Challenges in Sustainable Cotton Supply Chain

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Cotton textile value chain: Is it organized to offer a sustainable product?

Status of cotton production

- About 26 million tons of cotton is produced, across 64 countries on ~ 32 million hectares of land (2.5% of total arable land). Largest producers are India, China, USA, Brazil, Pakistan.

- Over 60% of cotton is produced by smallholder farmers (average 2ha) in developing countries, who are some of the poorest and most vulnerable in the world. Average yield is 800kg/ha, with a wide range of 130 to 2200 kg/ha.

- The cotton textile sector directly supports livelihoods of 350 million people, about 100 million farmers and 250 million who work in textile processing.

- Cotton has a share of ~ 24% of all the fibres used in textile industry. And it is losing share.

- Cotton is a fibre of choice; it’s hard to imagine life without it. It’s natural, it breathes, its biodegradable.

- But in the face of a changing world and climate, with issues like water scarcity, soil degradation, and increased pressures on agricultural land, we can’t take the future supply of cotton for granted.
Cotton textile value chain: Is it organized to offer a sustainable product?

**Status of textile processing**

- Processing is **capital intensive**. It is **fragmented**, each process can be done exclusively. Only few players who are integrated.

- **Garmenting is labor intensive** and has expanded in Bangladesh, Vietnam and now moving towards Cambodia & Myanmar. Focused on jobbing (cut, make & trim), largely dependent on orders from retailers.

- **Textile industry keeps moving even across countries based on economic factors**, such as raw material availability, labour & energy costs, preferential access to markets through duties & incentives from local government.

- Processing has a **segmental approach to sustainability** – energy efficiency, waste & water management, use of organic, biodegradable dyes/chemicals, focussed on compliance to local laws.

- Brands/Retailers interface with textile industry is largely limited to garment manufacturers.
Fast fashion: Is it sustainable for our climate and communities?

- Fast fashion is characterized by inexpensive clothing, short life cycle, frequent replacement, and increasing textile waste; all of which have significant environmental impact.

- Fashion industry is considered highly polluting as it produces around 10% of global GHG emissions, 20% of global wastewater.

- Every second, the equivalent of one garbage truck of textiles is estimated to be landfilled or burned.

- Driven by environmental concerns and consumer sentiment several leading fashion brands are launching sustainability initiatives under the UN Charter for Fashion, which includes a target of 30% GHG emission reductions by 2030.

Textile waste takes up nearly 5% of landfill space
Source: shutterstock
Need for integrated approach for sustainable fashion

Social and Environmental Sustainability
- Priority for apparel and home textile companies and growing importance for governments & consumers

Consumers
- Ethical Sourcing: transparency & provenance information “Where it is made?, How it is made?, What it is made from?
- Like to be associated with responsible brand & retailers.
- Preference for organic, biodegradable (natural vs manmade), cotton gaining over petroleum-based fibres.
- Preference for local buying – US consumer wishes to buy Made in USA

Retailers & Brands
- Need to navigate fast changing consumer requirement, shifting supply chains and demand volatility
- Corporate commitment to sustainability: > 50% products being made from sustainable raw materials
- **Looking for complete sourcing solutions** to offer product specific sustainability i/o generic company level sustainability.
- Realise that additional cost of sustainable sourcing (about 3-5%) can be offset through preventing excess production, reducing waste and improving efficiency

Global supply chain
- Need to balance efficiency with resilience, diversification of production networks
- Need to be responsive: agile, demand driven sourcing at scale and speed
- China +1, alternate sources of supply
Preferred Cotton
Produced with lower environmental impact & higher social impact

- **Uses regenerative agricultural practices** that equip stakeholders to create climate resilient crops and socio-economic stability across the cotton growing regions.

- **Creates positive socio-economic impact**: Potential to lift millions of people out of poverty by providing a more stable income and improved working conditions. It is an important rotation crop for smallholders, both for fibre, fuel and food.

- **Less harmful for environment** and improves soil health, improves biodiversity, reduces water use, reduces chemical fertilizer use, and reduces chemical pesticide use.

- Its production **reduces GHG emissions** through adoption of sustainable farming practices.

- Research has established that **natural fibres biodegrade** in both marine and terrestrial environments and do not contribute to microfibre pollution.
What is a Sustainable textile product?

Products made from **sustainable raw materials**

processed through transparent and **traceable supply chains**

having **improved ecological** and **social footprint**.
Olam: Largest integrated merchandiser of cotton with global presence

1. **#2 cotton merchant** with leadership positions in almost all major producing and consuming countries

2. **#1 private ginner** globally

3. Successfully implement the **integrated ginning model** (small grower sourcing) in Africa

4. **Extensive global network** of >700 customers incl >140 integrated mills

5. Proven track record in merchandising **sustainable cotton**

6. Leveraging **digital capabilities** to offer farm level traceability

Source: Company information.
Olam: Extensive grower network with full traceability from farm to fibre

- **Sourcing**: 80% of volume is sourced directly from growers
- **Ginning**: Integrated ginning (Africa) & farming (Australia & Brazil) enable farm level traceability
- **Logistics**: Dedicated grower network for sourcing premium cottons such as US Pima & Egyptian Giza
- **Marketing**: Implementing organic cotton projects in integrated ginning (Ivory Coast, Chad and Togo)

*Source: Company information.*
Olam’s engagement with small farmers to produce sustainable cotton

- **Mutually beneficial engagement** with small farmer with objective to increase cotton production and enhance farmer income
- Provide agri inputs and agronomy support to *improve yield* for cotton and food crops – *economic stability along with food security*
- Provide training in good agricultural practices and mechanization support to *build farmer capacity for area expansion*
- Full visibility and control over supply chain helps improve operational efficiency, assured quality and *offer sustainable cotton with first mile traceability to the farm*
- *Positively impact village community through social projects* in partnership with Gates Foundation, AbTF, Compaci, Mitsubishi
- *In house digital (Spyder 2.0) and sustainability project (AtSource)* enables social and environmental footprinting for each bale of cotton
- Focus is on African countries – Ivory Coast, Chad, Togo - where potential to increase cotton production sustainably is high. Olam is the only global player in Africa, which makes us a natural choice for customers looking for sustainable cotton and farm level traceability

<table>
<thead>
<tr>
<th></th>
<th>Cotton area (in Hectares)</th>
<th># farmers</th>
<th>Lint production (in MT)</th>
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<tbody>
<tr>
<td>Ivory Coast</td>
<td>90,000</td>
<td>19,500</td>
<td>41,000</td>
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<tr>
<td>Chad</td>
<td>320,000</td>
<td>246,000</td>
<td>75,000</td>
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<tr>
<td>Togo</td>
<td>70,000</td>
<td>60,000</td>
<td>32,000</td>
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<td><strong>Total</strong></td>
<td><strong>480,000</strong></td>
<td><strong>325,000</strong></td>
<td><strong>148,000</strong></td>
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Sustainability in Action – Regenerative farm practices
Farm level Interventions, Soil Health Improvement programs

- Erosion Control Program (LAE)
- Cover Crops and Green Manure
- Compost
- Revegetation
- Integrated Pest Management
- Crop Rotation
Sustainability in Action: Community Impact Programs

Prosperous Farmers & Food Systems

- Good Agricultural Practices (BCI and CmiA standards): 91,191 Farmers
- Image box/ film/ radio messages

Thriving Communities

- Literacy centers: 36 centers, 4000 People, 45% success rate
- School (EPP SECO): 360 kids/ year
- Ouangolo infirmary: 2000 People/year
- Health Caravan: 13000 People
- Water pumps (26 pumps): 14,400 People
- GIZ, Mitsubishi Corporation
- Entrepreneurship (women / youth): 105 VSLA, 2718 Activities, 150 Millions saved
- Blood Bank: 300 Students
- Covid 19 Support: 66 Co-op., 13,144 Farmers
- Study on Child Labor in cotton production: 707 farmer households
- Kit distribution: IHDL

Regenerating the living world

- Erosion control and soil fertility: 3021 Farmers, 600 Ha
- Soil sample testing - Zone wise: 4725 samples
- Solar kits distributed: 108 Families

SECO implementing an Africa Cotton Foundation (ACF) project on Soil and Moisture improvement. Duration 2 yrs Total Implementation Cost: 238 K Euro.

GIZ - Sub-Saharan Cotton initiative – Supporting the sustainable cotton production in CDI, Chad & Togo. Duration: 36 months; Cost: 2.4 Million Euros
Based on a Sustainability Management System

- **Social and environmental requirements**
  - Self assessment checklists tackling social and environmental requirements must be filled out by Olam managers. They evaluate level of compliance and when **substantial non-compliances** are found, **action plans** are established to correct the situation (Continuous Improvement system).

- **Traceability**
  - Businesses maintain **traceability** models throughout their SC (MB/Segregated).

**Insights Platform**

- **Metrics**
  - Businesses collect and display data related to **sustainability conditions** in the supply chains.
  - Metrics can be improved through **action plans** and progress can be displayed (Continuous Improvement).

- **Environmental Footprint**
  - Business collect supply chain data that is fed into the **environmental footprint calculator**. Results in terms of **climate emissions, water and land use** are generated & displayed.
  - Footprinting can be improved through **action plans**, progress can be displayed (Continuous Improvement).

- **Impact Stories**
  - **Stories** from the field of **real, positive sustainability impact** and outcomes in supply chains can be displayed.
Digital intervention: Spyder 2.0

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>Key Digital Tracks</th>
<th>2.0 – Spyder DSE Integration – Integrated Platform for Farmer Engagement, Seed Cotton Procurement, Sustainability &amp; Traceability</th>
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<tbody>
<tr>
<td></td>
<td>Scope &amp; Timeline</td>
<td>To be implemented across Cote d’Ivoire, Tchad &amp; Togo</td>
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<tr>
<td></td>
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<td><strong>H2 2021</strong></td>
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<td></td>
<td></td>
<td>• Farmer Registration</td>
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<td>Increased Reach to Cotton Farmers and Farms</td>
<td>• Farm Registration</td>
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<td>• Farm Activities Tracking</td>
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<td>• Field Staff Activity Planning</td>
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<td>Expected benefits</td>
<td>• Training Plan Development</td>
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<td><strong>End 2021</strong></td>
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<td></td>
<td></td>
<td>• Agri input distribution and consumption</td>
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<td>Improve yields and hectarage</td>
<td>• Seed Cotton Procurement</td>
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<td>Last mile services to farmers</td>
<td>• Farmer Records (P&amp;L)</td>
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<td>Reduce Field overheads</td>
<td>• Business reports</td>
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<td>• AtSource Integration</td>
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<td>Digital Usage Indicators</td>
<td>• Unified platform across 3 origins</td>
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<td>• Better management of data and information sharing</td>
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<td></td>
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<td>• Access to DSE roadmap with minimal effort</td>
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<td></td>
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<td>• AtSource automation</td>
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- **Potential no. of farmers:**
  - Cote d’Ivoire = 21,416+
  - Tchad = 316,000
  - Togo = 157,318

- **Potential Traceable Volumes (MT):**
  - Cote d’Ivoire = 70,000
  - Tchad = 190,000
  - Togo = 126,000

- **Potential No. of Co-operatives:**
  - Cote d’Ivoire: 440
  - Tchad: 3000
  - Togo: 2000
Textiles will continue to be a necessary part of human consumption.

Fibre production and manufacturing of textiles is a large contributor to GHG emissions, almost 7.25% of total manmade emissions.

Consumers are progressively leaning towards ‘purpose driven’ approach to fashion and are demanding products made from sustainable raw materials processed in a socially & environmentally responsible way & delivered through transparent supply chains.

Cotton is a preferred textile fibre – natural, biodegradable and needs to be positioned accordingly.

Share of cotton produced responsibly with full tracability – Organic, BCI, CMiA, etc – needs to be accelerated.

Supply chains need to be re-organised so that they acquire capability of ‘demand driven sourcing at scale and speed’ to prevent wasteful production.

Sustainability requires an’ integrated & collaborative ’ approach providing for end to end visibility from farm to fashion and seamless interface among players across the textile value chain.

At Olam we are trying to play our part by directly engaging with farmers and enabling production of sustainable cotton in a socially & environmentally responsible manner and offering it to textile mills as per their requirement throughout the year.
THANK YOU