A Summary of the Synthesis Report on Cotton By-Products in Eastern and Southern Africa

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The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.
A Summary of the Synthesis Report on Cotton By-Products in Eastern and Southern Africa

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Outline

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- Challenges

Conclusion

recommendations
Background

Cotton remains an important crop in Uganda, Zambia and Zimbabwe.

About 500,000 – 750,000 rural households in these countries are engaged in cotton production.

It creates employment opportunities for many people and is a source of revenue for the countries.

Cotton is primarily used for lint, but its attractiveness is affected by reduction in profit margins along the value chain.

So, cotton by-products have been seen as an avenue to help improve the attractiveness of the cotton value chains.
Uses of Cotton

COTTON PLANT

SEED COTTON

LINT

COTTON STALKS

SEED

- Cake / meal
  - Flour
  - Feed
  - Fertilizer

- Oil
  - Salad / cooking oil
  - Cosmetics
  - Pharmaceuticals
  - Waterproofing
  - Feed
  - Fertilizer
  - Synthetic rubber

- Linters
  - Food packaging
  - Plastics
  - Film
  - Paper

- Hulls

- Meat

Focus area of UNCTAD project:
"Promoting cotton by-products in Eastern and Southern Africa"

Source: Adapted from Cotton Development Organisation, Uganda
Cotton By-Product Value Chain

COTTON PLANT

SEED COTTON

LINT

SEED

Oil
  • Salad / cooking oil

Cake / meal
  • Feed

Meat

Hulls
  • Feed
  • Fertilizer

Linters
  • 99% exported

COTTON STALKS

Planting seed

Well developed cotton by-products
• All the participating countries

Partially and not yet developed Cotton by products

Source: Adapted from Cotton Development Organisation, Uganda
Cotton By-Product Value Chain

COTTON PLANT

SEED COTTON

LINT

SEED

Meat

Hulls

Linters

Cake / meal
- Flour
- Feed
- Fertilizer

Oil
- Salad / cooking oil
- Cosmetics
- Pharmaceuticals
- Waterproofing

Oil
- Feed
- Fertilizer
- Synthetic rubber

Pulp
- Pilot briquetting plant
- Pilot pelleting plant

COTTON STALKS

Planting seed

Focus area of UNCTAD Project in ESA

Source: Adapted from Cotton Development Organisation, Uganda
Despite the value-added potential they represent, cotton by-products are underdeveloped in Africa, owing to several impediments. These include:

- lack of adequate downstream infrastructure;
- a shortage of enabling policies and institutions to support the development of cotton by-products industries;
- poor market information on cotton by-products; and
- lack of data to assess the economic viability of investment opportunities in cotton by-products industries.

UNCTAD cotton by-product projects focus on stimulating the growth of these cotton by-products. The synthesis report is based on 4 investment profiles (3 briquettes and 1 absorbent cotton wool).
Key outcomes of the study
Outcome # 1: Some Level of development

- There is some level of development of cotton by-products with regard to cottonseed (edible oil and cake) in all the three countries.
- Absorbent cotton wool – commercial activities taking place.
- Cotton Stalks are a cotton by-product with newly identified commercial potential.
COTTON PLANT

SEED COTTON

COTTON STALKS

Planting seed

SEED

Cake / meal
  • Feed

Meat

Oil
  • Salad / cooking oil

Hulls
  • Feed
  • Fertilizer

Linters
  • 99% exported

Well developed cotton by-products
• All the participating countries

Partially and not yet developed Cotton by-products

Source: Adapted from Cotton Development Organisation, Uganda
Outcome # 2: Cotton by Products Financially Viable

Briquettes technology financially viable in all the three countries (Uganda, Zambia and Zimbabwe) – Positive NPVs and the IRR is greater than the cost of borrowing

Absorbent cotton wool project is also financially viable since NPV is positive and the IRR is greater than the cost of borrowing
Outcome # 3 - Challenges

- Low production and productivity
  - Climate change
  - Poor seed cotton prices
  - Reduced input pre-financing

- Imports of cheap refined or semi refined cooking oil

- Lack of appropriate and inexpensive technology

- Inadequate infrastructure development, e.g. feeder roads

- Market challenges – seed cotton pricing
Trends in Seed Cotton Production 2011-2018

- Seed cotton production has declined in all the three countries
Outcome # 4: Opportunities -

- Generally good climatic condition for cotton production in all the three countries
- Cotton is considered a priority crop in all the countries
  - So investors need to tap into that good-well
- Availability of feedstock for cotton by-products
- Availability of the market
Outcome # 5: Key lessons learnt from UNCTAD Cotton by-Product Project

• Value addition to cotton by-product cannot be looked in isolation
• Enhanced awareness of business opportunities availability in cotton by-product
• Cotton production in Eastern and Southern Africa is low compared to its potential
• Briquettes/pellets can help mitigate environmental challenges exposed by deforestation due to charcoal production
• Price of alternative fuel sources (charcoal/electricity/LPG) may affect the development of briquette commercially
• There need to consider product preferences in promoting briquettes (carbonized vs non-carbonized)
Outcome #6: India Study Experiences and Participants testimonials

Cotton farmers can earn an extra income from the sell of the cotton stalks

Use of agricultural residues in briquetting making can help reduce deforestation

Good coordination between public research institutions and private sector can help actualize technology development and commercialization
"The greatest lessons I learnt was innovation, - turning something (crop residue – cotton stalks) which in my country our farmers throw and burn into valuable products (briquettes and pellets) was amazing” Adeva Gwezi, Communication Specialist – Zimbabwe Farmers Union.

“A farmer can increase daily income by making a bit of transformation to the cotton they have. What is indeed is to empower the farmers with the technologies appropriate to their income and environment” Thierry Kalonji - COMESA – Director of Industry.

“The epitome key lessons learnt from the Indian study tour was linking researched technologies and commercialization. I was able to see with my own eyes of the different cotton by-product technologies that scientists were sharing during the workshop”. (Bob-Alberto Ogen – Managing Director – West Acholi Cooperative Union Ltd - Uganda.)
Conclusion

Importance of cotton cannot be overemphasized in Uganda, Zambia and Zimbabwe, as it supports many actors along the value chain.

Cotton by-products have a role in making cotton production more attractive.

Cotton by-products are financially viable business ventures.

However, for some cotton –products (carbonized vs non-carbonized), need to understand the consumer preference.
Recommendations

Cotton by-products should not be looked in isolation but as full value chain

Do more awareness campaigns to make sure briquettes/pellets are known as goal substitute of charcoal

Encourage farmers and other actors to form cooperatives in order to reach economies of scale

Encourage countries to incorporate cotton by-products in their strategies

Encourage exchange study visits to learn what others are doing
Thank you