

Cotton Production Under Contract System In Small Holder Farming Sector Of Zimbabwe

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Abstract

Contract farming has evolved in communal areas to ensure that the resource poor smallholder farmers are equipped to increase crop output per hectare. In this study cotton production under contract farming was assessed in Kanyaga Communal area of Mashonaland West Province in Zimbabwe through a survey. Fifty (50) smallholder farmers were randomly selected to participate in the survey. The survey sought to identify such aspects as assets that the farmers had, organisations that are involved in input provision, types of inputs and timing of provision of inputs, nature of technical support that was provided to the farmers as well as farmers' perception of the cotton seed buyers. Farmers in the Kanyaga smallholder cotton producing area had various assets to assist them in cotton production. They receive inputs such as seed and chemicals. Seed cotton buyers offered technical support, which included training on marketing, agronomy, farm management and transport. The absence of assistance with operations such as tillage and funds for harvesting reduces the benefits of the interaction between the cottonseed buyers and the farmers. Cottonseed buyers should introduce a participatory approach in price determination as strategy of making the relationship with farmers sustainable.

Key Words: contract farming smallholder farmer technical support
participatory approach price determination

Background

Agriculture is the most important source of national income in Zimbabwe, contributing to approximately 20 % of the gross domestic product of the country [1]. Of all the cash crops that are grown in Zimbabwe, cotton ranks second to tobacco, averaging about 7 percent of Zimbabwe's total export earnings [2]. This sector is made up of a large number of small cotton farms along with a number of large, well-established commercial cotton farms. Production increases have come mostly from small-scale cotton producers, who have of late increased in numbers after the implementation of the land reform programme.

Commercial cotton production began in the early 1920s. It was not until the mid 1960s that successful commercial cotton production began, after four decades of research in diseases, pest control and development of new varieties adaptable to Zimbabwe and even then, smallholder cotton production remained low until independence in 1980 [3].

At independence in 1980, the Zimbabwean government adopted supportive policies in research, extension, input, and credit provision to smallholder farmers. The Cotton Marketing Board of Zimbabwe spearheaded such efforts, and is credited for the expansion of cotton production in communal areas in the 1980s. Consequently, a smallholder 'cotton revolution' was experienced [4].

Between 1980-1985 for example, the area under cotton cultivation by smallholders increased from 15,000 ha to 130,000 ha, and smallholders' share of national output rose from 10 per cent to 40 per cent [4]. By the 2000/01 season, smallholder farmers produced about 90 per cent of Zimbabwe's total cotton output [5]. In spite of this increase, smallholder cotton yields per unit area remained lower than those of large-scale commercial farmers. Some of the reasons attributed to this trend is lack of resources and technical skills, as solution, contract farming has evolved to ensure that the resource poor small-scale farmers are equipped to increase output per hectare. However, the major drawback is that contractor seems to be only interested in the product, and not in improving the skill development aspect.

In sub-Saharan Africa, contract farming backdates to the colonial period. However, it was from the 1980s that contract farming expanded rapidly across the continent. This was partly because of the World Bank's efforts to promote export-oriented production in order to revive dwindling foreign currency earnings. Further, the World Bank conceived export-oriented production as part of a new development strategy to transform rural areas by creating mutually benefiting partnerships between agri-business and smallholder farmers. Through contact farming, small holder producers would receive inputs like seed and fertiliser. Such a move would naturally lower the cost of buying inputs and would result in the expansion of land area under cultivation. However, critics argue that contract farming is less likely to target resource poor rural farming communities. Thus, it is hardly conceivable that contract farming can be viable strategies for rural development.

It is against this background that this study was carried out to explore the relations between seed cotton buyers and smallholder farmers in Zimbabwe's cotton contract farming. The study sought to determine cotton production-related assets that are available at the farmer's homestead; identify types of inputs provided to smallholder cotton farmers by seed cotton buyers and establish the nature of technical support provided to smallholder cotton farmers by seed cotton buyers. The study also sought to evaluate farmer perception of the role of seed cotton buyers on success.

The results of the study could be important in the formulation of policy strategies necessary to overcome problems faced in contract farming. The study would increase our understanding on the underlying factors that shape the interactions between smallholder farmers and seed cotton buyers. Overall, the study would contribute substantially to the development of smallholder cotton production, on which thousands of households rely on as their main source if not the only source of income.

METHOD

Study Area

This study was carried out in Kanyaga Area, Ward 8 of Makonde District, in Mashonaland West Province of Zimbabwe. Kanyaga Area shares boundaries with Dendadales Game Park, Nzoe Game Park, Nyamutsitu Commercial farm, Kenzamba communal areas and two state lands. The area falls under Natural Region 3. Its annual

rainfall ranges between 650-800 mm and usually experiences normal season length that stretches from November to April [6].

Soil type in Kanyaga Communal Area is mainly of the lithosol and fersialitic soil groups. These soils are very shallow and are less than 25 centimetres deep, over weathering rock or gravel, and soils with appreciable reserves of weatherable minerals. The soils, climatic conditions and season length are hence suitable for cotton production.

Study Design and data collection

The study was conducted in the form of formal survey in single phase using a questionnaire. Fifty (50) smallholder farmers were randomly selected to participate in the survey. The participants were selected using a table of random numbers, as well as household numbers from the Registrar General’ Office [7]. Data collection methods included the use of semi-structured and in-depth interview with farmers, government and seed cotton buyers. Secondly, the study used participatory observation at cotton field and prize giving days. By using multi-method approach, the study was able to capture the diverse opinions and perspectives from those involved in smallholder cotton production and contract farming.

The questionnaire sought to identify such aspects as assets that the farmers, organisations that are involved in input provision, types of inputs and timing of provision of inputs as well as the nature of technical support that was provided to the farmers. Lastly, the questionnaire sought to evaluate the farmers’ perception of the support provided by cotton buyers.

RESULTS

Small holders involved in contract cotton production had quite a number of assets that are used in the process. Cattle ownership in the area was 72% while ownership of ox drawn implements like ploughs; scotch carts, cultivators and harrows were 94, 40, 30 and 8% respectively. The other assets that were noted in the project area are in Table 1 below.

Table 1 Assets Possessed by the farmers

Asset name	cattle	Ox drawn plough	Scotch Cart	Wheel Barrow	Harrow	Planter	Cultivator	Hoe	Knapsack Sprayer	Storage		
										Brick walled	Pole & dagger	Secured/ Lock
Sample Size	50	50	50	50	50	50	50	50	50	50	50	50
Frequency	36	47	20	29	4	1	15	50	30	20	15	30
Percentage	72	94	40	58	8	2	30	100	60	40	30	60

Quite a number of companies are involved in the provision of inputs in Kanyaga cotton farming area. The Cotton Company of Zimbabwe was the most dominant, providing

inputs to 36 % of farmers in Kanyaga. The least influential was Insing, working with only 2 % of the cotton growers. Other input providers were Cargill, Alliance, Olam and Cynthesis with influence as shown in Figure 1 below.

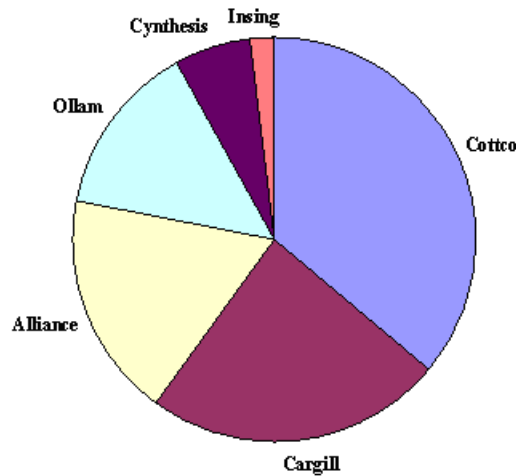


Figure 1 Influence of input providers

All smallholder cotton farmers got seed and insecticides from their seed cotton buyers, while 80, 30, 20 and 10 % respectively of the smallholder cotton farmers in Kanyaga area accessed fertilizer, weeding assistance, herbicides, and harvesting assistance as shown in Table 2.

Table.2: Types of inputs obtained from inputs providers in Kanyaga area.

Input name	Seed	Fertiliser	Weeding	Herbicides	Insecticide	Harvesting
Sample size	50	50	50	50	50	50
Frequency	50	40	15	10	50	5
Percentage	100	80	30	20	100	10

Seed cotton buyers offered various technical supports, which included training on marketing, agronomy and farm management. All smallholder cotton farmers in Kanyaga were assisted with transport (Table 3).

Table 3: Nature of technical assistance provided by seed cotton buyers

Nature of technical assistance	Agronomy	Marketing	Transport	Farm management
Sample size	50	50	50	50
Frequency	10	50	50	5
Percentage	20	100	100	10

Smallholder cotton farmers in Kanyaga area had different perceptions on the services of their seed cotton buyers. The assessment ranged from timely provision of inputs, training in aspects of cotton production, pricing to contribution to rural development and the results are shown in Table 4 below.

Table 4 Summary of farmers’ perceptions on services provided by Seed cotton buyers

Service	Rating					
	Cottco	Cargill	Alliance	Olam	Cynthesis	Insing
Timely provision of inputs	Good	Good	Average	Good	Average	Average
Appropriate input package	Average	Average	Average	Average	Below average	Below average
Training (Agronomy)	Average	Average	Average	Average	n/a	Below average
Pricing	Below average	Below average	Above average	Above average	Above average	Above average
Timely payment	Average	Above average	Good	Good	Good	Good
Cotton production	Average	Average	Average	Above average	Below average	Poor
Poverty alleviation	Above average	Average	Above average	Above average	Above average	Poor
Rural development	Below average	Average	Below average	Average	Poor	Poor
Employment opportunities	Average	Average	Above average	Above average	Below average	Below average

Key:

1. Good
2. above average
3. Average
4. Below average
5. Poor

DISCUSSION

Smallholder farmers had quite a number of assets and the list included cattle, tillage equipment, scotch carts and knapsack sprayers. The types of assets identified are important in the process of cotton production. With tillage equipment and scotch carts, farmers could till land in time and even weed the crop mechanically in time [8]. The harvested crop could also be ferried to a place of safety, and thus protected from the

vagaries of weather and thieves. However, intensive mechanisation may also result in unemployment and in this respect, intermediate mechanisation can be a better approach, especially in cases where agricultural policy is deliberately designed to promote rural development through employment creation.

Cattle ownership of 72 % in Kanyaga area was higher than findings of other researchers of smallholder agriculture systems [9; 10]. The most important functions of cattle in communal lands in Zimbabwe today are economic, associated firstly with increased crop production through use of animal draught power. Cattle provide draught power and enable farmers to prepare land in time. According to Mutisi et al. [11], cattle owners normally cultivate bigger land area, prepare land in time and even grew a bigger variety of crops. Cattle also provide manure as a cheaper source of fertiliser and some time cattle are sold to finance the cotton production process [12]. The frequent droughts in Zimbabwe in the last twenty years have resulted in the reduction in cattle population. The 1991-92 drought for example resulted in the loss of an estimated 55 % of cattle population in the communal areas of Zimbabwe [13]. There is need for introduction of new programmes that should extend cattle purchasing loans as long-term strategy of improving cattle production.

Agricultural credit is a major factor in boosting agricultural production, especially in the small holder sector, which lack self financing strength [8]. Generally in agriculture, the fixed capital is huge but it is the running cost that gives farmers a headache [14]. The multiplicity of input providers was a great advantage to the Kanyaga community in those cotton producers would have a choice of whom to deal with. The situation also ensured fair dealings with farmers by each input provider in an attempt to increase area of influence. Facts on the ground are however that those farmers have very little decision making on when to borrow, how much to borrow, what to borrow, repayment schedule length of the loan and what to use as security, as the input providers dictate these.

Mostly seed and insecticides were provided to almost all the sampled farmers. Seed is the symbol of beginning in scientific agriculture. It is the basic input and the most important catalyst for other inputs to be cost effective [8]. The provision of seed made it possible for most smallholder farmers to establish a high quality cotton crop with known performance. Seed provision enable farmers to increase land area under cultivation, as overall input cost falls. The overall result is the shift of the cotton supply curve to the right on the Zimbabwean market. However, input providers should assist the farmers with a full package of inputs that should include technical training in agronomy, harvesting and even grading as an overall long-term strategy of increasing cotton yields.

Although insecticide use has a positive contribution to cotton revenue, past research has shown that farmers generally use more amounts than what is actually required [15]. Farmers were only focusing on the benefits of insecticides without taking into consideration the full costs of insecticides such as health costs to the farmers and the community and the potential damage to the ecosystem. Farmers also need training in pest scouting and determining of threshold insect population levels in order to avoid over application of insecticides in the environment. Such training would ensure that farmers

borrow to the limit where cost of borrowing equals the return from investment (Marginal Cost = Marginal Revenue).

The fact that some farmers did not receive fertilisers, herbicides and tillage assistance could be an indication of the long-term effect of the input in empowering the Kanyaga community. It could be possible that those who did not receive the inputs had the ability to finance their crop production activities and thus had a choice of choosing own markets for their crop. However, in such difficult economic environment as was prevailing in Zimbabwe at the time of the research, inflation could erode the individual farmers savings and make them unable to continue financing their activities. This could result in the reduction in yield per hectare and area under cotton crop.

Only ten farmers were given advance cash to finance the harvesting process, with others financing the operation on their own. From an agronomic point of view delays in cotton production can cause contamination of the lint by wind dispersed weed fruiting structures, thus lowering lint quality. Cottonseed buyers could be encouraged to give full assistance from tillage to harvesting. This will enable farmers to realise high yields and good quality crop. However, it could be possible that such assistance was given to those with bigger pieces of land only and this research might not have picked this.

Only five out of 50 farmers received training in agronomy and only 10 % have been trained in farm management. There were few agricultural extension workers and therefore extension services for the farmers were very poor. The ratio is one extension worker to 5000 farmers when the ideal one should be 1: 200 [16]. Government extension services were complemented by cotton merchants' extension services monitoring their specific interests on input use and cotton crop performance. This is done to ensure that cotton inputs are not abused and all the produce is delivered to the input-supporting agency in order to avoid side marketing. Cotton merchants' services are restricted to their clients and the cotton crop. It should however, be realized that the fruition of education and research is realized after a long gestation period [16]. A single or low-level training as the one found in Kanyaga would not bring much of the desired and expected results.

Farmers had mixed perception on the importance of their interaction with input providers in Kanyaga Area. Growers felt that they were being short-changed by the cotton merchants. Naturally prices are supposed to be determined by the market structure, value added and the risk associated with the trade [14]. Small holder farmers however, lack the skills to consider such factor in the bargaining process, and always seemed to be on receiving end. As a way forward, they would desire for an increase in producer prices in tandem with the increase in inputs costs (on which they have no control) through their effective participation in price setting. The farmers perceived the present system employed by cotton merchants as not taking into account the other production costs than the inputs provided by contractors.

CONCLUSIONS AND RECOMMENDATIONS

Farmers in the Kanyaga smallholder cotton producing area have quite a number of assets to assist them in cotton production. With cattle as a source of draft power tillage for land preparation can be done and completed in time and planting can be done in time as well. There is also a strong opportunity for a livestock crop production interaction. Governmental and non Governmental programmes that are involved in cattle restocking programmes should be encouraged to offer such opportunities to the few farmers who do not own cattle as a strategy to improve cotton production in the area.

Farmers have acknowledged receiving inputs that included mostly seed and chemicals for pest control. This package should be accompanied by education on safety and an integrated approach to pest control. The current emphasis in pest control is on an integrated approach that calls for the application of cultural methods and mechanical, methods with chemical approach being used as a last resort.

In addition the omission of assistance of other operations like tillage and funds for harvesting could reduce the benefits of the interaction between the cottonseed buyers and the farmers. It is recommended that a full package of assistance that included all the inputs should be provided, and accompanied by training in all operations in cotton production.

Currently the perception of small-scale cotton growers towards the cotton seed buyers is rather mixed. The interaction is rather skewed, with a balance tilted towards the cottonseed buyers. A better scenario that could improve the perception could be the one in which farmers are clearly shown how the costs of the assistance provided is used in determining the prices of their produce. Cottonseed buyers should introduce a participatory approach in price determination as a strategy of making the relationship with farmers sustainable.

REFERENCES

- Barret, J. C. 1991. Economic Role of Cattle in Communal Farming System in Zimbabwe. **Proceedings of a Workshop on Valuing Animal Draught in Agro-Pastoral Farming in Zimbabwe in Tillage, Past and Future** held at the institute of Agriculture Engineering, Hatcliffe, Harare, Zimbabwe.
- Broadway, A. C. and A. A. Broadway, 2002. **A Text Book of Agrarian Business Management**. Kulyani Publishers, New Delhi.
- Chikwenhere, G. and Sithole, S. (1993). “Integrated Pest Management in Zimbabwe”. **IPPM workshop proceedings** 7 – 11 March 1993, Harare, Zimbabwe.

Chizarura, E. 2003. Fate of cotton production in Zimbabwe: Zambezi Valley Case Study. **SEATINI Bulletin 2003-2005**.

CIA world Factbook, 2014. Zimbabwe Economy Profile 2014.

<https://www.cia.gov/library/publications/the-world-factbook/>. Downloaded on 17/10/2014

Kapoor, T. R. (1975) **Fundamentals of Farm Business Management**. Klyani Publishers, Ludhiana. Indiana.

Larsen, M. N. 2002. Is Oligopoly a condition of successful privatization? The case of cotton in Zimbabwe. **Journal of Agrarian Change 2 (2), 185–205**. doi: 10.1111/1471-0366.00030.

Mariga, I. K. 1994. Cotton research and development. In: Rukuni and Eicher (eds). **Zimbabwe's Agricultural Revolution**. University of Zimbabwe Publications,

Ministry of Agriculture, 2005. **Report to the science committee of Cabinet**. Government Printers, Harare.

Mutisi, C. C., S. Younger, A. Illius, S. Gundry and N Kusina, 1998. Perception and Production Service values for Livestock in Semi arid Subsistence Farming Systems. **Foods, Lands and Livelihoods: Setting Research Agends for Animal Science**. KARI Conference Centre, Nairobi, Kenya.

Ngara, T. and Rukobo, A. 1991 Environmental Impacts of the 1991-92 Drought in Zimbabwe. An Extreme Event. Radix Consultant. Pvt. Ltd. Harare

Surveyor General (1998) **Natural Farming Regions and Provisional Farming Areas of Zimbabwe**. 1:1000000. Third Edition. Government Printers. Harare

Tsimba, R. Chawatama, S., Ndlovu L R Mutimba J Ndlovu P Dzama K, Tops J H, Hikwa D and. Mudhara M 1999. Socioeconomic Aspects of Animal Power: a diagnostic study in Zimbabwe. In **Meeting the Challenges of Animal Traction**. Starchy, P. and P. Kuaumbuto (Eds). 1999. Intermediate Technolody Publications. London. p 28-32

Whingwiri E Rukuni E M0, Mushaike K and Matanyaire C 1992. **Small scale Agriculture in Zimbabwe Farming Systems, Policy and Infrastructure development**. Rockwood Publishers Harare.

United States Department of Agriculture (USDA), 1991. Country update: Zimbabwe - 1980-1992 cotton production, forecasts – **World Cotton Situation, 1991**. U.S. Dept. of Agriculture, Economic Research Service Reports.