Promoting cotton BY-PRODUCTS in Eastern and Southern Africa

Project: 1617K - Funded by the United Nations Development Account - 2016-2019

WTO Cotton Days, Geneva, 29 November 2018

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Outline of the presentation

- Overview of the project
- Project countries and their cotton sectors
- Impediments to the development of cotton by-products
- Project activities and deliverables
- Cooperation with CIRCOT
- By-products selected for development
- Policy advantages of cotton by-products
- Lessons learned
- Next steps
## Overview of the project

<table>
<thead>
<tr>
<th>Title</th>
<th>Promoting cotton by-products in Eastern and Southern Africa (ESA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding source</td>
<td>United Nations Development Account (Project 1617K)</td>
</tr>
<tr>
<td>Countries</td>
<td>United Republic of Tanzania, Uganda, Zambia and Zimbabwe</td>
</tr>
<tr>
<td>Start date</td>
<td>March 2016</td>
</tr>
<tr>
<td>End date</td>
<td>December 2019</td>
</tr>
<tr>
<td>Total budget</td>
<td>US$ 591,000</td>
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<tr>
<td>Implementing agency</td>
<td>United Nations Conference on Trade and Development (UNCTAD)</td>
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<td>Partners</td>
<td>United Nations Economic Commission for Africa (UNECA)</td>
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<tr>
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<td>Common Market for Eastern and Southern Africa (COMESA)</td>
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</table>
Overview of the project (cont)

• Expected Accomplishment 1:
  • Improved capacity of cotton value chain stakeholders (government officials, the private sector and farmers) to assess the potential value, market situation and prospects for cotton by-products.

• Expected accomplishment 2:
  • Improved capacity of policymakers to (a) formulate evidence-based policies that improve the value added of cotton by-products; and (b) devise investment profiles to attract potential investors.

• Focus on new / pre-commercial opportunities, e.g. applications for cotton stalks, rather than upgrading opportunities, e.g. replacing obsolete oil extraction technologies.

• Approaches:
  • Process-based, not expert-based
  • Build capacity of country experts
  • Inclusive participation, with an emphasis on farmers and women
  • Inter-agency collaboration
  • South-South cooperation
Our project on by-products looks at “products derived from the non-lint parts of the cotton plant”.

Source: Adapted from Cotton Development Organisation, Uganda
Value addition in the 4 countries is characterized by collapsed textile industries and minimal use of by-products.

**General**

- Collapse of textile sectors as of liberalization in the mid-1990s
- Contributed to lower average yields, quality, cultivation area and production
- Ginneries currently operating at 30% or less of installed capacity
- 95% or more of lint exported

**By-products**

- Oil milling relatively developed, but with obsolete technology
- Oil mills operating at 30% or less of installed capacity
- Unmet demand for edible oil; less reliable market for cottonseed cake
- Otherwise only a few cottage activities for by-products: mushrooms or chicken feed from hulls
- Pest management regulations require farmers to destroy their cotton stalks
Country surveys highlighted the main impediments to the development of cotton by-products.

**Primary**
- Economies of scale due to low production of raw material
- Lack of general awareness
- Lack of policy coherence from production, to value addition, to trade

**Secondary**
- Misaligned incentives in farmer-ginner relationship, including:
  - Skepticism among farmers that they will not receive by-product income through the seed cotton producer price formulae; and
  - Contract farming models that provoke race-to-the-bottom competition, especially on inputs.
- Asymmetric tax treatment with respect to imported substitutes
- Obsolete oil milling machinery
Project activities run from 2016 until mid-2019, followed by an evaluation by end-2019.

**Complete**
- Surveys
- National capacity-building workshop (National Action Plan)

**Underway**
- Investment profiles
- Study visit

**Remaining**
- Draft pilot project plans and funding proposals
- Regional workshop
- Evaluation
Cooperation with India’s Central Institute for Research on Cotton Technology (CIRCOT)

- UNCTAD selected India as an example for project countries, due to:
  - Similarities between the production models and geographic densities;
  - India has revived its cotton sector by developing local value addition technologies and businesses, adapted to the rural context.
- CIRCOT researches, designs technologies and incubates businesses for post-harvest processing of cotton and its by-products.
- Close link with processors and machine fabricators.

**CIRCOT participation in project activities:**
- At each national workshop, presented its work on cotton applications for cotton by-products.
- Will host a study visit for project participants in January 2019.
At national workshops, stakeholders agreed on National Action Plans to develop 2-4 by-products.

**Cotton by-products selected for National Action Plans**

<table>
<thead>
<tr>
<th>Raw material</th>
<th>End product</th>
<th>Tanzania</th>
<th>Uganda</th>
<th>Zambia</th>
<th>Zimbabwe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stalks</td>
<td>Briquettes and pellets</td>
<td>🇹🇿</td>
<td>🇺🇬</td>
<td>🇿🇲</td>
<td>🇿🇼</td>
</tr>
<tr>
<td>Stalks / hulls</td>
<td>Mushrooms</td>
<td>🇹🇿</td>
<td>🇺🇬</td>
<td>🇿🇲</td>
<td>🇿🇼</td>
</tr>
<tr>
<td>Cottonseed cake</td>
<td>Gossypol-free cake</td>
<td>🇹🇿</td>
<td>🇺🇬</td>
<td>🇿🇲</td>
<td>🇿🇼</td>
</tr>
<tr>
<td>Short staple cotton</td>
<td>Absorbent cotton wool</td>
<td>🇹🇿</td>
<td>🇺🇬</td>
<td>🇿🇲</td>
<td>🇿🇼</td>
</tr>
</tbody>
</table>
In each country, the selected cotton by-products respond to several policy priorities.

<table>
<thead>
<tr>
<th>Policy priority</th>
<th>Biomass briquettes / pellets from stalks</th>
<th>Mushrooms from cotton stalks</th>
<th>Absorbent cotton wool</th>
<th>Gossypol-free cottonseed cake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income opportunities for farmers</td>
<td>Y (direct)</td>
<td>Y (direct)</td>
<td>Y (indirect)</td>
<td></td>
</tr>
<tr>
<td>Small-scale, rural business opportunities, including for women</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>New business opportunities for entrepreneurs</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>New markets for existing businesses</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Import substitution</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Substitution of fossil fuels</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Reduced pollution</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Reduced deforestation</td>
<td>Y</td>
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</table>
Lessons learned

• Value addition – for lint or by-products – can’t be treated in isolation from cotton production

• Existing producer price formulae don’t give farmers sufficient incentive to grow more cotton

• Governments and ginners can help develop by-products to increase incentives for farmers to grow cotton

• In Africa, economies of scale are only possible for a few by-products

• In project countries, cotton by-product opportunities mostly for domestic consumption and import substitution, not export

• Trade deficits in project countries for: edible oil, surgical wool and fuel

• Economics aside, cotton stalk-based fuels respond to policy priorities on forests, emissions and substituting fossil fuel imports
Next steps

• Remaining project activities:
  • Complete investment profiles for priority cotton by-products;
  • Study visit to CIRCOT in Nagpur, India, 14-18 January 2019;
  • Regional workshop, May-June 2019;
  • Project evaluation, by end 2019.

• Work with country focal points to draft selected initiatives into project plans and funding proposals for next phase of work.

• Propose a similar project to other cotton-producing countries in Africa.

• Coordinate with joint WTO-UNCTAD-ITC initiative on cotton by-products.
For more information

• Project site, including all project documents:
  
  https://unctad.org/en/Pages/SUC/Commodities/SUC-Project-1617K.aspx

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