandi Enterprises                            | 1000 farmers in Salem, Namakkal and Tiruvannamalai districts, Tamil Nadu | • Seed support to the farmers  
• Low-cost ELS Cotton cultivation  
• Clean cotton harvesting & reduction of trash %  
• Improving the yields  
• Improving the livelihoods of small ELS cotton farmers  
• **Dedicated Supply Chains**  
• **Assured market for the farmers** |

**CCI:** Quality control in ginning stages; Possible buying of ELS cotton over and above purchased by the business partners.

**CICR:** Setting up demo plots with 336 farmers, support in extension and crop advisories.
The Global Programme AgriChains in collaboration with ICAC

Development of Virtual Reality Trainings for small scale cotton farmers

- Virtual reality (VR) training on pest and beneficial insect management and the sustainable use of pesticides in cotton cultivation
- Dissemination in the partner countries of the Global Programme and in the cotton producing member states of ICAC

![Image of cotton farmers in a field]
The Global Programme AgriChains in collaboration with ICAC

Development of the App „THE COTTON EXPERT“

- Available in more than 25 languages
- A total of 9 modules
- App using Artificial Intelligence (AI) based machine learning
  - image recognition to help the farmers diagnose pest and diseases and links to information on control interventions or measures
- Voice recognition for semi-illiterate farmers
The Global Programme AgriChains in collaboration with ICAC

The Cotton Expert - App Modules

- Module-1: ARTIFICIAL INTELLIGENCE
- Module-2: MARKET INFORMATION
- Module-3: WEEKLY ADVISORIES
- Module-4: WEATHER BULLETIN
- Module-5: CROP HEALTH DIAGNOSIS
- Module-6: ECO-PESTICIDE MASTER
- Module-7: ORGANIC COTTON
- Module-8: SOIL HEALTH
- Module-9: SUSTAINABILITY ASSESSMENT
Crisis resilience response measures

- Supporting farmers for increasing oilseed production, income and market linkages
  - Reviving oilseeds like Niger
  - Promotion of sunflowers
  - Processing support to FPOs
  - Linkages with markets
- Enhancing bio-input production for self-reliance by farmers and their organisations
  - bio-pesticides, compost, enriched farmyard manure, soil kits for soil enrichment, vermicompost, biodynamic inputs, natural preparations with cotton, cake and neem cake, cow urine, etc)
  - Establishing community input production centres to provide inputs to the farmers; and reduce dependency on the market
- Outreach: 107,000 farmers
Climate Resilience of Smallholder Cotton Farmers
Fund for the Promotion of Innovation in Agriculture and Food (i4Ag)

Duration: 43 months, 10/2022 – 04/2026
Implementation: Cameroon, Côte d’Ivoire
Value Chain: Cotton

Goal
Validation, adaptation and dissemination of sustainable innovations to improve climate resilience of smallholder cotton farmers.

Target Group
Extension worker, lead farmers, women and youth

Targeted impacts
• 48,000 smallholders (15% women) trained in applying innovations to strengthen climate resilience in cotton farming
• 40 % increase in yields for 4,800 smallholder farmers
• 50 young entrepreneurs (30% women) generated additional income
• 15 % increase in soil organic carbon content

Country*  Partner
Cameroon   IRAD, SODECOTON
Côte d’Ivoire CNRA, SECO, Ivoire Coton, ESA INP-HB
France CIRAD
Germany GIZ Côte D’Ivoire: GIC in Côte d’Ivoire
GIZ Cameroon: GV AgriChains, ABC-PADER; ProFE
USA ICAC

* This refers to the headquarter of the partner organisation.
Introduction of **climate-resilient**, non-genetically modified **varieties** adapted to innovative high-density cropping systems
- Climate-resistant varieties of the species *Gossypium arboretum*
- Potential for high yields

Use of **biochar** fortified with agricultural biowaste (e.g., cotton stalks, manure, biofertilizer, legume biomass)
- Improve soil health and higher cotton yields
- Positive effect of water storage capacity in soil

Application of **botanical biopesticides** encapsulated in zein nanoparticles
- Neem oil as biopesticide
- Proven efficacy on insect pests with lower toxicity for beneficial insects
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Join our scaling journey.
Scaling impacts is our common goal.
Become a partner.

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