

**COTTON ASSOCIATION OF ZAMBIA
(Strengthening Cotton Farmers)**

APPROACHES TO IMPROVE COTTON PRODUCTIVITY IN ZAMBIA

Background

There are nine companies in Zambia, the most significant being Dunavant Zambia Limited and Cargill Cotton Ginners Limited, who engage over 280,000 farmers in the production of cotton. Since privatization in the mid 1990's the industry has experienced a succession of major advances and setbacks but cotton production still provides the most significant opportunity for smallholder farmers to engage in cash crop farming.

However, unacceptably low cotton yields which average between 450-650 kilogrammes per hectare depending on climatic conditions, are probably the most important constraints facing the industry. Until recently the cotton ginners have increased production primarily through the recruitment of additional growers. This approach encouraged the "ranching" of cotton by many thousands of farmers who have been satisfied with relatively unattractive returns in the absence of alternative market opportunities. This situation is now changing and the industry is confronted by major challenges.

Low yields and unattractive returns to labour (in particular) resulting from poor management practices have in recent times, impacted the cotton industry in the following manner:

- ♣ Farmers are less resilient to lower prices offered by the ginners resulting from softening international market prices and/ or abrupt currency exchange rate fluctuations. The rapid strengthening of the Zambia Kwacha at the onset of the 2005/06 season and a 30% reduction in cotton prices resulted in the immediate exit of 100,000 farmers and a resultant 40% to 50% reduction in seed cotton production. The industry as a whole is yet to recover from this debacle despite a return to more attractive prices.
- ♣ Farmers exit and enter cotton production for several reasons at a time depending on prevailing prices and fail to accumulate the knowledge and skills that would lead them to increased yields and profits.
- ♣ The sporadic involvement of Government in the smallholder maize sector through the provision of input supply and marketing subsidies threaten already weak producer alliance to cotton.

- ♣ The dramatic strengthening of commodity prices particularly oilseeds such as soybeans, sunflower and groundnuts pose an additional threat to the cotton industry. More attractive alternatives, at least in theory, now exist.
- ♣ In the absence of protective legislation, farmers who are dissatisfied with cotton prices and net returns are more likely to default on their contractual obligations and side-sell their production to alternative buyers.

As has already been indicated above, the most significant challenge in the development of the cotton sector in Zambia is the low productivity of the smallholders. The crop in Zambia is exclusively planted under rainfed conditions. The potential of the three cotton varieties currently being grown is between 2.5 to 3 MT per hectare and yet the national average yield has been around 450-650 kg per hectare.

In order to improve the productivity and make cotton profitable for Zambian smallholder farmers, the Cotton Association of Zambia (CAZ) in conjunction with several other key stakeholders has over the last five years been involved in the implementation and promotion of several interventions and practices amongst the farmers and farmer groups. The major activities have included the following:

Major activities to improve productivity

1. Supply of improved certified seeds

Almost all the nine cotton outgrower schemes promoting companies have been involved in the multiplication of seed upon registration with the Seed Control and Certification Institute (SCCI) and supply of seed material by the Cotton Development Trust (CDT). However, due to various competition pressures during the marketing period, several farmers have sold their commercial crop as seed and in some cases mixed the varieties. Additionally, the companies have compromised the quality of the seeds through a loosely supervised seed multiplication programme with their contracted farmers from pre-basic to the certified seed category and have done very little to prevent the adulteration of varieties.

CDT with support from the World Bank through the Agricultural Development Support Project has installed an irrigation facility at the CDT farm that will enable the institution to produce sufficient quantity of certified seeds to meet national demand. The same programme will endeavour to clean up the varieties.

SCCI has been closely monitoring the inspection of seed crops through strict registration and enforcement of the regulations in the field. This activity has further been enhanced by the recent appointment of Inspectors by the Cotton Board of Zambia who are also involved in the enforcement of rules and regulations of the Cotton Act of 2005.

2. Improved crop management

CAZ through its extension and training department working with CDT, the Conservation Farming Unit (CFU), the Swedish Cooperative Center (SCC) and the Department of Field Services in the Ministry of Agriculture and Cooperatives (MACO) have intensified farmer training through the use of:

- (i) Study circles
- (ii) Farmer model groups to teach farmers to adopt better and safer cotton production technologies while paying strict attention to the following practices:
 - Early planting

- Correct plant population
- Timely weed control
- Effective pest control through Integrated Pest Management (IPM)
- Adequate application of conventional and foliar fertilizers

The Cotton Act of 2005 prohibits the maintenance of ratoon cotton fields and farmers and outgrower companies encouraging the practice of growing cotton as a perennial plant face serious sanctions by law.

3. Enhanced conservation farming technologies

CFU has been providing support to CAZ to enable it train farmers to learn and adopt Conservation Farming (CF) practices that help to:

- Harvest rain water
- Reduce excessive soil disturbance
- Maintain correct plant population per area of production
- Restore and maintain soil fertility

This is being achieved through the implementation of a cotton based farming system that emphasises the production of a cereal (maize), a legume (soyabean) and cotton in rotation. This system also assures household food security.

4. Farmer visits exchange programme

CAZ facilitates farmer exchange visits within the country and outside to enable farmers to learn from each other's experiences in order that positive attributes may be copied and applied. Representatives of farmers who visited Burkina Faso in November 2008 were convinced to adopt the use of Bt cotton in Zambia to reduce their labour requirements. CAZ is currently discussing the issue with the Government.

5. Training in quality control

CAZ in addition to creating awareness of the farmers in the marketing aspects of cotton and its by-products, has been training farmers in the observance of cotton quality and maintenance of good fibre characteristics. This is being done through group training in best practices that include hand picking, grading and non contamination with polypropylene as well as good colour.

Conclusion: Establishment of a core of Skilled Cotton Farmers

The number of farmers engaged in cotton production peaked at 300,000 in the 2004/2005 season. For the cotton industry to thrive in Zambia, the ginning companies and related development agencies must foster the emergence of perhaps 150,000 to 250,000 well organized growers who have the knowledge and expertise to consistently achieve yields of 1,000 kg per hectare to 1,800 kg per hectare. Ginners who are unable to develop a core of highly skilled, loyal and productive farmers are unlikely to survive the challenges of a rapidly changing market place.