



Sixteen Years of the SEEP Panel: Shaping Sustainability in the Cotton Value Chain

Lorena Ruiz & Mike McCue

International Cotton Advisory Committee
1629 K Street NW, Suite 702, Washington DC 20006, USA

The Expert Panel on the Social, Environmental and Economic Performance of Cotton Production (SEEP) was formally established as a result of the deliberations of the 65th International Cotton Advisory Committee (ICAC) Plenary Meeting in Goiania, Brazil, in September 2006. At the time, the cotton industry was becoming increasingly focussed on its broad sustainability obligations. The ICAC has responded to concerns about the industry's sustainability performance by increasing its engagement with companies and other stakeholders. The SEEP panel developed a range of sustainability indicators to help the cotton industry improve its sustainability performance and to seek appropriate responses to problematic activities.

Since its creation, the members of the SEEP Panel reflect a broad cross-section of nationalities, expertise and experiences. In many cases, members belong to relevant international organisations such as CIRAD, Helvetas, the Food and Agriculture Organization of the United Nations, the Bremen Cotton Exchange, or key national cotton organisations like Cotton Incorporated, the National Cotton Council of USA and the Cotton Research and Development Cooperation of Australia. In other cases, members are representatives of governmental agencies or private sector associations. In having access not only to the specific skill sets of the individual representatives but also potentially to the resources of their respective organisations, SEEP has powerful collaborative capacity and substantially broadens ICAC's resource base.

One of the primary objectives of the Panel was to collect and review independent, science-based information on the negative and positive social, environmental and economic aspects of global cotton production. Over the years, SEEP has not only reviewed existing information — making use of its internal expertise but has also commissioned and supervised scientific studies to deepen the understanding of key aspects of cotton production performance. Based on the available information, SEEP has formulated recommendations for further action as and when appropriate to improve the overall sustainability of cotton production.

Principal Activities to Date

2006 – Defining the core areas

At its launch meeting in 2006, SEEP reflected on the complexity and quantity of issues impacting the sustainability of cotton production. The SEEP panel identified the specific areas about which information should be collected, as well as which countries should be the focus for collection of that information. The panel identified the following key issues affecting the sustainability of cotton production:

Social Pillar

- Labour and working conditions in cotton production
- Employment and job creation

Environmental Pillar

- Farming practices
- Pesticide and fertiliser use
- Water use and management
- Soil management
- Climate change
- Production efficiency and energy usage
- Greenhouse gas emissions
- Biodiversity

2008 – Labour issues and costs

Labour costs and practices are important dimensions for cotton cultivation worldwide. That's why the SEEP panel commissioned a literature review and research evaluation relating to social impacts of global cotton production. The study was



conducted by Alastair Usher from Ergon Associates and the final report was published in July 2008.

This same year, the ICAC started to carry out a survey of cotton labour cost components in major producing countries on behalf of SEEP. The ICAC Secretariat completed the report over a three-year period between 2009 and 2011. Data received from 11 countries were harmonised into a standardised format and made available to ICAC Members for further analysis. Cotton industry employment in the 11 countries represented in the report was about 45 million, with India alone accounting for 35 million. The report provided a good indication of the types of expenses incurred by employers in the cotton production sector of major countries.

2010 – Pesticide Use

To at least partially address the lack of country specific information, SEEP acquired pesticide use datasets spanning a 14-year period across six cotton growing countries: Australia, Brazil, India, Togo, Turkey and the USA. In collaboration with the research group Environmental Risk Assessment of Alterra — part of Wageningen University in the Netherlands — the datasets were analysed to identify trends in the use of pesticides on cotton in the six nominated countries and to evaluate the hazards of pesticide use on cotton to human health and the environment in those same countries. The study generated important insights on chemical use in cotton production, upon which SEEP formulated recommendations for risk reduction and mitigation. The main two recommendations made by SEEP to cotton producing countries were:

1. The elimination of highly hazardous pesticides in those countries where adequate provisions for their sound management are not in place; and
2. The promotion and use of integrated pest management (IPM).

SEEP's recommendations were endorsed by ICAC Member countries at the 69th Plenary Meeting in the United States in 2010.

2012 – Fact sheets

SEEP produced 'fact sheets' on a number of topics relevant to the performance of cotton production, including fact sheets on production efficiency – land, water and energy use; greenhouse gas emissions; pesticide use and soil erosion.

2012 – Responsible cotton production

Cotton standards or initiatives that outline or prescribe methods aimed at reducing the overall environmental impact and improving the social and economic performance of the industry have been promoted and adopted in a number of countries. While these developments were generally seen as positive, there was a growing need to understand their relevance to the cotton industry as a whole, including cotton producers. As a result, the SEEP panel commissioned a study of cotton-related programmes or initiatives relevant to cotton production that prioritise environmental stewardship, human well-being, and economic viability.

The main objective of the study was to review existing systems that set standards and guidelines for responsible cotton production around the world in order to identify core areas they addressed and in particular the indicators of sustainability they adopted. The comparative study described the existing initiatives and systems that set standards or guidelines used to define, describe or measure sustainability in cotton production. Furthermore, the study analysed the indicators used by the systems in core environmental areas by looking into issues such as land use and management, water use efficiency, biodiversity and chemical use. Likewise, it considered the social dimensions of cotton production such as responsible labour practices, hazardous work practices, labour conditions, gender and empowerment, and poverty alleviation.

2013 – Executive summary report: 'Measuring sustainability in cotton farming systems: Towards a guidance framework'

SEEP provided an executive summary of the report 'Measuring sustainability in cotton farming systems: Towards a guidance framework.' The panel provided recommendations about the indicators that should be used to measure sustainability in cotton production. They identified 68 indicators and during the World Café session at the Plenary Meeting in Colombia, attendees discussed the sustainability framework approach and its implementation. Governments provided two recommendations to the SEEP panel:

1. Any framework for measuring sustainability needs to be implemented on a country-by-country basis, and
2. Committees should be formed in each country to create the initial framework of metrics and to ensure that the framework is updated as production practices evolve.

2014-17 Testing the SEEP framework

The test of the SEEP framework sustainability indicators was implemented in at least 11 different cotton producing countries: Australia, Benin, Bolivia, Cameroon, China, Paraguay, Peru, Senegal, Togo, US and Zambia. Additionally, five countries conducted national workshops to discuss the framework: Burkina Faso, Ivory Coast, Guinea, Mali and Niger.

The overall conclusion of the framework pilot testing was the requirement for further guidance to clarify the raw data needed to inform each selected indicator. The panel noted that a 'user manual', based on the practical experiences of the pilot tests, would have been an extremely useful document to support the implementation of the guidance framework. One of the main challenges faced by anyone using the framework was the data collection, due to the complexity of the information.

2018-21 Soil Health

The SEEP panel prioritised soil health as one of the main areas of work. The panel's role was to expand the existing knowledge base on soil health and organise it into cotton-grower-relevant practices and information. The ICAC and Cotton incorporated developed a curriculum of flow-chart-based diagnosis of major

biotic and abiotic problems faced in cotton farms across the globe with an objective to help illiterate farmers address climate risks with access to soil health principles and diagnostics of plant health. A beta version of a mobile, voice-based app was designed in English and included voice descriptions, incorporating images and videos related to soil health, plant health, insect pests, diseases, nutrient deficiencies and best practices to facilitate its use even by illiterate farmers.

2019-21 SEEP and the Delta Framework

The Delta framework is a cross-commodity project, including cotton and coffee, that seeks to align sustainability measurement and reporting at farm level. The project is a collaboration between the Better Cotton Initiative (BCI), the Global Coffee Platform (GCP), the ICAC and the International Coffee Organisation (ICO). The three-year project (2019-2021) was funded by the ISEAL Innovation Fund.

The project used four different sources to identify the final set of indicators:

1. Sustainable Development Goals (SDGs) indicators
2. ISEAL Common core indicators
3. ICAC/SEEP/FAO indicators for cotton as published in 2015
4. Global Coffee Data Standard developed by the Global Coffee Platform (GCP) for coffee

Members of the SEEP Panel provided their feedback and expertise to help refining and finalising the draft core set of Indicators. A working group was formed to revise, define and propose a list of HHPs based on FAO/WHO criteria. The panel also provided guidance on the methodology to collect information on pesticide active ingredient.

The SEEP panel also made the following recommendations regarding the proposed core set of indicators:

- Water management in rainfed systems needs further debate. The current indicators that are part of the discussion are:
 - Total water use
 - Water use efficiency
 - Crop productivity for irrigated farms
 - Water stewardship
- Collecting data on fertilisers should be focused on fertiliser use efficiency rather than application.
- Mitigate any possible risk where High Conservation Value Areas (HCVA) are converted for the purpose of growing cotton.
- GHG emissions: this indicator will focus on measuring emissions in the cotton production process until ginning, i.e. to the bale of lint. The panel recommended that a working group should be formed to gather information on the CO₂eq calculation tools currently in use in the countries or standards.
- The cost of cultivation (up to the seed cotton) should be collected in local currencies. The unit where cost of cultivation would be reported would be U.S dollars so

comparisons can be made. The frequency for reporting on economic indicators could be every three years, following the recommendations from the SDGs.

- Definitions and guidance from the International Labour Organization (ILO) should be used to address the issue of child and forced labour.

All documents produced by the DELTA project can be downloaded from: <https://www.deltaframework.org/>

2021 - World Cafe

Although it was not formally a SEEP initiative, the World Café held during the virtual 79th ICAC Plenary Meeting — which had the theme, ‘Challenges and Opportunities for Sustainability’ — was the direct result of many prior SEEP initiatives. Prior to the live session, 10 moderators organised online table discussions with industry experts on a variety of sustainability-related concepts, summarised the comments and findings, and then created a video that was shown to attendees before a live Q&A was held.

Highlights of the dynamic, interactive session included:

- At his English-speaking table, Mr Allan Williams of the Cotton Research & Development Corporation discussed implementing a global, common sustainability measurement system; whether it is possible to convey the sustainability metrics to the fabric a consumer purchases; and strategies to score and label blended fabrics.
- Mr Alvaro Moreira of the Better Cotton Initiative conducted his roundtable in Portuguese and addressed the main elements of cotton sustainability; what metrics should be adopted; and how the industry can better support farmers.
- Dr Bruno Bachelier of CIRAD, whose roundtable was held in French, discussed the challenges of measuring sustainable production systems; what stakeholders are responsible for sustainability; indicators of soil health; and social sustainability.
- Mr Manish Daga of CottonGuru conducted his roundtable in Hindi and discussed the responsibilities of stakeholders, specifically addressing who those stakeholders are, as well as the impact of sustainable production practices on climate change.
- Mr Mark Messura of Cotton Incorporated held a roundtable in English; topics included what people in the cotton production and value chains are most vulnerable; how to measure sustainability; and how to incorporate a positive social impact into cotton production and processing.
- Dr Mohamed Negm of ICRA organised a roundtable in Arabic, in which participants focussed on why all sectors of the supply chain are seeking greater sustainability; what sustainability means in the context of climate change; and the three main pillars of sustainability (economic, environmental and social).
- Dr Robert Jou of the Taiwan coordinated two roundtables in Chinese and the group focussed on stakeholder

responsibilities; the meaning of economic sustainability; climate change; and how to score sustainability, traceability and labelling.

- Mr Marco Mtunga of the Tanzania Cotton Board convened a table of eight participants that concentrated on the need for small holder farmer training; the engagement of retailers with their suppliers; and a scheme in which all sectors of the cotton supply chain share in the benefits of sustainability.
- Dr Marcelo Paytas of INTA convened nearly 20 individuals for his discussion in Spanish. Among the topics of interest were the need to leverage the media to communicate clearly with consumers; the importance of developing common measuring systems for benchmarking and comparison; and how to overcome challenges including climate change; water availability; obsolete machinery and the difficulty in providing technical training and funding for inputs to small holder farmers.
- Professor Oybek Kimsanbaev of Volgograd University, whose table spoke Russian, emphasised the importance of actionable science and data in cotton industry development; as well as strategies for protecting and improving the soil quality in Russia and Uzbekistan.

It goes without saying that sustainability is one of the most important issues facing the cotton industry. However, the discussions on this topic have showed that there is little consistency in the industry's approach to sustainability. In fact, all the

major cotton exporting countries, except India, have developed their own systems to measure and certify 'sustainable cotton'. Since its creation, the SEEP panel has provided guidance and assisting member countries promote viable cotton production while managing their finite resource base in a sustainable and responsible manner. In spite of this, however, the cotton industry is currently only able to define what a sustainable cotton production system is, but it cannot provide a clear definition of what sustainable cotton means.

Although several sustainability initiatives have developed a core set of indicators to measure sustainability, it has not been possible to achieve a robust measurement system that allows either the labelling of the cotton production system or the product itself. Data collection is one of the biggest challenges of sustainability assessment. That is why in order to effectively implement the changes that must be made, the ICAC is calling for simplification and collection of data and measuring of sustainability practices. A new SEEP panel structure is needed in order to provide data on the positive attributes of cotton cultivation to influence the positive information and to collaborate in finding the solutions needed to address sustainability and climate change. Topics such as soil health and carbon footprint should be the focus of the new SEEP panel.

All documents produced by SEEP can be downloaded from the ICAC website:

<https://icac.org/CommitteesandNetworks/SEEPDocuments?CommitteeLinkId=50>