



Promoting cotton by-products in Eastern and Southern Africa

UN Development Account Project 1617K

Implemented by UNCTAD

In partnership with COMESA and UNECA

CONCEPT NOTE

Study visit on cotton by-products development

Ginning Training Centre

ICAR-Central Institute for Research on Cotton Technology (CIRCOT)

Nagpur (Maharashtra), India

14-18 January 2019

1. Introduction

Cotton remains an important crop in Eastern and Southern Africa (ESA), generating export revenues, value added and cash income for rural populations. Although cotton is grown primarily for its lint – the raw material in cotton textiles – other parts of the plant also have commercial value. For example, mature industries exist in many cotton producing countries in Africa to process cottonseed into edible oil and livestock feed. Nevertheless, technologies to add value to other parts of the cotton plant – such as cotton stalks, linters or ginning waste – are largely absent in African countries, amounting to unrealised economic opportunities.

Cotton by-products industries are underdeveloped in ESA owing to several impediments, including: inadequate policies to support the development of cotton by-products industries; insufficient data to assess the viability of investments in cotton by-products; and a lack information about value added technologies available in other countries.

The United Nations Conference on Trade and Development (UNCTAD) designed the technical cooperation project “Promoting cotton by-products in ESA” to address some of these gaps and assist ESA countries in capitalising on opportunities in cotton by-products. Together with its partners, the Common Market for Eastern and Southern Africa (COMESA) and the United Nations Economic Commission for Africa (UNECA), UNCTAD is implementing the project from 2016-19 in Uganda, the United Republic of Tanzania, Zambia and Zimbabwe.

As part of the project’s programme of activities, UNCTAD commissioned surveys in each country, gathering baseline information about the state of cotton by-products, including stakeholders’ views on what is needed to overcome impediments to their development. Survey findings informed multi-stakeholder capacity-building workshops in each country. At these workshops, UNCTAD also arranged for experts from the ICAR-Central Institute for Research on Cotton Technology (CIRCOT) in India to present their country’s experience developing technologies and value chains for cotton by-products.

Based on their evaluation of potential opportunities, participants at each workshop agreed on two or three priority cotton by-products to develop in their countries, as well as the policy recommendations

necessary to support them, together comprising each country’s National Action Plan to develop cotton by-products.

Each of the four National Action Plans prioritises the development of some combination of the following by-products:

- Briquettes and pellets, from cotton stalks and other biomass sources;
- Mushrooms and fertilizer, from cotton stalks;
- Absorbent cotton wool, from short-staple cotton; and
- Removing the enzyme gossypol from cottonseed meal, allowing it to be used in poultry feed.

According to the project plan, UNCTAD now proposes a study visit that will allow participants from the four countries to see examples of these cotton by-product technologies in operation, including learning from entrepreneurs how to run their businesses and market their products.

UNCTAD selected CIRCOT as the most relevant institution to host the study visit. This follows from CIRCOT’s valuable contributions to the project’s four national workshops. In addition, similarities between the cotton production model employed in India and the four project countries – for example, in both cases, cotton is mainly hand-picked on small farms – mean that the value-added technologies developed at CIRCOT and commercialised in India are often well-suited to the African context, improving the potential for cotton farmers and entrepreneurs in ESA to benefit from their adoption.

2. Value addition technologies

The study visit will focus on three of the cotton by-products listed above, judged to have the greatest commercial potential in ESA, namely:

- a) Briquetting and pelleting;
- b) Absorbent cotton; and
- c) Removal of gossypol from cottonseed meal.

Due to time constraints and lower commercial potential, mushrooms and fertilizer technologies were omitted from the study visit programme. Nevertheless, UNCTAD will work with CIRCOT to provide project countries with the necessary technical information and supplier contacts to adopt technologies to derive mushrooms and fertilizer from cotton stalks and biomass.

3. Objectives

According to the project’s logical framework, the study visit (A 1.4) is intended to contribute to the following expected achievement:

Expected project achievements	Indicators
<p>EA1 Improved capacity of cotton value chain stakeholders to assess the potential value, market situation and prospects for cotton by-products.</p>	<p>IA 1.1 Four target countries have collected and analysed statistics on the cotton by-products value chain, including the availability of raw material, processing and market conditions of these by-products (i.e., cotton seed and/or stalk).</p> <p>IA 1.2 National action plans aiming to increase the value added of cotton by-products have been developed and adopted by cotton value chain stakeholders in at least three of the four target countries.</p>

To this end, UNCTAD aims for the study visit to:

- a) Demonstrate to participants the operation of the cotton by-product processing technologies developed by CIRCOT;
- b) Provide detailed examples of commercial enterprises employing the technologies, to understand their businesses, operations and marketing;
- c) Establish contacts with fabricators that could export the required equipment to participants' home countries;
- d) Exchange knowledge and experiences related to cotton and its by-products; and
- e) Promote South-South cooperation, including technology transfer, between India and the four African project countries.

4. Venue

ICAR-Central Institute for Research on Cotton Technology (CIRCOT) was established in 1924 and has its headquarters in Mumbai. CIRCOT is one of the constituent institutes of the Indian Council of Agricultural Research (ICAR), under the Ministry of Agriculture and Farmers Welfare, Government of India. CIRCOT's mandate is to carry out basic and strategic research in processing cotton and its agro-residues, development of value added products and quality assessment of cotton. The Institute is also involved in capacity-building of its stakeholders through its skills development initiatives and offers incubation service for budding entrepreneurs. CIRCOT is an NABL-accredited Laboratory and is functioning as referral laboratory for cotton fibres.

CIRCOT gained international reputation through the Cotton Technical Assistance Programme of Government of India for Africa and is still actively involved in development of cotton sector in African countries. The Institute is the technical implementing agency in establishing the "Regional knowledge cluster cum training centre for post-harvest and ginning technology" at Bohicon, Benin. The institute is also organising the capacity-building programme on "Post-harvest processing of cotton and value addition to crop residues" for the African nationals under the India-Africa Forum Summit III that pivots on Human Resource Development for stronger Indo-African Cooperation.

This study visit will be organised at the Ginning Training Centre (GTC) of ICAR-CIRCOT, located in Nagpur. The Centre was established as a regional unit of ICAR-CIRCOT in 1985, was first of its kind in Asia and remains one of 3-4 centres worldwide that undertake research activities and provide specialised training on ginning and value addition to cotton by-products. The GTC has contributed immensely to modernising the Indian Ginneries under the Government of India's Technology Mission on Cotton. The Centre has pilot plant facility on double roller ginning technology, a scientific cottonseed processing unit, a particle board manufacturing unit and a pelleting plant, as well as fibre quality testing facility.

For more than 25 years, the GTC has served the stakeholders through training on ginning, value addition to cotton biomass; technical consultancy services to gin manufacturers and assistance in quality evaluation of cotton for breeders. The training curriculum is enriched by guest lecturers and study tours to machinery manufacturers, ginneries and value-added processors. The Centre has also become a hub for South-South cooperation on cotton value addition technologies: over the last 10 years, it has trained over 5,000 trainees from throughout India and Africa.

The GTC is situated on a campus of 30,000 square metres on Amravati Road in Nagpur. Popularly known as the Cotton or Orange City, Nagpur is located in central India and has good connections to

New Delhi and Mumbai by air, road and rail. The Centre is located approximately 15 kilometres from Nagpur’s Baba Saheb Ambedkar International Airport.

5. Preliminary programme

Participants will arrive on, or before, Sunday 13 January. From Monday to Friday, they will undertake the following five-day programme of activities:

Date	Module	Activities
Monday 14 January	Welcome	<ul style="list-style-type: none"> • Introductions and opening presentations by CIRCOT and UNCTAD • Demonstration of the facility at Ginning Training Centre, CIRCOT, Nagpur
Tuesday 15 January	Briquettes and pellets	<ul style="list-style-type: none"> • Presentation on India’s experience with briquetting and pelleting • Visit to cotton stalk and other biomass briquetting and pelleting plants • Discussion with entrepreneurs to understand their business, operations and marketing
Wednesday 16 January	Absorbent cotton	<ul style="list-style-type: none"> • Presentation on India’s experience with absorbent cotton technology • Visit to absorbent cotton plants • Discussion with entrepreneurs to understand their business, operations and marketing
Thursday 17 January	Removal of gossypol from cottonseed meal	<ul style="list-style-type: none"> • Presentation on India’s experience with removing gossypol from cottonseed meal • Visit to a de-gossypolization plant • Discussion with entrepreneurs to understand their business, operations and marketing
Friday 18 January	Machinery manufacturing Knowledge sharing New business relationships	<ul style="list-style-type: none"> • Visit to machinery manufacturing units and factories • Business Forum with manufacturers, researchers, policy makers and other stakeholders

6. Participants

The project budget provides for approximately 18 country participants, plus one representative from each of the partner institutions, such as COMESA, UNECA and the International Trade Centre (ITC), for a total of 21 financed participants. UNCTAD is seeking funding for an additional 8-10 participants, to bring the total to approximately 30.

Focal points in project countries will each nominate a list of participants. They will select participants with the greatest potential to implement new cotton by-product technologies and activities in their

countries. Based on the technologies featured in the study visit – briquettes, pellets, absorbent cotton and cottonseed meal – participants will include farmers, ginners, oil millers, entrepreneurs and policy makers, for example.

Gender balance is a priority for UNCTAD. For this study visit, UNCTAD and its project partners aim for women to comprise a minimum of one third of participants.

7. Travel and logistics

UNCTAD will submit the full list of nominated participants to the Ministry of External Affairs of the Government of India, for approval. Approved participants will then be responsible for obtaining any necessary visas from the nearest Indian embassy or consulate.

From the project budget, UNCTAD will provide each participant with a return flight to Nagpur in economy class, a daily subsistence allowance and terminal expenses, according to United Nations travel rules.

For convenience, UNCTAD will reserve meeting facilities and rooms for participants at a single hotel in Nagpur (tbc). Similarly, lunches will be catered during the programme.

8. Contact

General information on the project, including the project document, background materials and activity reports, can be found at the project site:

<http://unctad.org/en/Pages/SUC/Commodities/SUC-Project-1617K.aspx>

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