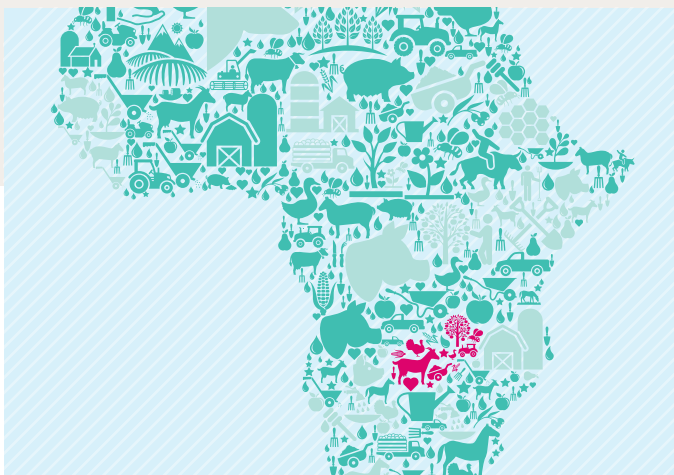


# VALUE CHAIN FINANCING IN AGRICULTURE

-----  
The case of Zambia



CIMA Executive  
Summary Report

Volume 12  
Issue 5

---

# KEY CONCLUSIONS

- Value chain financing (VCF) is a viable model to improve access to agricultural finance for smallholder farmers in Zambia based on the findings of the three case studies.
- The benefits of the VCF approach include inter alia: an increase in smallholder farmers' productivity, improvement in the financial wellbeing of the farmers, and expansion of the agricultural production, which in turn will lead to a higher level of food security.
- The challenge of offering agricultural credit through the value chain principle include what can be described as moral risk, i.e. the risk of smallholder farmers selling their produce and obtaining cash, but failing to settle their loan instalment and thereby not honouring the contract with the commercial bank.



# ABSTRACT

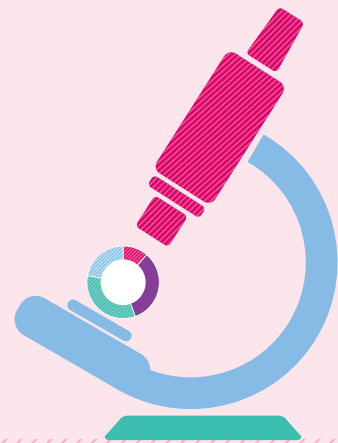
*Smallholder farmers in Zambia comprise 85% of the farming community.*

Such farmers are not regarded as creditworthy and their agricultural activity is characterised by low yields in production. The aim of this study is to investigate whether VCF could offer increased access to agricultural finance for Zambian smallholder farmers. Such financing will act as an enabler to mechanisation of the farming operation and in turn improve productivity. This study investigated and documented three independent case studies representing practical examples of VCF applied within the Zambian smallholder agricultural sector.

Each case study highlights the benefits of a value chain approach for providing finance but also emphasise certain challenges and risks associated with the approach. It was found that the VCF approach will improve the access to agricultural finance for Zambian smallholder farmers. It is recommended that investors, financiers and policymakers consider both the benefits and challenges with offering finance solutions following a VCF approach.

## CONTENTS

- 2 OVERVIEW OF THE PROJECT
- 3 RESULTS AND THEIR IMPLICATIONS
- 5 CONCLUSION AND RECOMMENDATIONS
- 7 NOTES



# OVERVIEW OF THE PROJECT

*Africa is the continent that has to feed the world. The continent has more than a quarter of the world's total arable land available and an abundance of natural resources.*

According to a recent report by the Food and Agricultural Organization (FAO) on food insecurity in Africa (2015), priority must be given to economic growth in the agricultural sector. The sector has the potential to provide a stable food supply at affordable prices, which, in turn, contributes to the competitiveness of the economy. The FAO (2012) highlights that agricultural investment is an effective way to i) reduce poverty, ii) promote agricultural productivity, and iii) enhance environmental sustainability. Additionally, food production in Sub-Saharan Africa (SSA) is not keeping up with population growth. Although crop yields in the developed and developing world have steadily increased over the last 50 years, yields in Africa have generally remained at approximately one ton/hectare or even less (Tittonell & Giller, 2013). An opportunity exists to close this yield gap by improving productivity.

In Africa, 70% of the food supply is produced by smallholder farmers; in other words, they generally produce staple foods enough for own use with occasional marketable surplus. Moreover, the agricultural sector in Africa provides employment to more than 80% of the population (IFAD and UNEP, 2013). A renewed focus on the investment needs and developmental support of smallholder farmers is therefore critical (IFAD and UNEP, 2013). Oberholster, Adendorff and Jonker (2015) concur by adding that agriculture-led growth can be effective in reducing poverty when making use of appropriate financing solutions that include smallholder farmers.

Zambia is a country with the potential to contribute to providing global food security. It is located in SSA with the agricultural sector contributing an estimated 10.8% to the country's gross domestic product (GDP) in 2014. Zambia has achieved an annual average GDP growth rate of 6.7% over the last ten years. According to the Zambian Ministry of Agriculture and Co-operatives, smallholder

farmers comprise 85% of the farmer population and cultivate less than five hectares (ha). The smallholder farmers face a number of challenges in their financing. From a financier's viewpoint, agricultural investment in general is perceived as high risk due to 1) price risk, 2) climate risk, and 3) credit risk. However, the smallholder agricultural sector in SSA is also characterised by low productivity (low yields) and low mechanisation. As commercial banks struggle to finance smallholder farmers, there is a need for a commercial financing solution inclusive of smallholder farmers.

Collateral is a key ingredient in lending, especially by commercial banks providing agricultural financing. Traditionally, in agricultural lending, agricultural land is the key form of collateral. However, the agricultural land in Zambia is government owned and those interested in land obtain it on lease for a period of 99 years through the Ministry of Lands. Smallholder farmers as such are regarded as not creditworthy by commercial banks as the risk of non-repayment is high and, in the event of default, offers no collateral. The aforementioned challenges lead to increased risk exposure for the financier of such an investment and if credit is granted, very high interest rates and strict credit terms are levied to compensate for the high risk. From the smallholder farmers' point of view, it is a requirement to obtain affordable financing at realistic credit terms. It can therefore be reiterated that there is a need for new and innovative agricultural financing solutions that are commercially viable for both the financier and the smallholder farmer.

Within this context, value chain financing (VCF) was investigated as a solution for increased access to agricultural financing for smallholder farmers in Zambia.

---

## OBJECTIVES

The objectives of the research were:

- to define and contextualise value chain financing for the agricultural sector within an African-wide context from available literature;
- to identify and document a number of existing agricultural value chain financing case studies in Zambia; and
- to recommend improvements to the existing agricultural value chain financing concept in Zambia.

# RESULTS AND THEIR IMPLICATIONS

*The first objective of contextualising VCF for the agricultural sector is addressed below.*

## CONTEXTUALISING VALUE CHAIN FINANCING

The theoretical concept of value chain was coined by Michael Porter in 1985 (Porter, 1985). VCF comprises the flow of credit between any or all of the agricultural finance providers, products and support services among the various value chain actors (Miller & Jones, 2010). Agricultural value chains that function optimally make use of financial products that meet specific needs. The credit risk is furthermore significantly reduced by the techniques used to distribute and collect funds (Oberholster et al., 2015). It is critical for the success of VCF that an effective lead chain actor is identified (Miller, 2010; Greenberg, 2010). Agribusinesses can act as an effective lead actor as: 1) they have an extended rural footprint,

and 2) they have close relationships with their customers. This allows for a hands-on approach in managing the VCF credit risk. The relationship between the lead chain actor and the smallholder farmer can play an important role in facilitating access to financial services (Oberholster et al., 2015).

Some of the benefits that an agricultural VCF offers to smallholder farmers include the reduction of the cost and risk in financing. It furthermore offers a mechanism to improve the access to financing for smallholder farmers that, due to 1) a lack of collateral, or 2) the high transaction costs of securing a loan, may otherwise not be available (Miller & Jones, 2010).

## EXISTING VCF CASE STUDIES

This study investigated and documented three independent case studies representing practical examples of VCF applied within the Zambian smallholder agricultural sector. Each case study represents a different lead chain actor with varying objectives for acquiring finance for smallholder farmers. The benefits and challenges that VCF brings to each case study were investigated. In this executive summary, a detailed discussion of the first case study, titled "Promoting conservation farming" is presented. The full paper can be accessed by contacting the author.

### Promoting conservation farming

The lead chain actor in this case study is the Conservation Farming Unit (CFU). CFU is a non-profit organisation with the key aim of promoting 'climate smart' agriculture. CFU is funded by the Norwegian government and has been operating in Zambia for almost two decades. The organisation offers free training in conservation farming (CF) practices.

In Zambia, relatively few tractors are utilised by smallholder farmers for ploughing and haulage, as the land is mostly prepared using oxen or through manual labour. CFU envisioned that if the farmer could switch from manual labour to using a tractor and ripper for ploughing and haulage, the area forged according to 'climate smart' principles would be expanded and productivity would increase. CFU therefore realised that by mechanising the agricultural production process, it could be achieved. A need for financing to mechanise the agricultural production process among smallholder farmers was therefore identified by CFU.

However, as described before, commercial banks are reluctant to offer credit to smallholder farmers and as such an alternative financing solution was required. The VCF was therefore put into practice. CFU was identified as the lead chain actor with numerous field officers working closely with the smallholder farmers and having a well-established rural footprint.

CFU, as the lead chain actor, therefore approached the Zambian branch of a South African commercial bank (refer Figure 1) for funding of these smallholder farmers. Based on the relationship between CFU and the smallholder farmers, the commercial bank agreed to finance the latter. The repayment obligation, however, remains with the individual eligible smallholder farmer. As strong relationships have been formed between the CFU's fieldworkers and the smallholder farmers, the fieldworkers assist the farmers in preparing credit applications. The fieldworkers are also responsible for the initial credit vetting of the farmers. The ultimate decision on the granting of credit, however, lies with the commercial bank's credit department.

The size of the loan is large enough to purchase a tractor and a ripper and the loan is repayable within three to four years. The farmer is required to pay a deposit of 20% on the value of the equipment. As part of the purchase agreement, the tractor provider has to offer an after-sales service and the farmer is furthermore required to take out insurance on the equipment. As smallholder farmers traditionally lack collateral, this scheme has been structured such that the equipment serves as collateral. In case the smallholder farmer defaults on the loan payment, the commercial

bank can repossess the tractor and ripper. The smallholder farmers use the income generated by the enhanced agricultural production to pay the instalments on the loan.

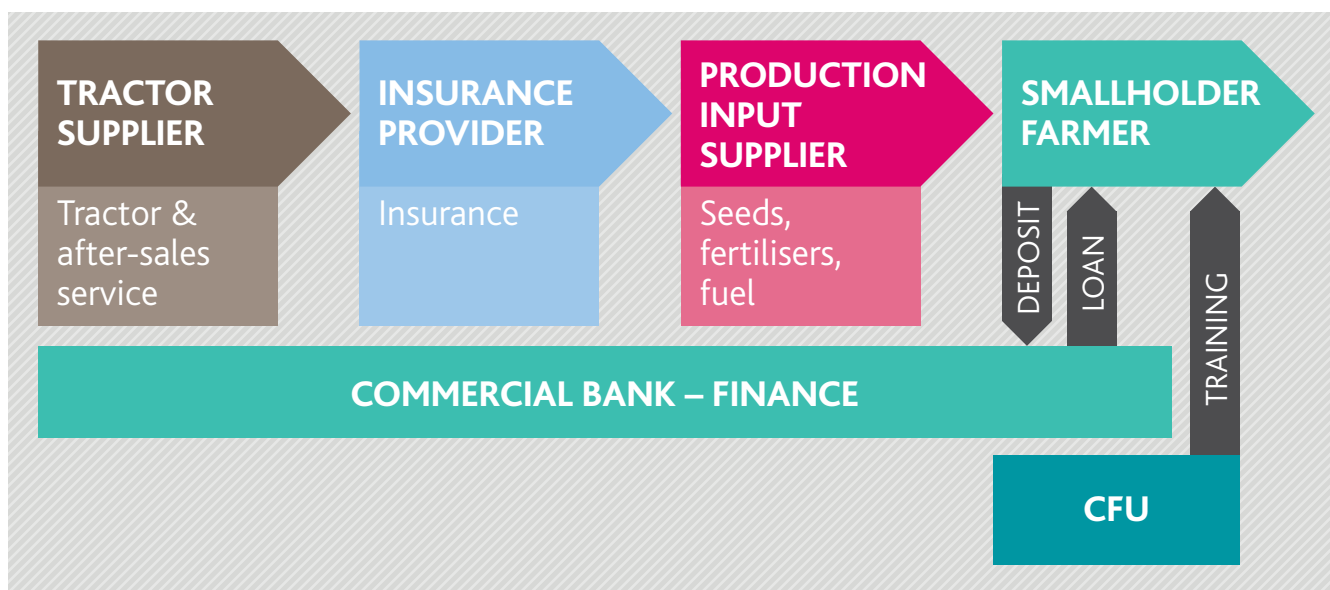
The VCF participants in this case study are 1) the CFU, 2) the Zambian branch of a commercial South African bank, 3) smallholder farmers in Zambia, and 4) various input suppliers, including tractor, insurance and production inputs.

This case study is a good practical example of agricultural VCF. The individual smallholder farmer would not have qualified for a loan if it were not for the relationship with the CFU. The benefits of the VCF transaction are widespread. Firstly, the smallholder farmer's productivity is greatly increased: i) better yields are achieved, ii) better quality crop is grown as planting and harvesting can be done at the right time, and iii) planting and harvesting time is reduced with less waste due to planting and harvesting at the right time. Secondly, the farmer's financial wellbeing is improved on two levels: the tractor and ripper are income-generating assets. The farmer can provide land preparation services to surrounding farmers to generate income, which, in turn, would benefit the surrounding farmers in terms of increased productivity. Furthermore, as a result of the increased productivity, the farmer's profit would rise, which could lead to an expansion of the area under agricultural production. Thirdly, the sustainability of the agricultural land is greatly enhanced by following the CF practices taught by the CFU. These practices lead to better soil conservation, which, in turn, reduces the effects of climate change.

Lastly, the social consequence of the VCF transaction is distinct. The direct effect of a farmer owning a tractor and, in turn, using it to improve the livelihood of the surrounding farmers in the community is that his social standing in the community is elevated. Furthermore, less manual labour would be required by the farmer. As the children of smallholder farmers are generally included in the manual labour tasks, these children would be free to attend school and further their education. In addition, the local economy is boosted with these individuals increasing their spending as a result of the increased profits. Another indirect impact of the CFU initiative is increased employment. As the farmer (and surrounding farmers) shifts from a smallholder farmer to a medium-scale farmer, the need for more inputs, transport to the markets and seasonal harvesters also increases, leading to higher employment. Furthermore, as the farmer expands the area under cultivation, more arable land is utilised, leading to the optimal use of available arable land in Zambia.

The challenges, on the other hand, of offering agricultural credit through the value chain principle can be described as moral risk. This risk includes smallholder farmers selling their produce and obtaining cash, but fails to settle their loan instalment and thereby not honouring the contract with the commercial bank. However, as owning a tractor elevates a smallholder farmer's social standing, the loss of a tractor due to repossession by the commercial bank greatly reduces this risk. Another challenge is to expand this offering as currently a limited number of smallholder farmers meet the required qualifications and are accepted onto this project.

FIGURE 1: PROMOTING CONSERVATION FARMING – VALUE CHAIN PARTICIPANTS



# CONCLUSION AND RECOMMENDATIONS

*It can be concluded that VCF is a viable model to improve access to agricultural finance for smallholder farmers in Zambia.*

The recommended improvements to the existing VCF concept include:

- Training to heighten financial interest could be provided to the smallholder farmers;
- Sensitising financiers to both the benefits and challenges when using the VCF model in financing smallholder farmers;
- Governmental assistance in terms of grants available for deposits when using the funds for mechanisation; and
- Restricting the interest rates charged by banks when offering agricultural credit for mechanisation.

In conclusion, it can be emphasised that over the long term the benefits of applying VCF in financing smallholder farmers would lead to increased food security and accelerated economic growth for Zambia. As not all available arable land is currently utilised in Zambia, the increased productivity due to mechanisation would ultimately lead to an increased use of land.

---

## REFERENCES AND FURTHER READING

CIA World Factbook. 2015. Zambia. <https://www.cia.gov/library/publications/the-world-factbook/geos/za.html> Date of access: 18 Jul. 2015.

FAO, 2012. The state of food and agriculture: Investing in agriculture for a better future. FAO, Rome.

FAO, 2015. Regional overview of food insecurity: African food insecurity prospects brighter than ever. FAO, Accra.

Greenberg, S. 2010. Status Report on Land and Agricultural Policy in South Africa, 2010. Institute for Poverty, Land and Agrarian Studies, School of Government, University of the Western Cape, Cape Town, South Africa.

IFAD & UNEP. 2013. Smallholders, food security and the environment. International Fund for Agricultural Development, Rome.

Miller, C. & Jones, L. 2010. Agricultural value chain finance: Tools and lessons. FAO, Rome.

Miller, C. 2011. Agricultural value chain finance strategy and design. Technical Note, FAO, Rome.

Oberholster, C., Adendorff, C. & Jonker, K. 2015. Financing agricultural production from a value chain perspective: Recent evidence from South Africa. *Outlook on Agriculture*, 44:49-60.

Porter, M.E. 1985. Competitive advantage. The Free Press, New York.

Tittonell, P. & Giller, K.E. 2013. When yield gaps are poverty traps: The paradigm of ecological intensification in African smallholder agriculture. *Field Crops Research*, 143:76-90.

---

## ACKNOWLEDGEMENTS

The author gratefully acknowledges the Chartered Institute of Management Accountants' (CIMA) Centre of Excellence South Africa for providing the financial support to carry out this investigation.

---

## AUTHOR

### Sanlie Middelberg

Associate Professor of Management Accounting  
North-West University, Potchefstroom, South Africa

E: [sanlie.middelberg@nwu.ac.za](mailto:sanlie.middelberg@nwu.ac.za)

T: +27 18 2994428

---

## REFERENCES AND FURTHER READING

Middelberg, S.L. 2016. Value-chain financing: A viable funding model for businesses expanding into Africa. *Financial Management*, Apr., 14.

Middelberg, S.L. 2016. How small-scale farmers in Zambia are benefiting from value-chain financing. *Financial Management*, Aug., 14.





**Chartered Institute of  
Management Accountants**

The Helicon  
One South Place  
London  
EC2M 2RB  
United Kingdom

[cima.contact@cimaglobal.com](mailto:cima.contact@cimaglobal.com)

ISSN Number 1744-7038  
October 2016

© The Chartered Institute of Management Accountants 2016

**CGMA**   
Chartered Global Management Accountant™

Powered by

 | 