

Cotton and its By-Products in Zambia

Analysis of Cotton By-Products Survey

Presented

By

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at Southern Sun Hotel

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Motivation



Cotton remains an important cash crop - 2 million smallholder farmers in Sub Saharan Africa

Source of income for rural households, employment opportunities for people, source of export revenue for government

Cotton grown mainly for LINT but there are by-products that can be derived from cotton: cake, edible oil, soaps, margarine, particle boards etc

Knowledge Gap

Underdeveloped

- Despite the value added potential on cotton by-product, this value chain is underdeveloped in Africa

Project

- UNCTAD, ECA and COMESA designed a project to assess the development of cotton by-product value chain in Tanzania, Uganda, Zambia and Zimbabwe

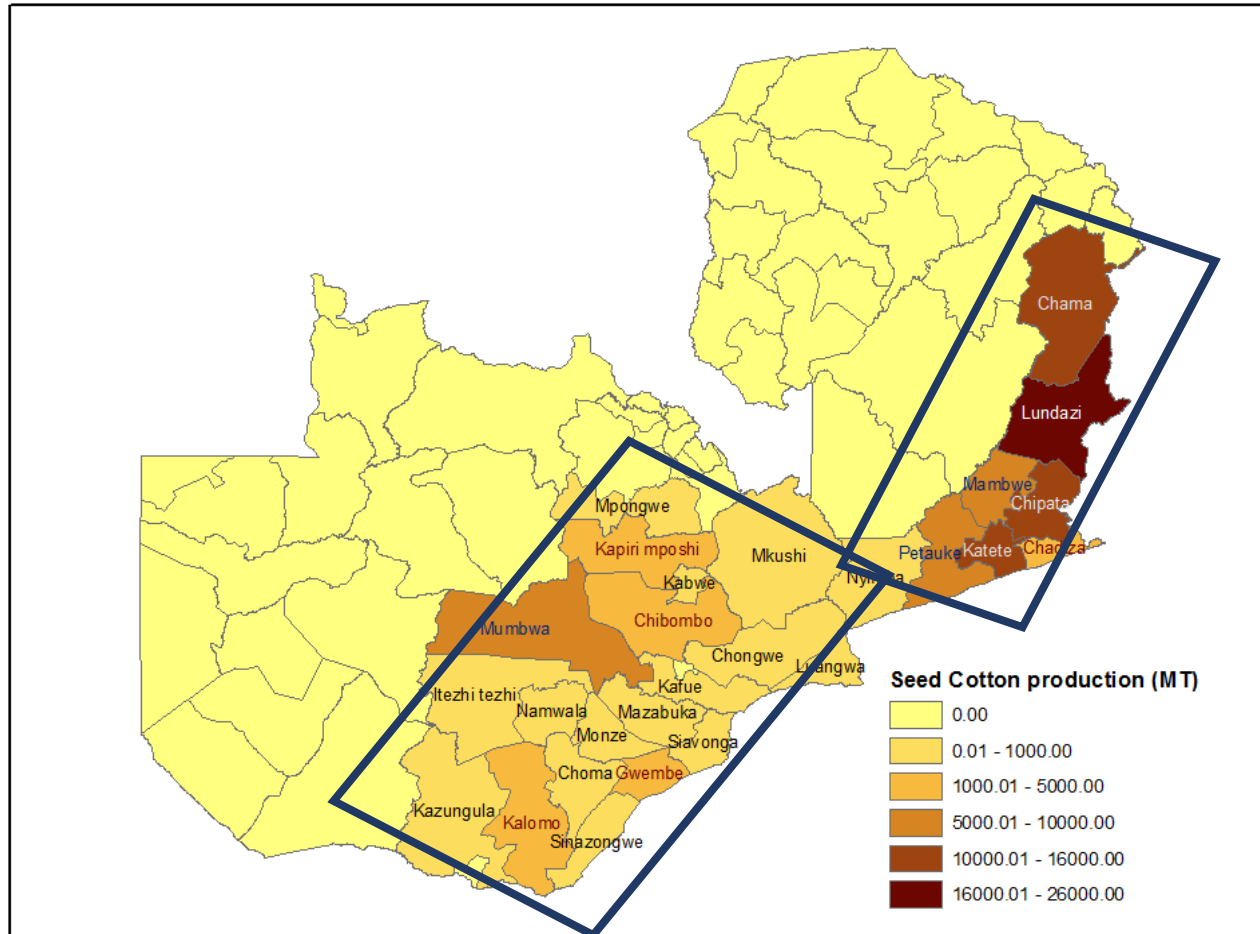
Objectives

- Improve capacity of cotton value chain stakeholders in assessing market opportunities and challenges
- Improve capacity of policy makers in Zambia to formulate evidence-based policies that help develop cotton by-product industries

Methodology

- Primary and secondary data were used
- Primary data was obtained through conducting KIIs and FGDs
- 32 Key Informant Interviews were conducted in Lusaka, Kabwe, Ndola, Livingstone, and Chipata
- 11 FGDs of 13 farmers were conducted in major seed cotton growing areas of Zambia

Cotton Growing Areas in Zambia



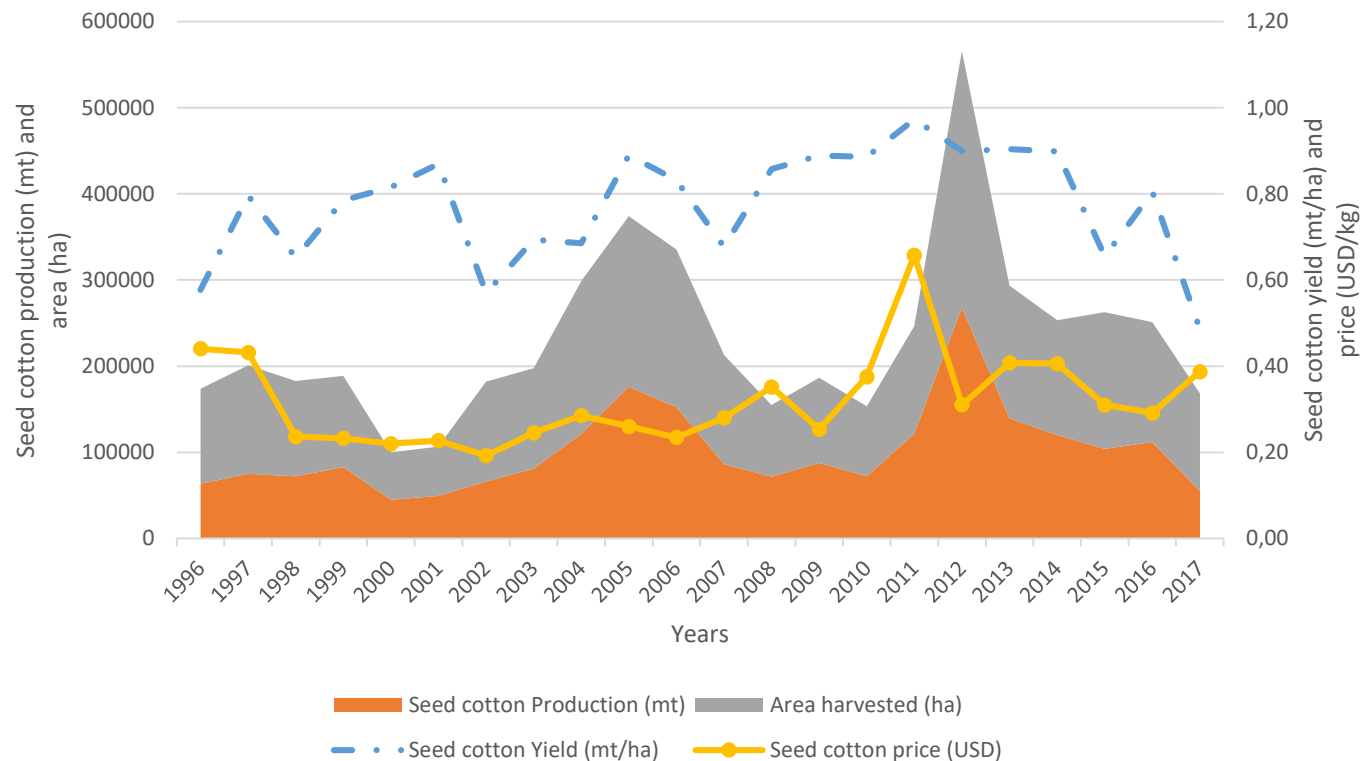
- Eastern/Chama account for over 70% of seed cotton produced
- Remainder is shared among Southern, Central, and Copperbelt Provinces

Source: Kabwe et al. 2016

Economic Importance of Cotton Sector to Zambia

- Government aims to create 1million new formal jobs
- Identified agriculture as the drive and cotton is one of the priority value chains
- Cotton subsector contribute about USD 60 million to economy varies between 0.25% to 1.45% of GDP

Development and performance of the Zambia Cotton Sector

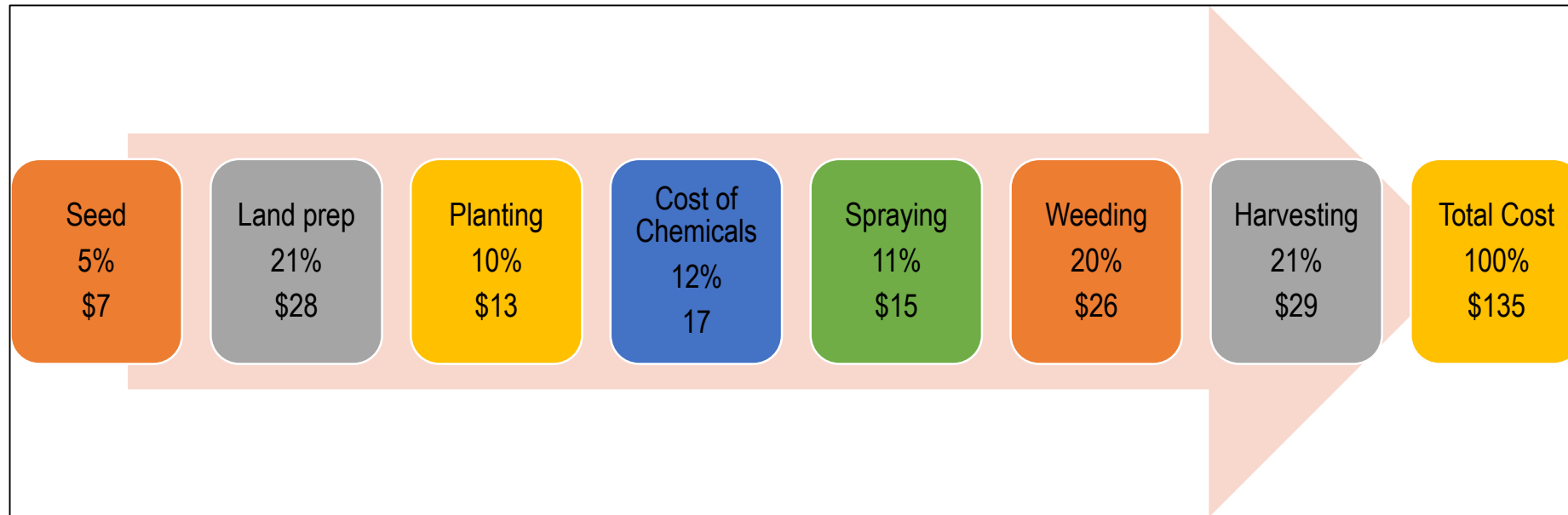


Since privatization

- More companies have entered the sector
- CBZ, CAZ, ZCGA formed
- Ginning capacity increased to over 366,000 MT
- Area and production of seed cotton has increased
- Productivity is around 850kg/ha but in 2016/17 declined to 490kg/ha
- Seed cotton price ranged between 19-66 cents/kg

Source: CSO/CBZ

Production Margins vs cost drivers for farmers



- If we consider 490kg/ha and $\text{USD}.39/\text{kg}=\text{USD}191$
 - Positive margins of $\text{USD}56/\text{ha}$

Cotton by-Products in Zambia

Cotton plant



Source: CAZ 2017

Cotton Plant

Seed Cotton



Cotton Stalk



Lint

35-41% weight of seed cotton

Cottonseed



55-65% weight of seed cotton

Focus of UNCTAD Project

Promoting cotton by-product in Eastern and Southern Africa

What are the cotton by-product from cotton stalks and cottonseed?

Cotton by-Products in Zambia

Feedstoc	By-Produ	Down stream product	Status	Key challenges	Potential of development
Cotton stalk	Particles boards	Particles boards	Not developed		
	Pellets	Pellets			
	Paper	Paper			
Cottonseed meal	Cottonseed cake	Animal stockfeed	Developed		
		Fertilizer	Not commercial developed		
	Cottonseed oil	Edible oil	developed		
		Margarine	Not developed		
		Soap	Not developed		
Hulls	hulls	Added a roughage to animal stockfeed	Partially developed		
Linters	Linters	Food packaging, currency	Partially developed		

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		Fertilizer	Not commercial developed	<ul style="list-style-type: none"> Lack of appropriate technology 	<ul style="list-style-type: none"> Possible area for development relatively cheap fertilizer
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Linters	Linters	Food packaging, currency	Partially developed		High demand for food packaging materials

Why low seed cotton production?

Low seed cotton production cited as a major impediments for the development of the cotton by-product (four years average - 100,000 Mt)

- Low productivity (850kg/ha) against over 2000kg/ha of variety potential
- Farmers do not follow good agricultural practices (five fingers principles)
- Price volatility (push farmers in and out of cotton production)
- Maize centric policies (FISP + FRA) all support maize production
- Side marketing of seed cotton will result in ginning companies not investing much
- Majority of farmers do not use fertilizer
- Quality of inputs used (chemicals and seed)



**What should be done to
actualize the development of
the cotton by-products in
Zambia**

Way forward

Feedstock	By-Products	Key challenges	Key challenges	Possible Solutions
Cotton stalk	Particles boards	Particles boards	<ul style="list-style-type: none"> Law (Cap 233 Plant Pest and Diseases) major impediment Lack of appropriate technologies 	<ul style="list-style-type: none"> In the law it is not written that farmers cannot cut and sell the cotton stalks Need to look at affordable technologies farmers can use at that level (chipping technologies), affordable factory equipment for making pellets and particle boards
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Cottonseed meal	Cottonseed cake	Animal stockfeed	<ul style="list-style-type: none"> Low seed cotton production affects consistency supply VAT on cottonseed Limited only for ruminants because of gossypol 	<p>To enhance Seed cotton Production</p> <ul style="list-style-type: none"> Harmonized extension services, promote use of fertilizer Introduction of price stabilization fund Improved funding to research institution eg CDT to provide improved varieties Strengthen extension provision (private/public) Promote the use of climate smart agricultural practices Organize farmers in Cooperatives (eg model under CAZ) Improve regulations (Cotton Act) Offer tax incentives for inputs for seed cotton production <p>By-Products</p> <ul style="list-style-type: none"> Advocate for remove of VAT on cottonseed Apply appropriate taxes that can curb importation of refined oil Government to improve monitoring borders points to curb smuggling of cheap oils Develop strong relationship with cattle farmers (dairy)
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Acknowledgements

This research was funded by the United Nations Conference on Trade and Development (UNCTAD). The research team thanks all stakeholders that participated in this research.

Thank you