ABBREVIATIONS AND ACRONYMS

ACF  Agricultural Consultative Forum
ACP  Agricultural Commercialization Program
BOZ  Bank of Zambia
CBZ  Coffee Growers Board
CDT  Cotton Development Trust
CSO  Central Statistics Office
FSP  Fertilizer Support Program
FRA  Food Reserve Agency
GRZ  Government of the Republic of Zambia
ICA  Investment Climate Assessment
LTD  Livestock Development Trust
MACO  Ministry of Agriculture and Cooperatives
MOTC  Ministry of Trade and Commerce
MOWS  Ministry of Works and Supplies
NAP  National Agricultural Policy
PRSP  Poverty Reduction Strategy Paper
PVA  Poverty and Vulnerability Assessment
SIDA  Swedish International Development Agency
SPS  Sanitary and Phytosanitary Standards
USAID  United States Agency for International Development
VAC  Vulnerability Assessment Committee
ZEGA  Zambia Export Growers Association
ZCGA  Zambia Coffee Growers Association
ZNFU  Zambia National Farmers Union

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EXECUTIVE SUMMARY

Role of Smallholders in Zambian Agriculture

Agriculture remains an important sector for the national economy in Zambia. The agricultural sector provides employment to some 67 percent of the labour force and supplies raw materials to agro-related industries, which account for some 84 percent of manufacturing value-added in the country. Agriculture and agro-processing account for more than 40 percent of Zambia’s GDP and contribute about 12 percent of export earnings.

The rural economy is dominated by smallholder agriculture. The overwhelming majority of rural households are smallholders who depend on agriculture for their livelihoods. There is a very small number of medium and large scale agricultural producers.

Smallholder agriculture in Zambia is characterized by low productivity levels. Most smallholders use simple technologies and cultivation practices to produce rain-fed staple foods (e.g., maize, groundnuts, roots and tubers), mostly for own consumption. At the other extreme are large scale commercial farms using modern inputs and having access to domestic and global input and output marketing chains. They are sometimes vertically integrated with agro-processing enterprises.

Smallholder commercialization is key to rural growth and poverty reduction. Most of Zambia’s smallholders produce primarily for home-consumption. Surpluses are sold in the community or marketed outside the community. Also, to get cash quickly, many smallholders sell their produce after harvest and then buy food staples in small quantities over the year. Commercial production by smallholders is agricultural production primarily produced to be sold in markets outside the community. Thus, an external market is needed, along with logistical support to make the accompanying transactions. For smallholders to use agriculture as a poverty reducing strategy, they must increase returns to land by intensifying use of labor and/or capital (including multiple cropping). Lacking capital and having labor, labor-intensive high-value (i.e., high returns to land) agricultural enterprises are needed for smallholders.1

Past Government efforts to support smallholder commercialization have not achieved expected results. Before introduction of policy reforms in the 1990s, the Government attempted to support smallholder commercialization through provision of subsidized inputs and credit, price interventions for outputs, and by operating agricultural parastatals. However, these measures were less successful, partly because of the desire to provide cheap staple food for the urban population. The uniform pricing of inputs and outputs throughout the country (i.e., pan-

1 Note: This does not mean that commercializing smallholders should abandon production of food staples, it means that they need to expand production of cash crops and/or livestock. Increasing productivity of food staples is an important means to provide incentives to smallholders to expand cash crop production (since less land and labor need to be devoted to staples).
territorial pricing), biased production incentives in favor of maize as opposed to other food staples or higher-value crops produced according to comparative advantage.

**Following the economic reforms of the early 1990s, the Government reduced its role and budget for agriculture, which led to significant changes in Zambia’s agriculture sector.** With reduced Government role, the private sector has been spearheading the changes in production patterns, technology adoption, enterprise mixes, farm profitability and market orientation of smallholder farmers. Maize is still the major, albeit diminishing, crop in smallholder production systems. The major shift in crop production by smallholders has been the significant increase in land planted to cotton, the largest export crop in Zambia, followed by other smallholder cash crops, such as burley tobacco, paprika, sugar, coffee, etc.

**Different forms of contract farming (e.g., outgrower schemes) have become the main means for smallholder commercialization in Zambia.** In these outgrower schemes, an entrepreneur (e.g., commercial farm or an agribusiness entity) contracts smallholders to produce commodities of high value to be marketed, in turn, by the entrepreneur. The entrepreneur provides the smallholder the necessary technical advice and inputs to produce the agreed product and also provides a guaranteed market outlet for the produce. Many of the outgrower scheme arrangements are thus similar to past relationships with the Government which provided support services like extension, credit and market outlets.

**Currently about one-third of the 800,000 Zambia’s smallholders participate in some form of outgrower scheme arrangements.** Most of these farmers (some 85 percent) are engaged in cotton production. Smallholders produce the majority of cotton lint in Zambia (some 98 percent). Burley tobacco is another cash crop which is produced mainly by smallholders. Other cash crops which are produced largely by smallholders through outgrower schemes include paprika/chili and honey. Smallholders also produce about 40 percent of the country’s sugar and 5 percent of the coffee. Furthermore, smallholders make up a small, but steadily increasing share of dairy production.

**However, Zambian smallholders are a heterogeneous group of farmers with various degrees of commercial potential.** There are distinct differences in smallholders households’ asset composition, human and social capital, and spatial characteristics, such as agro-ecological zones, access to road/rail infrastructure and markets, and proximity to population centers, which determine the commercial potential of smallholders. Given these characteristics, some smallholders are better positioned to become market oriented than others.

**Zambian smallholder farmers can be classified into three broad categories according to their commercialization potential.** The first group is very poorest and most vulnerable households who suffer chronic food insecurity and require long-term social protection (“sub-subsistence smallholders”, about quarter of smallholders). A second group includes very poor households that have potential to achieve a sustainable livelihoods, marketing a small surpluses during the years of a reasonable amount of rain, with the eventual possibility of joining some outgrower arrangements (“marginal smallholders”, about one-third of households). Finally, the third group of smallholders includes the poor households with potential to become, or which have already become commercially oriented small-scale farmers, either through joining various
outgrowing arrangements or marketing their surplus in the domestic market. They are generally better educated, possess more labor and land on a per capita basis (of which they allocate a larger share to cash crop production), live in general in the most favorable agro-ecological zone along the main road and railway infrastructure and near larger urban population centers ("viable smallholders", about one third of households).

Despite the relative success, outgrower schemes in Zambia are facing increasing challenges to sustain their competitiveness. The main challenges relate to low and declining productivity levels of smallholder production systems, high rates of loan delinquency and non-payment and widespread side-selling/buying leading outgrower companies to reduce their investments in extension services and provision of inputs. This has led to the strategy of horizontal development of outgrower schemes as a risk minimization strategy to cover the costs of inputs. The strategy is to increase volumes of raw material by increasing the number of smallholder farmers or land area, rather than investing in increased productivity of a smaller number of smallholders.

Key Issues and Constraints for Smallholder Commercialization

Constraints related to the development of small and medium scale agricultural production in Zambia are complex and multi-dimensional in nature. Some of the issues are specific to smallholders, while others affect all stakeholders in the private sector value chains. Because of the close linkages between smaller and larger farms and agribusinesses in the commercialization of smallholders, it is difficult to separate smallholder specific constraints from broader sectoral issues. Furthermore, many of the constraints are multi-sectoral in nature, which are beyond the domain of the agricultural sector.

Issues Related to Low Farm-level Productivity of Smallholders

Productivity levels of smallholder production systems in Zambia are below their potential. This is the case both for staple crops and the cash crops. Low productivity and low returns to labor and land lead to chronically low levels of farm incomes for smallholders. For smallholders to commercialize, they must break the cycle of low productivity and returns to labor and land. Furthermore, low and declining smallholder yields of commodity crops lead to inadequate raw material supply for other actors in the value chain, which reduces the overall profitability and competitiveness of value chains. The main constraints affecting the low levels of productivity of smallholder production systems are: (i) weak business orientation of Zambian smallholders; (ii) lack of public market infrastructure and support mechanisms which hampers private sector provision of goods and services to smallholders; (iii) incomplete implementation of public policies which leads to under-provision of public goods and services, such as extension and research, and (iv) weak capacity to manage risks (e.g., climatic, market, and health).
**Issues Related to Profitability of Value Chains**

Related to the issue of low productivity of smallholder production systems is low profitability of commodity sub-sectors where smallholders participate. Part of the reason for low profitability is increasing competition in international markets and declining (and/or fluctuating) international commodity prices. However, besides low levels of farm productivity, issues affecting the profitability of value chains include: (i) weak regulatory environment, especially as it relates to contract enforcement and code of conduct for outgrower schemes, and policy uncertainty; (ii) high financing costs and limited access to credit, especially for term financing; (iii) exchange rate instability; and (iv) poor state of transport infrastructure.

**Potential for Smallholder Commercialization**

Smallholder agriculture has demonstrated some potential in Zambia. Availability of land and low production costs (especially in labor-intensive activities) makes smallholders attractive partners for agribusinesses who require access to raw materials for processing and exports. Smallholders produce the majority of cotton, tobacco, honey, and paprika exports and contribute to the increasing share of sugar exports. Smallholder producers have also started to make inroads into the domestic dairy sector and there is evidence of attempts to link with domestic supermarket chains (for some horticultural products).

Increased competition in world markets implies that the comparative advantage of Zambian agricultural exports will continue to rely on low production costs of smallholder production systems. With its relatively high transport (and associated logistical) costs, Zambian smallholders will need to be competitive with respect to production costs. With the largely unrealized potential to increase productivity of these smallholder production systems, this means that the importance of improved support services for smallholders is critical.

However, the majority of smallholders will not be able to independently access increasingly sophisticated global value chains without the support of agribusinesses. The success of smallholder commercialization in Zambia is closely associated with the ability and willingness of private sector enterprises to continue investing in the sector and work directly with smallholders. Contract farming (e.g., outgrower schemes) will continue to be the major approach for many agribusinesses.

Addressing constraints for smallholder commercialization will require interventions that benefit both smallholder and the large scale commercial agriculture sector, as well as agricultural/non-agricultural enterprises in rural areas. The greatest potential for smallholder commercialization lies not so much in addressing smallholder or commodity specific constraints, but in overall increases in the efficiency of value chains through the removal of economy and sector-wide constraints, and strengthening of institutional mechanisms through which the key stakeholders and their service providers can effectively link to each other by forming partnerships and alliances.
Smallholder commercialization can have important poverty reduction impacts in rural Zambia. However, in the short-term these impacts will be most likely limited to the portion of the smallholder population living in higher agricultural production areas and who possess necessary complementary productive and social assets, such as land and labor, human and social capital, and access to physical and financial assets, and who already participate in outgrower schemes. Most of these higher potential households are still poor, albeit not the “poorest”. A significant portion of poor and very poor rural households who are engaged in subsistence agriculture and live in more remote areas, and/or do not possess necessary resources, should not be expected to become commercial smallholders (especially not in the short-term).

There is, however, longer-term potential to expand smallholder commercialization into areas off main road and rail network. In the longer-term, with new investments in transport and communication infrastructure, and in irrigation, some poor rural households in what are now considered remote and/or drought-prone areas might also be candidates for smallholder commercialization.

Addressing the issues of rural poverty and household risks and vulnerabilities requires holistic solutions which go beyond agricultural sector. The sustained and broad-based efforts of rural poverty reduction in the long-run will probably depend also on the development of off-farm labor opportunities and rural enterprises. However, smallholder agricultural production systems will remain important from a household food security perspective, especially for those smallholders that do not have commercial potential.

Opportunities for Smallholder Commercialization

Given the multi-sectoral nature of issues affecting smallholder agriculture in Zambia the opportunities for effective Government and donor support are largely limited to upstream (i.e. market neutral) interventions. The opportunities for the Government and donor support for smallholder commercialization can be organized around the following three overall strategies:

Strategy 1: Strengthen Existing Market Mechanisms.

First, there is a need to continue supporting efforts to strengthen the social and human capital of commercializing smallholders. The development of appropriate farmer organizations and improving smallholders’ business orientation and farm management skills, should make smallholders more attractive business partners for agri-businesses and better candidates for input-credit provision. Secondly, there is a need to continue support for improved service delivery of existing and new outgrower schemes. Resources should be made available to address the production and organizational constraints facing the functioning outgrower schemes that are constraining the positive momentum of the more dynamic sub-sectors. Third, there is a need to continue supporting efforts to increase farm level productivity by encouraging adoption of innovative farming technologies which have proven to work in Zambia smallholder farming systems. Fourth, there is a need to strengthen risk management practices by smallholders, especially dealing with weather related risks that directly affect household livelihood strategies and well-being.
Strategy 2: Reform and Strengthen Implementation of Sectoral, Multi-sectoral and Macro Policies

There is a need to focus attention on key sectoral, multi-sectoral, and macro policy interventions that are relatively low cost, and have potentially significant impacts, and high returns. Many of the issues that need to be dealt with to promote smallholder commercialization are really part and parcel of broader “investment climate” issues in the country, which should be addressed through coordinated policy dialogue. A constraint to rapidly achieving these reforms is the broader political economy situation in Zambia. Furthermore, there is a need for a broader and more holistic multi-sectoral approach to agricultural and rural development, which includes differentiated strategies for different household types and areas of the country based on economic potential.

Sectoral policies for agriculture need to reflect a strong growth orientation, with attention also devoted to food security and safety net issues for the poorest households. It is important to identify reforms for agricultural sector that are beneficial to larger farmers and agribusiness and their efforts to engage smallholders in some form of contract farming or outgrower scheme. First, there is a need to reduce the uncertainty of Government policy making processes, which has a negative effect on developing the private sector led markets and appropriate market institutions. Second, there is a need to speed-up policy reforms which improve the business environment. In particular, it is important to deal with weaknesses in legal and judiciary systems in Zambia, which affect the feasibility and sustainability of contract farming (i.e., outgrower schemes) arrangements. Third, there is a need to continue to address issues which affect macro-economic stability, including managing the risks related to the exchange rate volatility.

Strategy 3: Investments in Public Infrastructure

Focus on investments of public good nature that have potential to generate new economic opportunities, improve accessibility and facilitate forward and backward linkages to other sectors in the economy. There is little public sector presence in the agricultural input or output markets or in rural sector in Zambia in general, except for the distortions created by fertilizer subsidies and maize market interventions. There is a need to support the development of new approaches and public-private sector and civil society partnerships for the delivery of productive infrastructure assets (i.e. irrigation infrastructure, storage and post-harvesting facilities, etc.) in order to intensify smallholder farming and to improve the competitiveness of value chains. Secondly, Zambia is a large country with a long list of infrastructure needs. However, resources for infrastructure development are extremely limited. There is therefore a need for strategic geographically targeted approaches for transport, energy and communication infrastructure investments. The short-term focus for infrastructure development should be on those rural areas which have the highest potential for agricultural growth and linked activities (e.g., development of infrastructure growth poles). In the longer-term, infrastructure development could expand to other areas of the country which would broaden the scope for smallholder commercialization.
Chapter 1

Framework for Zambia Smallholder Agricultural Commercialization Strategy

Background

After years of declining real GDP and increasing poverty rates the Zambian economy is experiencing a period of robust growth. Real GDP has been growing at an average annual rate of over 4 percent during 1999-2005 – the first period of uninterrupted positive real GDP growth since 1965. However, poverty levels have remained persistently high – during 1998-2004 period, the poverty headcount experienced only a modest decline from 73 to 68 percent. Much higher growth rates are needed for Zambia to reach its poverty related Millennium Development Goal (MDG), which aims to reduce the proportion of Zambians whose income is less than one dollar a day by 50 percent between 1990 and 2015.

It is clear that without robust and broad-based economic growth – over sectors and space - there will be few opportunities for Zambia to reduce poverty. The Government of the Republic of Zambia (GRZ) has recognized the importance of smallholder agriculture in its long-term development strategy and has documented its vision for the agricultural sector’s growth and development in various policy papers. For example, the Poverty Reduction Strategy Paper (PRSP, 2002-2004) sees an important role for commercial farming and agribusinesses, through the use of outgrower schemes, to advance smallholder commercialization. The Agricultural Commercialization Program (ACP, 2002-2005), which was put in place to drive implementation of the agricultural component of the PRSP, underscores the focus on developing commercial agriculture, while at the same time ensuring food security and increasing incomes of smallholders, thereby contributing to poverty reduction. In addition, the vision set out in the National Agricultural Policy (NAP, 2003-2015) is “to promote the development of an efficient, competitive and sustainable agricultural sector, which ensures food security and increased income”.

The issues related to broad-based rural development and poverty reduction in Zambia are complex. At a minimum it would require a comprehensive analysis of issues related to food security and livelihood strategies; rural labor markets, including rural – urban migration; natural resource management and sustainable farming practices; and commercialization of smallholder farming systems and other market-oriented activities. Covering of all these issues through in-depth analytical work is beyond the scope of this report. As such, the focus of the Zambia Smallholder Agricultural Commercialization Strategy (SACS) is to provide a new analytical knowledge and lessons learned on smallholder commercialization, as it relates to the issues related to the development of outgrower schemes for cash crops in Zambia.

Objectives of the Study

Smallholder commercialization has been progressing at different rates in different parts of the country, but the process generally remains at a relatively early stage. The most notable
characteristic of smallholder commercialization in Zambia is the involvement of private sector led outgrower schemes and other forms of contract farming that link smallholders to larger commercial enterprises which provide access to markets. The objective of the study is to analyze issues and constraints to smallholder commercialization and make recommendations for addressing them, including the discussion of different opportunities. In particular, the study focuses attention on outgrower schemes that have proliferated in several sub-sectors.

Approach

Zambia is a well studied country and a substantive stock of knowledge has been generated through various analytical work and technical assistance programs. The SACS builds therefore on the existing knowledge by synthesizing the work done by others, draw upon information generated by background papers prepared for the study, and provides new analyses to fill identified knowledge gaps. The validity of the key findings was checked through extensive consultations with key stakeholders during the field work.

The SACS focuses on the smallholder commercialization process through six case studies of outgrower schemes (cotton, paprika, export vegetables, coffee, dairy and sugar). The case studies were based on surveys with various stakeholders in the commodity chains (i.e. agribusinesses, service providers, smallholder farmers, etc.). The field surveys were carried out in Lusaka, Central, Eastern and Southern Provinces. The main areas of survey research included the analysis of: (i) upstream and downstream activities of the outgrower schemes; (ii) existing market infrastructure facilities relevant to the outgrower schemes; (iii) regulatory environment, taxation policies and trade policy regime; (iv) extension, farmer training and capacity building; (v) financing and marketing arrangements; (vi) benefits for smallholders in participation in outgrower schemes; (vii) role of farmer organizations; and (viii) identification of the priority areas for public investments.

In addition, the report uses the quantitative data from the survey of outgrower schemes, which was carried out by the Agricultural Consultative Forum (ACF) in 2005 in parallel to qualitative SACS outgrower case studies. The ACF study was based on the survey of 20 outgrower schemes (i.e. cotton, tobacco, coffee, paprika, fresh vegetables, sugar, honey, maize and soyabeans). The survey questionnaires were sent to outgrower scheme promoters and were later followed up to ensure sufficient response rate. The survey instrument included information about the outgrower schemes, characteristics of outgrower farmers; production and marketing arrangements of the scheme; financing and management; and general aspects of the development of out-grower schemes. The latter included views and opinions of the respondents on the general economic environment created by government and recommendations for the development of the sector.

The study benefited greatly from the comments and feedback received during the SACS Participatory Learning Workshop held in Zambia on July 7-8, 2005, which discussed the preliminary findings of the background studies. The workshop was facilitated by the Bank Multi Sector Learning (MSL) team.

2 Other background studies carried out under the SACS include the analysis of smallholder producer groups and profile of Zambian smallholders.
Rather than focusing on comparative advantages of particular crops or sub-sectors, the SACS aims at identifying the characteristics of smallholders who have the highest potential for commercialization and geographical areas which have the highest economic potential to spearhead sectoral growth (Chapter 2). Related to this, is a survey of the recent dynamics and trends in the development of the major commodity sub-sectors and the key players, which are relevant for smallholder livelihoods in Zambia (Annex 1). The report then identifies key issues that currently constrain effective smallholder commercialization process in Zambia (Chapter 3). This will set the context to the following discussion of the lessons learned and recent evidence from the development of partnerships between smallholders and agribusiness sector, which forms the core analytical part of the report (Chapter 4). Finally, the report identifies the potential and opportunities for the smallholder commercialization process in Zambia and proposes a set of actions and approaches, which suggest alternative way forward for future support to the sector (Chapter 5).
Chapter 2

Current State of Smallholder Agriculture

This chapter presents a brief overview of issues on the state of smallholder agriculture in Zambia. There are several recent World Bank publications that present in-depth analyses of a wide-range of relevant institutional and policy issues. See the footnote below for a list of relevant documents. Given the narrow focus of the SACS on smallholder commercialization, it is not possible to incorporate all these issues in this report. As such, this overview focuses on the current state of smallholder agriculture.

Introduction

Major policy shifts took place in Zambia during the 1990s, including the dismantling of state institutions for marketing and distribution (and oftentimes financing) of agricultural outputs and inputs, the abolition of producer subsidies, the liberalization of trade in food items, and the introduction of market-determined input and output prices. Following the economic reforms of the early 1990s, the Government reduced its role and budget for agriculture, leading to deterioration in public service delivery. Investments in staff development, necessary facilities and equipment have basically ceased, while operating funds are at a minimum. This has hurt most smallholder farmers dependent on public services who were ill-prepared to face the challenges and exploit the emerging market opportunities that come with market liberalization.

Implementation of sectoral policies is under the responsibility of the Ministry of Agriculture and Co-operatives (MACO). In its current form, the role of MACO is to support different producers by facilitating the flow of modern information on the methods of production, processing and marketing of agricultural produce. Another function of the MACO is related to regulating the agricultural sector and providing a suitable legal and policy framework to guide the operations of different stakeholders in the agriculture sector. However, since introduction of the economic reform program in the 1990s, and the associated budget austerity measures, MACO has not recovered from the shock inflicted by the significant cuts in staff and budget. It is currently a relatively weak and fragmented public institution, which limits its ability to provide an enabling

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4 Chapter 1 gives a brief overview of main policies relevant to agriculture sector in Zambia.
environment for agricultural development and appropriate services to different stakeholders—especially services for smallholders.

As a response to the declining role of the public sector in agriculture, the Government has established several agricultural trusts to enhance cooperation between the public and the private sector, sometimes set up to support specific commodities. Agricultural trusts are public and private sector partnerships which were set up to manage public assets on commercial basis while providing services to farming community. These arrangements allow the Government to transfer physical assets and human resources into more cost-effective arrangements, thus reducing the public sector financial burden, whilst not actually disposing of public goods, and provide a more politically acceptable method of privatisation of former commercially oriented activities of the MACO. These trusts generally carry out adaptive research and provide advisory services to smallholders. Some also carry out training courses to monitoring and/or extension staff in the employ of private sector companies and to selected public extension officers. The main trusts would include: (i) Golden Valley Agricultural Research Trust (GART); (ii) Livestock Development Trust (LDT); (iii) Cotton Development Trust (CDT); and (iv) Zambia Export-Crop Growers Association Training Trust (ZEGATT). The trusts are governed by independent board of trustees in which the main stakeholders are represented.

Role of Agriculture in Zambian Economy

Zambia has 42 million hectares of arable land (about 55 percent of total land area), of which only 1.5 million hectares (about 4 percent) is cultivated every year. The country’s large smallholder population accounts for some four-fifths of this cultivated area. Out of a total land area of 75 million hectares, about 42 million hectares are suitable for agricultural production, of which only 1.5 million hectares are cultivated every year. Thus, from an aggregate national perspective, land resources remain largely unexploited. The country also has abundant water resources, which could be potentially used for irrigation. However, much of this natural resource endowment has not been turned into real wealth for rural households. A major reason that much of the land is not cultivated is the non-existent or poor state of transport infrastructure and the land-locked status of the country which reduces Zambia’s competitiveness on export markets, especially in products with low value to weight ratio. The lack of public investment in infrastructure and weak public institutions, along with a nascent private sector exacerbate problems related to competitiveness for the agricultural sector.

Agriculture remains an important sector for the national economy in Zambia. Following declines in copper earnings, agriculture has become a more important source of export earnings and economic diversification in Zambia. The sector currently employs about 67 percent of the labor force in Zambia. Its contribution to GDP was 21.4 percent in 2004, up from about 15 percent in mid 1990s. Together with agro-processing industry, it accounts for more than 40 percent of Zambia’s GDP. Agro-processing industries account for about 84 percent of manufacturing output, and it is more than five times larger than the next largest group, textiles and leather products (both of which rely on agricultural raw materials).
Agricultural growth rates accelerated as a result of economic liberalization policies. During the period of 1990 to 2000, agricultural GDP grew at an average rate of 3.9 percent per annum. This was faster than the population growth of 2.5 percent, indicating a positive growth per capita. However, the average growth rate of agriculture sector has slowed to 1.3 percent between 2000 to 2004, mainly due to series of droughts, which contributed to negative growth rates of -2.6 and -1.7 percent in 2001 and 2002 respectively. It is expected that in 2005 the agricultural sector will contract by another -2.7 percent due to extended dry spells. This shows the vulnerability of the food staple crop sector to external shocks. The sector achieved positive growth rates of 4.5 and 7.5 respectively in 2003 and 2004 which had relatively favorable weather conditions.

Agricultural exports reached US$201 million in 2004, representing about 2 percent of the GDP and about 12 percent of total exports. Agricultural exports grew on average about 15 percent a year between 1990 and 2004. The annual growth of agricultural exports during the 2000s is about 18 percent, surpassing the 12 per cent per annum during the 1990s (FAO agricultural database, available at http://faostat.fao.org). Three main agricultural exports from Zambia are cotton, tobacco and sugar, which make up about two-third of total agricultural exports. Table 1 shows that both cotton and tobacco have shown steady and impressive growth since 1999, while most of the increase in value of sugar exports has taken place between 2004 and 2005. Horticulture exports peaked in 2003 and have declined since then. In contrast, exports of coffee have been steadily increasing. Of the lesser products, paprika is declining quickly whilst honey is increasing and tea appears to be steady. Annex 1 provides a detailed review of the recent trends of the main export crop and livestock sub-sectors in Zambia which have the largest potential for smallholder commercialization and future growth of the agricultural sector in general.

Table 1: Value of selected agricultural exports, 1999 to 2005 (USD ’000/year)

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<th>2003</th>
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<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>9,200</td>
<td>9,500</td>
<td>15,600</td>
<td>30,220</td>
<td>32,270</td>
<td>54,800</td>
<td>53,147</td>
</tr>
<tr>
<td>Tobacco</td>
<td>8,540</td>
<td>12,000</td>
<td>9,490</td>
<td>27,034</td>
<td>36,134</td>
<td>55,077</td>
<td>57,868</td>
</tr>
<tr>
<td>Coffee</td>
<td>9,439</td>
<td>4,450</td>
<td>8,994</td>
<td>5,664</td>
<td>7,440</td>
<td>11,900</td>
<td>11,042</td>
</tr>
<tr>
<td>Horticulture</td>
<td>23,871</td>
<td>27,355</td>
<td>36,384</td>
<td>44,907</td>
<td>45,969</td>
<td>35,851</td>
<td>18,919</td>
</tr>
<tr>
<td>Floriculture</td>
<td>42,677</td>
<td>33,863</td>
<td>34,078</td>
<td>30,298</td>
<td>22,402</td>
<td>26,767</td>
<td>28,721</td>
</tr>
<tr>
<td>Sugar</td>
<td>23,143</td>
<td>22,754</td>
<td>37,043</td>
<td>35,111</td>
<td>35,249</td>
<td>35,990</td>
<td>65,296</td>
</tr>
<tr>
<td>Paprika</td>
<td>2,800</td>
<td>1,800</td>
<td>2,980</td>
<td>1,625</td>
<td>1,500</td>
<td>1,178</td>
<td>232</td>
</tr>
<tr>
<td>Honey</td>
<td>202</td>
<td>87</td>
<td>233</td>
<td>355</td>
<td>544</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note – 2005 data for cotton, horticulture and floriculture are based on 11 months to November
The data of honey also include exports of beeswax

Source:- Export Board of Zambia

Role of Smallholders in Zambian Agriculture

Typology of Agricultural Producers in Zambia

Most of Zambia’s agricultural producers are asset-poor smallholders who use simple technologies (hand hoes and oxen) and cultivation practices (minimal purchased inputs such as hybrid seed or fertilizer) to produce rain-fed maize, groundnuts, roots and tubers, mostly for own
consumption on five or less hectares (most smallholders cultivate less than 2 hectares). At the other extreme are large scale commercial farms using modern inputs and with access to domestic and global input and output marketing chains, and sometimes vertically integrated with agro-processing.

The traditional classification of Zambian agricultural producers estimates that there are about 800,000 smallholder households and about 50,000 emergent farmer households (Table 2). Emergent farmers are often assumed to be commercially-oriented smallholders.

Table 2: Typology of agricultural producers in Zambia

<table>
<thead>
<tr>
<th>Producers</th>
<th>Approx. # of Producers</th>
<th>Approx Farm Size</th>
<th>Technology, Cultivation Practice</th>
<th>Market Orientation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small-Scale Producers</td>
<td>800,000 hhs</td>
<td>&lt;5ha (with majority cultivating 2 or less ha of rain-fed land)</td>
<td>Hand hoe, minimal inputs, household labor</td>
<td>Staple foods, primarily home consumption</td>
<td>Entire country</td>
</tr>
<tr>
<td>Emergent Farmers</td>
<td>50,000 hhs</td>
<td>5 - 20 ha</td>
<td>Oxen, hybrid seed and fertilizer, few with irrigation, mostly household labor</td>
<td>Staple foods and cash crops, primarily market orientation</td>
<td>Mostly line-of-rail (Central, Lusaka, Southern Provinces), some Eastern, Western Provinces</td>
</tr>
<tr>
<td>Large-Scale Commercial Farms</td>
<td>700 farms</td>
<td>50 – 150ha</td>
<td>Tractors, hybrid seed, fertilizer, some irrigation, modern management, hired labor</td>
<td>Maize and cash crops</td>
<td>Mostly Central, Lusaka, Southern Provinces</td>
</tr>
<tr>
<td>Large Corporate Operations</td>
<td>10 farms</td>
<td>1000+ ha</td>
<td>High mechanization, irrigation, modern management, hired labor</td>
<td>Maize, cash crops, vertical integration</td>
<td>Mostly Central, Lusaka, Southern Provinces</td>
</tr>
</tbody>
</table>

Source: Siegel and Alwang (2005), adapted from World Bank (2003b) and Francis, et al., (1997).

When considering the potential for smallholder commercialization, it is important to recognize that Zambian smallholders are not homogeneous group of farmers. Understanding the heterogeneity of Zambia’s rural households and their different potential as agricultural producers
is critical to designing strategies for commercially viable smallholders. There are distinct differences in smallholder households' assets, human capital, income generating potential, and livelihood strategies. In general, smallholder households can be classified into 3 groups as a way to characterize their commercial potential:

1) The very poorest and most vulnerable households who suffer chronic food insecurity and require long-term social protection (about 200,000 "sub-subsistence" smallholders, about one quarter of households);

2) The very poor households that have potential to achieve a sustainable livelihoods, marketing a small surpluses during years of a reasonable amount of rain, with the eventual possibility of joining an outgrower scheme (about 300,000 "marginal smallholders", about one-third of households);

3) The poor households with potential to become, or which have already become commercially oriented small-scale farmers, either joining an outgrower scheme or marketing their surplus in the domestic market (about 300,000 potentially "viable smallholders", about one-third of households).

Instead of focusing on the precise distribution of households in each group, it is important to focus on the characteristics of the respective households groups realizing that they all represent significant shares of the smallholder population. Below are some salient characteristics of each group:

**Sub-subsistence smallholders:** smallholder households that are not commercially viable farmers and are unlikely to ever become so. They represent the most vulnerable social groups. Ultra poor, often female headed households, or elderly or child headed households, the chronically sick and/or disabled – with less than sufficient to feed themselves throughout the year. They usually occupy the least arable land in the community, face labor constraints and they have no resources on which to call in the event of a “shock” (e.g., drought, death, sickness). The term “farmer” might be a misnomer for this group since they are simply surviving by whatever means they can, sometimes as casual laborers on commercial farms and estates, and often on food relief. They are likely to continue to need social protection measures in the foreseeable future.

**Marginal smallholders:** smallholder households who could, potentially become self-sufficient in food and are capable of producing a small marketable surplus. Many border on being ultra poor, but they have some resources on which to call – e.g., greater physical strength and better health, slightly more and better land closer to means of irrigation, some small savings or livestock to use as collateral for informal or micro-loans. Again, they often rely on obtaining casual work on commercial farms and estates and may grow staple crops for subsistence and the local market.

5 商业化的小农户可以被定义为那些在生产和销售方面都能实现市场化的小农户和经营者。他们的商业化程度将取决于资产持有情况，包括土地、工具或机械设备及生产系统的复杂程度。许多人一开始就需要加入农民合作计划，并最终成为独立的拥有者-经营者。他们可以与产量较高的小农户进行区隔。

6 In a recent study on the "incapacitated poor" in Zambia, several estimates were presented, but most were in the range of 15-20% (Milimo and others, 2004).
Some in this group have failed to participate in an outgrower scheme or failed while participating in an outgrower scheme, or who do not live in an area where outgrower schemes exist.

**Viable smallholders**: smallholder households who are poor but potentially, or already commercially viable small scale farmers. They often have assets that are used inefficiently because of conditions such as lack of access to markets, poor infrastructure, or inability to raise small loans for investment. They have the potential to participate, or may well be participating already in outgrower schemes, or they are functioning as commercially viable independent small-scale farmers selling to the domestic market.

**Spatial Distribution of Agricultural Potential for Smallholders**

Locational factors such as access to road/rail infrastructure, agro-ecological zones, and proximity to population centers strongly influence the potential for smallholder commercialization. These spatial factors are important to understand, as they point towards the profound differences in rural areas with respect to economic potential for smallholder commercialization.

Most large commercial farms in Zambia are located close to a main (trunk) road network, which follows closely the “line of rail”, running from copper mine areas in the Copperbelt through Lusaka and on to Livingstone in Southern Province. The road infrastructure along the “line-of-rail” route and its extension to Eastern Province is in fairly good condition. In general, the primary road/rail network does not cover large areas of the country. In addition, there is a lack of coverage of secondary and tertiary rural roads.

All of Zambia’s urban centers with more than 100,000 inhabitants are located on the “line-of-rail”. The urban areas of Lusaka and the Copperbelt both have about 1.7 million residents. Together these urban centers account for almost 40% of Zambia’s total population.

Zambia can be divided into 3 major agro-ecological zones (see Map 1).

(i) **Zone I** is a low-rainfall area in the southern portion of the Southern and Western Provinces, and parts of Lusaka and Eastern Provinces. Maize, sorghum, groundnuts, sunflowers and cowpeas are cultivated, and the fishing industry (though now in decline) has drawn many to the area. This zone covers about 16 percent of Zambia’s land area;

(ii) **Zone II** is a medium-rainfall belt running east-west through the center of the country on the plateau of the Central, Lusaka, Southern and Eastern Provinces. It has the most favorable agro-ecological conditions. There is also ample irrigation

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7 Road/rail infrastructure and market access can be through direct access or via an intermediary trader or processor.

8 There is also a railroad line (and road network) that connects Lusaka to Tanzania and runs through Mpika and Kasama in Northern Province. In addition there is a fairly good road network connecting Lusaka to Chipata in Eastern Province. There are also road networks to Mongu in Western Province and Solwezi and Mwinilunga in Northwestern Province and Manza in Luapula Province.

9 The western part of Zone II has low-rainfall that corresponds to central/northern parts of Western Province. This area is often considered a part of Zone II, but is differentiated by lower rainfall and sandier soils, poorer road and market infrastructure. Main crops include sorghum and millet as staple crops along with cassava, and some maize.
potential. This allows for a diverse mix of crop and livestock enterprises. Because of its proximity to Lusaka and other urban centers, Zone II has been the geographic focus of the development of commercial farms. Maize is the staple crop, but a wide variety of other crops are grown; including beans, groundnuts, sorghum, cassava, millet, sweet potato, sunflower, cotton, rice, tobacco, paprika along with vegetables and fruits. This zone covers about 42 percent of Zambia’s land area; and

(iii) Zone III is a high-rainfall area in the north of the country in Copperbelt, Luapula, Northern and Northwestern Provinces. It includes the mines of the Copperbelt area, which is relatively urbanized. The major crops produced are cassava, maize, groundnuts, millet, sorghum, beans and sweet potatoes; and small-scale fishing and fish-trading is also a source of income. Because of the abundance of water in this area, there is potential for irrigation, and for fishing. This zone covers about 42 percent of Zambia’s land area.

Map 1: Agro-ecological zones (regions) in Zambia

![Map of Agro-ecological zones in Zambia](image-url)
In general, yields are higher in Zone I1 for most crops and conditions for livestock production are also more favorable. Higher yields are due to more favorable agro-ecological conditions and the fact that much of this zone is located along the primary road network which allows for greater access to input and output markets and technical advisory services. Smallholder households in this area tend to have better access to infrastructure, higher use of inputs, and a higher share of medium- and large-sized commercial farms using improved technologies. The existence of medium- and larger-commercial farms in the area is beneficial to smallholders through labor linkages and the existence of outgrower schemes, and also through demonstration effects. This is important with respect to Zones I and III, which are characterized by a virtual absence of medium- and larger-commercial farms. It should be noted, however, that for some export commodities such as coffee and niche products like honey; production is focused in Northwestern and Northern provinces.

It is estimated that about two-fifth of smallholders reside in the more favored agro-ecological Zone II, and about the same share of smallholders reside in the high rainfall Zone III, which is mostly characterized by lack of access to infrastructure and markets. Also, about one-fifth of smallholder households reside in drought-prone Zone I. On average, rural households in Zambia have access to approximately three hectares of land. This amount of land should allow households, in most areas, to produce enough food staples and other foods to cover consumption needs. Access to land and the quality of land, however, varies by province (and also within provinces). Table 3 presents the distribution of smallholders by agro-ecological Zones.

In most areas virtually all farm labor is provided by household members and labor markets are thin. Oxen use can help raise average yields and save labor at critical points in the cropping cycle. Such innovations can help smallholders plant more land without resorting to hired labor, or be constrained by household labor availability. Increasing land under production by smallholders is one of the keys for agricultural growth to be poverty reducing.

<table>
<thead>
<tr>
<th>Province</th>
<th>Share of smallholder hhs in Province</th>
<th>Share of smallholder hhs in Zone I</th>
<th>Share of smallholder hhs in Zone II</th>
<th>Share of smallholder hhs in Zone III</th>
<th>Hectares per hh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>8.7%</td>
<td>8.7%</td>
<td>4.9%</td>
<td>3.23</td>
<td></td>
</tr>
<tr>
<td>Copperbelt</td>
<td>4.9%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>24.2%</td>
<td>10.0%</td>
<td>14.2%</td>
<td>2.20</td>
<td></td>
</tr>
<tr>
<td>Luapula</td>
<td>13.2%</td>
<td></td>
<td>13.2%</td>
<td>2.61</td>
<td></td>
</tr>
<tr>
<td>Lusaka</td>
<td>2.1%</td>
<td>2.1%</td>
<td>17.4%</td>
<td>1.98</td>
<td></td>
</tr>
<tr>
<td>Northern</td>
<td>17.4%</td>
<td></td>
<td></td>
<td>6.54</td>
<td></td>
</tr>
<tr>
<td>Northwestern</td>
<td>6.1%</td>
<td></td>
<td></td>
<td>6.1%</td>
<td>1.70</td>
</tr>
<tr>
<td>Southern</td>
<td>13.1%</td>
<td>5.0%</td>
<td>8.1%</td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td>Western</td>
<td>10.3%</td>
<td>7.0%</td>
<td>3.3%</td>
<td>1.75</td>
<td></td>
</tr>
<tr>
<td>Total/national average</td>
<td>100%</td>
<td>22.0%</td>
<td>36.4%</td>
<td>41.6%</td>
<td>3.05</td>
</tr>
</tbody>
</table>

Source: Chiwele and Sikananu (2004) shares of smallholders by province and Siegel (2005), hectares per household
Note: hhs are households
Spatial Distribution of Smallholders by Livelihood Strategies

The Zambia Vulnerability Assessment Committee (VAC) generated a National Livelihood Zone Map (Zambia VAC, 2004) that divides the country into zones based on common factors influencing rural livelihoods, such as: (i) agronomic potential, (ii) vulnerability to climatic risks such as droughts and floods, (iii) access to roads and markets, (iv) major agricultural production systems and flows of agricultural inputs and outputs, and (v) household assets. The livelihood zone map highlights the heterogeneity of conditions over space, and provides some insights into the location of higher and lower potential areas for smallholder commercial agriculture.

The livelihood zones associated with a higher prevalence of commercial smallholder agricultural activities (and large-scale commercial farmers) are livelihood zones (i) Central Maize-Cotton, (ii) Line of Rail Commercial Farming, (iii) Eastern Province Cash Crop, (iv) Chongwe-Nyimba Plateau, and (v) Mkushi Commercial Block. In general, these livelihood zones coincide to agro-ecological Zone I-I along the “line-of-rail” and main road infrastructure. Together these zones account for about 3.6 million out of an estimated 10.5 million Zambians (about one-third of all rural and urban residents).

Another way to identify higher potential areas for smallholder commercialization emerges from the 2005 Crop Forecast Survey data which indicates that smallholder cash crop production is dominated by a few districts which are concentrated in the Zone I-I part of Eastern Province (Lundazi, Chipata, Chadiza, Katete and Petauke districts) and line of rail districts of Kapiri Mposhi, Chibombo and Mumbwa in Central Province, western parts of Chongwe in Lusaka province and Mazabuka, Monze and Choma districts in Southern Province. These districts overlap closely to the livelihood zones associated with a higher prevalence of commercial smallholder agricultural activities as defined by the VAC National Livelihood Zone Map. The combination of small and large commercial farmers, relatively good agro-ecological and infrastructure conditions, and the proximity to major urban markets make this the most “dynamic” agricultural area in Zambia at the present time.

Additional Information on Smallholder Assets, Livelihood Strategies and Well-Being

Socio-demographics. Poor rural households are significantly larger than non-poor households. The average household size of top consumption quintile was 5.5 people compared to 7.5 people in bottom quintile (40 percent larger than top quintile). There is a strong association between education levels of household heads and household consumption levels. The relationship is consistent across the distribution. Household heads in top consumption quintile have in average 7 years of schooling compared to 4.7 years in bottom quintile. The poorest households also had significantly higher dependency ratio compared to better-off households.

Access to road infrastructure and social services. There is surprisingly little variation in median distances to markets and public transport by consumption quintiles. More than half of rural households in Zambia are located within five kilometers of public transportation, but it is not

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10The data presented in this subsection are based on the 2002-03 Living Conditions Monitoring Survey and the Zambia PVA (2005). It is assumed for the purpose of this study that rural household in the top consumption quintiles possess more likely the characteristics of successful commercializing smallholders.
possible to evaluate whether available transportation could serve to transport agricultural products to a market. According to the PVA (2005), the median distance to a food market is 10 kilometers, but it is not known if these markets are integrated with the national economy. Median distances seem large for agricultural input markets (25 km) selling equipment and fertilizer needed for modern agriculture.

Access to land- household and per capita resources. Land is generally plentiful in Zambia and quantity of land is not likely to be a binding constraint on production. Only a negligible fraction of rural households (4 percent) listed insufficient land as a reason for their poverty. Given the low levels of farm mechanization, one household can, on average, cultivate up to 2 hectares of land with hand hoe and about 4 hectares using oxen. Differences between the poor and non-poor rural households are better explained by the availability of labor in these household than by overall access to land.

Land use patterns. Average total land worked varies little by quintile, but better-off households average use more than twice as much non-food cropland as the poorest households. The smaller households in the richest quintile also work twice as much total land per capita as the poorest households. As pointed out previously, labor constraints (and lack of other assets that increase productivity) are more likely to be binding than land constraints (see Table 4).

<table>
<thead>
<tr>
<th>Quintile of National Distribution</th>
<th>All</th>
<th>Poorest 20%</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Richest 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hectares of food crops</td>
<td>1.08</td>
<td>0.97</td>
<td>1.11</td>
<td>1.11</td>
<td>1.05</td>
<td>1.16</td>
</tr>
<tr>
<td>Hectares of non-food crops</td>
<td>0.11</td>
<td>0.05</td>
<td>0.09</td>
<td>0.14</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td>Hectares of all crops</td>
<td>1.19</td>
<td>1.02</td>
<td>1.20</td>
<td>1.26</td>
<td>1.16</td>
<td>1.28</td>
</tr>
<tr>
<td>Hectares of all crops per capita</td>
<td>0.25</td>
<td>0.16</td>
<td>0.21</td>
<td>0.24</td>
<td>0.28</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Source: Zambia PVA (2005)

Table 5 presents a breakdown of household crop and livestock activities. Most households in all quintiles grow at least some maize. Substantial fractions of households also grow cassava, millet, sweet potatoes, and groundnuts. There is substantial differentiation in crop choices by rich and poor for cassava, which is grown by half of the poorest households but just over a quarter of the richest households, and hybrid maize, grown by 11 percent of the bottom quintile and 28 percent of the top. Among the relatively few households with non-food crops, cotton and sunflower are dominant. Nine percent of those in the poorest quintile grow at least some non-food crops, compared to 13 percent overall. There is little variation in crop diversity by quintile.
Table 5: Crop Production Patterns and Livestock Ownership of Rural Households by Consumption Quintiles.

<table>
<thead>
<tr>
<th></th>
<th>Quintile of National Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
</tr>
<tr>
<td>At least one food crop</td>
<td>93%</td>
</tr>
<tr>
<td>Local Maize</td>
<td>59%</td>
</tr>
<tr>
<td>Hybrid Maize</td>
<td>19%</td>
</tr>
<tr>
<td>Cassava</td>
<td>38%</td>
</tr>
<tr>
<td>Groundnuts</td>
<td>40%</td>
</tr>
<tr>
<td>Mixed Beans</td>
<td>16%</td>
</tr>
<tr>
<td>Millet</td>
<td>16%</td>
</tr>
<tr>
<td>Sweet Potato</td>
<td>30%</td>
</tr>
<tr>
<td>At least one cash crop</td>
<td>13%</td>
</tr>
<tr>
<td>Cotton</td>
<td>9%</td>
</tr>
<tr>
<td>Tobacco</td>
<td>1%</td>
</tr>
<tr>
<td>Paprika</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Sunflower</td>
<td>5%</td>
</tr>
</tbody>
</table>

Sources of livelihoods. Some 80 percent of rural Zambian households have farming as the principal activity of household head. However, people at the top of the distribution are slightly less likely to be engaged in agriculture; 71 percent of household heads in the richest quintile report farming as their main activity compared to 83 percent in bottom quintile (see Table 6). These results of the PVA (2005) suggest that wage- and self-employment are perhaps more important determinants of household welfare than ability to farm. Non-farm income sources are likely to remain important determinants for household wealth in rural areas.
Recent Trends in Smallholder Production and Marketing

Changes in Zambia's agricultural sector during the 1990s were driven by policy reforms aimed at market and trade liberalization, while others stem from factors such as changing conditions in international commodity markets and recurring droughts. These changes have had different impacts on technology adoption, enterprise mixes, profitability, and market orientation on different types of farmers. Below we highlight some of the changes that are relevant to smallholder commercialization.

Shifts in Production Patterns and Yields

Smallholder agricultural production is still concentrated in grains and staple foods. However, the demise of maize marketing arrangements and rising cost of fertilizers led many smallholders - especially those in more remote areas - to shift to low-input technologies and increased production of alternative staple crops for home consumption. This shift has been quite pronounced in Northern Province, where agro-ecological conditions do not favor maize production and transport costs are high. Maize continues to dominate agriculture, but its relative importance has declined. It currently makes up about the quarter of the total value of crop output, down from two-fifth in mid 1990s. Major shifts in production patterns have taken place into cassava. Cassava requires no purchased inputs and can produce good yields in a wide variety of soil-water conditions (including drought). Its flexible planting and harvesting calendar make cassava one of the easiest crops for labor-constrained households. Land planted to groundnuts (which have a relatively high value per weight), increased by almost 50 percent between 1990 and 2004. Sorghum and millet plantings (mostly produced by smallholders) increased during the mid-1990s but leveled off and even declined since. A major shift in crop production by smallholders has been the significant increase in land planted to cotton, a largest export crop, which almost doubled between 1990 and 2004 period. There was also significant increases in other smallholder cash crops, such as Burley tobacco, paprika, and other crops, although on much smaller scale.

Table 6: Principal Economic Activity of Household Head in Rural Areas by Consumption Quintiles (%).

<table>
<thead>
<tr>
<th></th>
<th>Quintile of National Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
</tr>
<tr>
<td>Wage employment</td>
<td>9</td>
</tr>
<tr>
<td>Self employed</td>
<td>5</td>
</tr>
<tr>
<td>Farming</td>
<td>80</td>
</tr>
<tr>
<td>Fishing</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Zambia PVA (2005)

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Changes in Zambia's agricultural sector during the 1990s were driven by policy reforms aimed at market and trade liberalization, while others stem from factors such as changing conditions in international commodity markets and recurring droughts. These changes have had different impacts on technology adoption, enterprise mixes, profitability, and market orientation on different types of farmers. Below we highlight some of the changes that are relevant to smallholder commercialization.

Shifts in Production Patterns and Yields

Smallholder agricultural production is still concentrated in grains and staple foods. However, the demise of maize marketing arrangements and rising cost of fertilizers led many smallholders - especially those in more remote areas - to shift to low-input technologies and increased production of alternative staple crops for home consumption. This shift has been quite pronounced in Northern Province, where agro-ecological conditions do not favor maize production and transport costs are high. Maize continues to dominate agriculture, but its relative importance has declined. It currently makes up about the quarter of the total value of crop output, down from two-fifth in mid 1990s. Major shifts in production patterns have taken place into cassava. Cassava requires no purchased inputs and can produce good yields in a wide variety of soil-water conditions (including drought). Its flexible planting and harvesting calendar make cassava one of the easiest crops for labor-constrained households. Land planted to groundnuts (which have a relatively high value per weight), increased by almost 50 percent between 1990 and 2004. Sorghum and millet plantings (mostly produced by smallholders) increased during the mid-1990s but leveled off and even declined since. A major shift in crop production by smallholders has been the significant increase in land planted to cotton, a largest export crop, which almost doubled between 1990 and 2004 period. There was also significant increases in other smallholder cash crops, such as Burley tobacco, paprika, and other crops, although on much smaller scale.

11 World Bank, 2003b
Emergence of New Production Technologies and Marketing Arrangements

Part and parcel of the changes in production patterns and yields since the 1990s has been two important phenomena: (i) conservation farming and (ii) private outgrowers schemes. Both of these phenomena are responses to the demise of public sector support for the agricultural sector and the multiple production and marketing constraints facing Zambia’s farming community.

Conservation Farming. Conservation farming (CF) in Zambia is a locally adopted variant of traditional minimum tillage technologies adopted in many parts of Sub-Saharan Africa. CF has gained popularity in the 1990s in response to market liberalization and the perceived needs to increase fertilizer efficiency, better conserve and manage water resources, increase productivity, and also to spread labor more evenly over the year. CF technologies and implements have been developed for hand-hoe and oxen land preparation. It is important to note that minimum tillage is not synonymous with “low-input” agricultural production. In many cases there is need for increased labor and outlays on improved seeds and fertilizers. This is a reason behind the fact that the highest adoption rates of CF in Zambia have actually been by commercial and emergent farmers.

A recent review of CF in Zambia points out that it is hard to estimate the number of smallholders that have adopted CF, because many adopt some components and not others. It is estimated that between 20,000 and 75,000 Zambian farmers currently benefit from increased yield and incomes under conservation farming. In addition, there is some evidence that smallholders who participate in CF receive extra extension support as well as input packages of high-yielding variety (HYV) seeds and fertilizers.

Private Sector Outgrower Schemes. Since mid-1990s, there has been increased participation of smallholder farmers in cash crop production as a result of development of outgrower schemes. In fact, outgrower schemes have become the main means for Zambian smallholders to become engaged in commercial agriculture. In these schemes, a commercial farm/farmer or an agribusiness entity enters into a business partnership with smallholders, to produce commodities of high value to be marketed by the entrepreneur. The essence of the agreement is that the entrepreneur provides the smallholder the necessary technical advice and inputs to produce an agreed product and a guaranteed market outlet for the produce. The smallholder, from his/her side, is contracted to produce the agreed commodity and sell it to the entrepreneur. These schemes (both rainfed and irrigated) are expanding rapidly in the country, although most outgrower schemes operate in areas with good infrastructure and close to urban centers, given their relatively better accessibility and market proximity, creating a suitable condition for the cooperation between smallholders and entrepreneurs. The proliferation of outgrower schemes in Zambia can be viewed as a response to the collapse of state-supported agricultural systems (e.g., input supply, guaranteed output markets, credit, technical assistance) and the lack of well-functioning private market networks to fill the void.

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As applied in Zambia, CF involves a package of several key practices: dry-season land preparation using minimum tillage (rather than plowing after the first rains), crop residue retention (instead of burning), seed and fertilizer application in fixed planting stations (rather than spreading), and nitrogen fixing crop rotations and fallows (rather than continuous production of crops such as maize and cotton). See Bwalya, 1999; Haggblade and Tembo, 2003.
The highest concentration of outgrower schemes is in Lusaka Province, followed by Southern, Central, Eastern and Copperbelt provinces. It is estimated that in 2003/04 about one-third of smallholders participated in some form of out-grower scheme arrangements. Most of these farmers (some 85 percent) are engaged in cotton production. Smallholders produce also the majority of cotton lint in Zambia (some 98 percent). Burley tobacco is another cash crop which is produced mainly by smallholders. Other cash crops which are produced largely by smallholders include paprika/chili and honey. For other export crops, smallholders produce about 40 percent of country’s sugar and 5 percent of coffee. Furthermore, smallholders make up a small, but steadily increasing share of dairy production (about 20 percent). Table 7 provides information about various outgrower schemes in Zambia.

Table 7: Current number of small-scale commercial farmers active in agribusiness sub-sector

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Number of small-scale farmers</th>
<th>Area (ha)</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>250,000</td>
<td>254,000</td>
<td>170,000 tons</td>
</tr>
<tr>
<td>Burley tobacco</td>
<td>15,389</td>
<td>11,228</td>
<td>18,800 tons</td>
</tr>
<tr>
<td>Honey</td>
<td>10,000</td>
<td>47,000 km²</td>
<td>380 tons</td>
</tr>
<tr>
<td>Paprika</td>
<td>5,000</td>
<td>1,000</td>
<td>500 tons</td>
</tr>
<tr>
<td>Oilseeds b/</td>
<td>2,500</td>
<td>61,500</td>
<td>98,000 tons</td>
</tr>
<tr>
<td>Dairy</td>
<td>1,000</td>
<td>5,000 milkers</td>
<td>2.5 - 3 million liters</td>
</tr>
<tr>
<td>Coffee</td>
<td>250</td>
<td>200</td>
<td>500 tons estimated</td>
</tr>
<tr>
<td>Chili</td>
<td>100</td>
<td>25</td>
<td>340 tons</td>
</tr>
<tr>
<td>Vegetables</td>
<td>85</td>
<td>100</td>
<td>36 tons/week in dry period</td>
</tr>
</tbody>
</table>

a/ Industry Sources.
b/ Excluding groundnuts.
c/ Selling directly to agroprocessors.

Despite the relative success, outgrower schemes in Zambia are facing increasing challenges in sustaining their competitiveness. The main challenges relate to low and declining productivity levels of smallholder production systems, high rates of loan delinquency and non-payment and rampant side-selling/buying. This has led to agribusiness companies to reduce their investments in extension. As a risk minimization strategy, outgrower promoters resort to increase the supply of smallholder production to fill their processing capacities through horizontal development of outgrower schemes, growing raw material volumes through increasing the number of smallholder farmers or land area, rather than investing into increased productivity.

Summary

Most of Zambia’s smallholders produce primarily for home-consumption. Surpluses are sold in the community or marketed outside the community. Also, to get cash quickly, many smallholders sell their produce after harvest and then buy food staples in small quantities over

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13 Side-selling is when contracted farmers do not sell their outputs to the provider of inputs on credit, as stipulated.
the year. Commercial production by smallholders is agricultural production primarily produced to be sold in markets outside the community. Thus, an external market is needed, along with logistical support to make the accompanying transactions. For smallholders to use agriculture as a poverty reducing strategy, they must increase returns to land by intensifying use of labor and/or capital (including multiple cropping). Lacking capital and having labor, labor-intensive high-value (i.e., high returns to land) agricultural enterprises are needed for smallholders. This does not mean that commercializing smallholders should abandon production of food staples, it means that they need to expand production of cash crops and/or livestock. Increasing productivity of food staples is an important means to provide incentives to smallholders to expand cash crop production (since less land and labor need to be devoted to staples).

When considering the potential for smallholder commercialization, it is important to recognize that Zambian smallholders are not homogeneous group of farmers. Some rural households are located in higher (or lower) areas of economic potential, whereas some households have higher (or lower) potential based on their asset portfolios\textsuperscript{14} and livelihood strategies. As such, some smallholders are better positioned to become market oriented, while a significant proportion can not be expected to be transformed into market-oriented production units. At the same time, many rural households will not directly benefit from agricultural commercialization and will require safety nets. These “ultra poor” households should benefit from increased availability (and possibly lower cost and increased quality) of agricultural products produced by other households. Another group of smallholders might be able to achieve food security and more diversified incomes over time, with appropriate assistance. However, even smallholders with the most potential to become market-oriented will require significant assistance to make the transformation into commercial farmers.

\textsuperscript{14} Household assets are broadly defined to include natural, physical, human, financial and social capital.
Chapter 3

Key Issues and Constraints for Smallholder Commercialization

There are numerous constraints to the development of small and medium scale agricultural production in Zambia. Some of these constraints are specific to smallholders, while others affect larger commercial farmers and agribusinesses\textsuperscript{15}. Since most value chains where smallholders participate have largely evolved through investments made primarily by the private sector, issues that affect smallholders are closely related to broader issues faced by private sector in Zambia – in the agricultural sector and other sectors. Because of the close linkages between smaller and larger farms and agribusinesses in the commercialization of smallholders, it is therefore difficult to separate these constraints. Furthermore, many of the constraints are actually multi-sectoral in their nature and which lie beyond the domain of the MACO and agricultural sector. This could limit effectiveness of some sector or commodity specific interventions to overcome the constraints for smallholder commercialization.

Issues Related to Low Farm-level Productivity of Smallholders

In most smallholder sub-sectors in Zambia, productivity levels are well below their potential. This is the case for staple crops (e.g., maize, groundnuts) and the cash crops reviewed in the outgrower case studies. Low productivity and low returns to labor and land lead to the chronically low levels of farm incomes for smallholders. For smallholders to commercialize, they must break this cycle of low productivity and returns to labor and land. Furthermore, low and declining smallholder yields of cash crops lead to inadequate raw material supply for other actors in the value chain. Lack of raw material supply to fill industry processing capacities results in higher costs of managing the value chains. This, in turn, reduces the overall profitability and competitiveness of these chains.

The causes for low levels of smallholder productivity are multi-dimensional and inter-related. The main constraints affecting the low levels of productivity of smallholder production systems are: (i) weak business orientation of Zambian smallholders; (ii) lack of public market infrastructure and support mechanisms which hampers private sector provision of goods and services to smallholders; (iii) incomplete implementation of public policies which result in under-provision of public goods and services, such as extension and research, and (iv) weak capacity to manage risks.

Weak Business Orientation of Smallholders

One of the greatest constraints facing Zambian smallholders is the lack of business oriented approach to farming. This argument is applied to all commodity sub-sectors; even in smallholder export vegetables, which demonstrates a significantly higher than average commercial capacity of smallholder farmers. The roots of this problem are complex and come

\textsuperscript{15} See the SACS outgrower case studies background reports for sub-sector specific issues and constraints.
partly from many ‘hard to measure’ cultural and attitudinal factors associated with farming. The PVA (2005) points out that Zambian smallholders lack a business oriented approach to farming, since most view agriculture as a way of life and not as a business\(^{16}\). This has not changed much in spite of a significant donor support which has been provided for farmer capacity building. There is a history of dependency by smallholders on others to carry out the commercial activities associated with agricultural production and marketing while they focus on the productive activities. Services that smallholders receive from outgrower schemes are similar to those received in the past from government-supported programs that provided inputs, markets for outputs, credit and technical assistance. Thus, although some smallholders might have experience with commercial agriculture, this does not mean they are commercially-oriented.

**Lack of Public Market Infrastructure and Support Mechanisms**

With the declining public resources for agriculture in Zambia, in many cases, the private sector has taken over functions of the public sector, such as provision of extension services related to both production and marketing (e.g., information on production technologies and markets). However, despite some success, the private sector has not been able to fill the gap left by declining public funding for extension services and agricultural research, largely because of lack of public market infrastructure and support mechanisms (e.g., regulatory and legal framework) which hampers private sector provision of goods and services to smallholders.

There are two major forms of private sector extension services. First are the technical advisory services provided by outgrower companies to smallholders with whom they have contractual arrangements. The second are specialized services provided by some public-private “commodity trusts”, such as Cotton Development Trust (CDT), Livestock Development Trust (LDT) and Zambia Export Growers Association (ZEGA)Training Trust, and NGOs, which provide advisory services mainly through intermediary arrangements (usually with the support of donor funding) to smallholder groups who may or may not have production agreements with agri-business enterprises.

In Zambia, significant improvements in yields and farm productivity are possible by adopting better farm management practices. That is, there is scope to greatly increase yields at the current levels of input use. A key missing input, however, is related to human capital – basic farm management skills. For example, in cotton and paprika sector, evidence provided by outgrower operations shows that it is possible to increase yields by 30 percent and more under the current rain-fed conditions by changing farm management practices of smallholders without increasing the levels of current input use and changing seed varieties. Productive assets, such as oxen and irrigation all help to improve farm productivity, but smallholders need to also master basic farm management skills, and become more entrepreneurial with a strong commitment to profit oriented farm management.

Providing extension services to a large number of smallholders who are dispersed over large land areas is costly. Poor road infrastructure further increases the overhead cost of extension and

\(^{16}\) Authors who have written on this include among others Parker and Mwape (2004); Skonsburg (2003); Francis et. al. (1997); Milimo, Shilito and Brock (2000); and Chiwele and Sikananu (2004).
technical advisory services. The provision of public goods, such as extension, by private agribusiness companies has the same high transactions costs as public provision, but private providers also face high risks when trying to capture some of the associated benefits. High business risks, such as side-selling and side-buying associated with a failure of smallholders to honour agreements to deliver produce to the company who provided them services, high levels of crime and weak law enforcement (including contract enforcement) all prevent agribusinesses to recover full cost of service provided to smallholders, which discourages them to invest into extension services (public goods).

As a result, most private outgrower operators, especially those dealing with cotton, tobacco and paprika have focused on horizontal development to meet capacity requirements of their processing facilities or markets. Instead of deepening relationships with a small number of “better farmers”, they have attempted to increase the number of smallholder farmers producing the crop to offset the impact of low yields and poor quality. Therefore, outgrower schemes have opted on working with smallholders who are located in areas with relatively good infrastructure access, as opposed to working with smallholders who have the highest capacity to become commercially oriented. The exceptions are sugar and coffee outgrower schemes, which for reasons discussed elsewhere in this report, have resorted to working with a small number of farmers who have a stronger capability to grow these crops on a commercial basis.

Incomplete Implementation of Public Policies

Public good nature of extension services justifies a role for Government to fill this gap. However, rather than addressing the issues related to the lack of public market infrastructure and support mechanisms through increased funding for extension, research and other long-term public investments, Government has traditionally opted to make interventions in the supply of inputs and in crop marketing arrangements - which are primarily driven by short-term political interests. Therefore, Government persists with interventions in activities usually associated with private sector provision, and neglected interventions associated with provision of public goods and services. This cycle needs to be broken and appropriate public and private sector roles identified and strengthened.

It is possible to observe how the effectiveness of public extension services in Zambia is hampered by chronic under-funding due to the crowding-out effect of largely politically motivated expenditures. The total MACO agricultural budget increased nearly 70 percent between 2004 and 2006 in nominal terms, however, almost two-thirds of this budget was allocated to the Fertilizer Support Program (FSP) and the crop marketing arrangements for the Food Reserve Agency (FRA), while investments critical for increasing farm productivity, such as

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17 Preliminary findings of the on-going Bank ESW on the ‘SPS Management and Zambia’s Agro-Food Trade’, highlight that, at this point in time, SPS measures of trading partners are not constraining factors for Zambian agricultural exports. The issue related to smallholder commercialization is low product quality which results from poor management, but this is not necessarily a SPS issue.

18 The main difference between 2006 budget and previous years is that it includes additional allocation of ZK210 billion for Agricultural Development Programs which is essentially projected disbursements from various donor funded programs and projects (not shown in the table) and which operate largely outside of MACO structures. It is not clear how these figures were derived, as it includes several donors funded projects which may not become even effective during the budget year.
irrigation infrastructure, received only 5 percent of the budget. Operating costs under which research and extension fall received only 10 percent of the budget in 2006 (see Table 8).

Within agriculture budget which was allocated to Poverty Reduction Programs (PRP) (about 70 percent of the total agriculture budget) the FSP and FRA crop marketing expenditures accounted for 93 percent in 2006, up from 88 percent in 2004, while the share of expenditures to productive investments has declined accordingly.

If the smallholder productivity is to be improved, there is a need for a larger share of public expenditures for agriculture to be allocated to the provision of public goods and services, such as extension, agricultural research, and productive investments (e.g., irrigation). The private sector can not be expected to fill the gap which was left by under-funding of these goods and services. Subsidies for farm inputs have little impact on the smallholder productivity if they are not supplemented by changes in farming practices. However, it is unlikely Government will withdraw completely from the market for agricultural inputs. Providing subsidized fertilizer and seed is one of the few levers the government has to foster the deep rooted patronage system of political favors and to mobilize rural votes. The current FSP program was supposed to be phased out by 2005, but the Government has decided to continue it throughout 2006 in light of general elections.

**Weak Capacity to Manage Risks**

Zambia's smallholders face several risks that directly affect productivity. The major risks are related to climate (e.g., rainfall), while others stem from markets (e.g., prices, access), and health (illness, death). In recent years, weather related risks have had a major impact. There is a close link between rainfall and recorded agricultural GDP growth rates in Zambia. Since 1990, about three out of every 5 years have essentially been drought years in Zambia. Droughts occurred in 1991/2, 1994, 1995, 1997, 1999, 2000, 2001, and 2002. The occurrence and impact of droughts is not equally distributed over the country. Southern and Western Provinces have been most severely impacted, but there are even differences within these provinces and also areas in other

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19 See DFID (2003).
20 See del Ninno and Marini, (2005)
provinces that have suffered from droughts in recent years. Although the volatility of production due to droughts is larger among smallholders, even crops which are grown predominantly by commercial farmers (including wheat, soybeans, and Virginia tobacco) also exhibit significant year-to-year variability.

The weather related risks have direct impact on household choice of productions systems and willingness to participate in commercial agriculture activities. Over 90 percent of Zambia’s smallholder crop production is rainfed. Thus, rainfall is a critical factor for selecting crops, their planting time, the timing and intensity of input and labor use, and subsequent yields. Yield fluctuations from unpredictable rainfall are a major risk to smallholders. For example, paprika production, which is carried out under rain-fed conditions has shown significant vulnerability to prevailing weather conditions in different growing seasons, especially in recent years. Uncertainty with regard to the onset of the rains and dry spells often result in a rather hazardous planning of the production cycle. The late onset of the rains results in a late start in land preparation and planting that, in turn, shortens growing period for the crop (with the smaller and less developed plants achieving lower yields). Dry spells, especially when occurring in crucial stages of plant development such as flower setting, result in stress of the plants (with possible shedding of flowers and consequent lower yields). An early end to the rains can stunt plant growth and result in lower yields.

**Issues Related to Profitability of Value Chains**

Associated to the low levels of farm productivity is the low (and/or fluctuating) profitability of commodity sub-sectors where smallholders participate. Part of the reason is increasing competition in international markets and declining (and/or fluctuating) international commodity prices. As a small country producer, international commodity price trends are well beyond the control of Zambian firms and Government.

With respect to national level factors, key constraints that affect profitability of value chains are: (i) weak regulatory environment, especially as it relates to contract enforcement and policy uncertainty; (ii) high financing costs and low access to credit, especially for term financing; (iii) macroeconomic instability, in particular exchange rate instability; and (iv) poor state of transport infrastructure. It should be noted that these constraints are also beyond the narrow domain of the agriculture sector (i.e. MACO) and require a concerted efforts from all relevant line agencies to solve them (i.e. BOZ, MOWS, MOTC). These constraints are discussed below.

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21 Although relevant to access to finance, security of land tenure in terms of collateral does not seem to be a binding constraint for smallholder commercialization in Zambia. It is, however, a major constraint for the development of large-scale commercial farming. The Zambia PSIA (Jorgensen and Lourdes, 2005) indicates that usufruct rights, when well defined and stable, need not deter investment; nor is a title a sufficient condition for investment. The PSIA points out, that land is poor collateral in remote rural areas. It will not solve the issue of smallholder access to formal banking institutions, hence title, by itself, does little good in this cases. Most rural households in Zambia can receive small loans on informal basis without collateral.
Weak Regulatory Environment and Policy Uncertainty

In general, private sector enterprises operating in Zambia face an unfavorable business climate characterized by regulatory uncertainty and poor administration; weakly implemented and enforced policies; high regulatory compliance costs; widespread prevalence of corruption and rent-seeking behavior; weak law enforcement and basic security issues (e.g., high incidence of crime, theft and disorder); weak judiciary system and law enforcement. These factors increase the costs of providing services to smallholders and reduce the profitability and competitiveness of value chains. A major issue facing outgrower operators working with smallholders is the high risk of credit default and side selling. This is further compounded by weak contract enforcement and judiciary system, which is not capable or willing to prosecute violators in a court of law.

The policy environment for agriculture sector in Zambia is generally conducive towards agricultural commercialization in terms of official pronouncements of policy support. However, reality does not always follow the rhetoric. The main issues are related to poor administration and implementation of existing policies (which is driven largely by politically motivated decisions), which results in the continuing uncertainty (and uncertain signals) in the mind of the Government as to the division of roles between itself and the private sector in relation to markets and the provision of services. Instability in the sectoral policy environment affects both agribusinesses and commercial farmers and those smallholders who participate in outgrower schemes. As an example, periodic ad hoc interventions in maize markets and interventions in the fertilizer markets conflict with the government's stated goals of market orientation and reduction in distortionary interventions as stated in the ACP and NAP. Furthermore, import duties for agricultural commodities, export bans on maize (i.e. under the auspices of food security concerns) and VAT exceptions for agricultural goods are often applied on ad-hoc basis and are in constant change of flux.

The Government has created a new institutional framework to address the issues related to business environment and has set up PSD reform Steering Committee (March 2005). The Steering Committee has narrowed the priority reforms from a list of 76 to three, which includes reducing administrative barriers for doing business. However, while the overall institutional framework for PSD has improved more recently, the question reminds about the Government's commitment to the reforms, as demonstrated by continuation of policy instabilities (both at the macro and (multi) sectoral levels). Furthermore, the political economy surrounding the reform agenda is increasingly important. The general attitudes toward the private sector are negative in Zambia, and this is exacerbated by: (i) the negative image of privatization; and (ii) the widespread belief (amongst citizens, civil servants and politicians) that recent growth is benefiting foreigners whilst Zambians are increasingly poor. While some might argue that this is not true, the perception carries a great deal of weight which could explain the weak political commitment to policy reforms.

22 See the World Bank Investment Climate Assessment (World Bank, 2004b) and “Doing Business Indicators” publication. For example, according to the Zambia Investment Climate Assessment, security costs of Zambian firms are in average twice as high as in the region and Zambian enterprises losses due to crime are in average three times as high as regional average.
Cost of Financing and Access to Finance

The cost of financing and access to finance are largely a macroeconomic issues which are closely related to Government’s fiscal discipline. Despite evidence of downward trends in interest rates in recent years, current levels of nominal and real interest rates in Kwacha terms are still very high and a considerable constraint to borrowers in the agricultural sector. According to ACF survey results, about 85 percent of outgrower operators in Zambia identified the high cost of capital as one of the major constraints to expansion of their schemes\textsuperscript{23}. Apart from persistently high inflation rates, another reason for high interest rates is continuing (although declining) Government borrowing from commercial banks, which drives up base lending rates of commercial banks. Since Government financial instruments are risk free, they are considered more secure means of earning profits by commercial banks than private lending. As a result, there is insufficient and slow re-allocation of loan resources to the productive sectors (i.e. crowding out the private sector). For example, in August 2005, Government still accounted for about 50 percent of total commercial bank lending, although this is a decrease from 64 percent in 2003. The private sector’s share was only 38 percent in 2005, but an increase from 26 percent in 2003.

A second issue related to the credit system in Zambia is access to the medium and long term financing. Provision of medium and long-term credit is currently limited due to lack of appropriate sources of funds in commercial banks. In view of the short-term nature of the commercial banks’ deposit funds, virtually all commercial bank lending to agriculture is directed towards short-term credits. Banks lack sources of funds, which would enable them to offer appropriately priced and structured credits to the agricultural sector. Some banks which are able to access lines of credit from international money markets do so at the cost of LIBOR plus 6 percent country risk, which is viewed as too expensive by agricultural stakeholders, especially after adding all other banking fees.

A third issue is that virtually all commercial banks in Zambia require rigorous credit appraisal procedures and satisfactory tangible security to secure the facilities to be granted. Again, this disproportionately affects SMEs and smaller farmers who are often not able to meet these banks’ lending criteria. For example, according to the Zambia ICA survey (2003), enterprises in Zambia need in average twice the amount of collateral to secure the loans from commercial banks than their counterparts in the region.

However, the issue of credit in Zambia needs to be viewed in the broader context of the tradition of borrowers’ unwillingness to service debts and repay loans, which is a historic legacy of bad credit culture. Small-scale borrowers, including SMEs and smallholders, continue to be among the worst culprits. Banks and other financial institutions have responded by being hesitant to extend credit to these groups as they are regarded as too risky. Furthermore, agriculture is characterized by relatively low profitability and high risks (e.g., price and weather fluctuations) associated compared to other sectors. In addition, there are high transactions costs associated with services to small producers.

\textsuperscript{23} This is consistent to the findings of the Zambia Investment Climate Assessment (World Bank, 2004b), which identified high cost of capital as the most important constraint to business operations for enterprises.
Exchange Rate Instability

Exchange rate instability is the single most important macroeconomic issue which will continue to affect the export competitiveness and profitability of agricultural value chains, as well as the livelihoods of thousands of smallholders. The most recent example of this is the sudden appreciation of Kwacha against major currencies at the end of 2005, which undermines the gains in agricultural exports which were made over the last decade. A number of factors have contributed to this appreciation, including (i) a sizable upswing in world copper prices and new investments in domestic mining production; (ii) debt relief and foreign aid inflows; and (iii) large inflows of foreign portfolio investment, largely into Government bonds.

These developments (i.e., some 30 percent revaluation) have raised a concern over reduced export competitiveness of agriculture sector and the possible reemergence of the country's long-standing "Dutch Disease" issue. As the profit margins for many agricultural products are already very small due to low levels of farm productivity, the sudden strengthening of the Kwacha will inevitably lead to many of smallholder operations and/or exporters becoming unprofitable. For example, it has been estimated that growth in value of agricultural exports may fall by almost seven percent per year, as a result of current exchange rate appreciation and agricultural export sector is expected to contract at an annual rate of 2 percent between 2006 and 2010 (IFPRI, 2006). It could have a significant negative impact on smallholder incomes, since almost one third of smallholder household in Zambia derive some share of their incomes from the production of various export products.

The effect of the exchange rate appreciation on the viability of outgrower operations depends on the extent to which they are dependent upon Kwacha-based expenses. Where these are not reduced in line with Kwacha appreciation, as in the case for example of labor and locally produced inputs, the effects of appreciation are more damaging. Where these costs are more foreign exchange-based, as with overseas marketing or imported capital equipment, the effects are less damaging. For this reason, exports of flowers which have little, if any, linkages to smallholders remain relatively insulated from the effects of a Kwacha appreciation while the profitability of export honey production where all production costs are local (labor, hives and other equipment) are highly sensitive to exchange rate appreciation, followed by cotton, sugar, and tobacco where the local content of production cost is higher than 50 percent (Figure 1).

Figure 1: Local input share in total cost

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24 The term "Dutch disease" was named after events that occurred in the Netherlands during the 1970s following the discovery of natural gas under the North Sea. Dutch disease is an economic phenomenon that can be triggered by sudden large inflows of foreign currency. Dutch disease is often associated with exports of natural resources, but strictly speaking the foreign currency inflows can come from any source, including foreign aid. In a country affected by Dutch disease, the inflows of foreign currency cause the value of country's currency to rise, making domestically produced manufactured goods and agricultural commodities less competitive compared to imported goods and commodities. Imports consequently increase, and (non-resource) exports decrease, resulting in reduced domestic economic activity. Dutch disease weakens the economy when the sectors that are crowded out are vital to the country and poverty reduction.

25 For example, it is expected that prices paid by cotton outgrower companies to smallholders have to be reduced by 20 percent in order for Zambian cotton exports to remain competitive at the world markets. This would equal to net income loss of Kwacha 420 million for Zambian smallholders.
There are limited short-term opportunities for smallholders and outgrower operators to reduce costs and improve productivity in order to compensate for strengthening of the Zambian Kwacha. Given high transport costs and high administrative costs of doing business, Zambian exporters have already become very efficient at international markets. Eventually, the only way for agro-businesses to survive in this environment is to reduce farm gate prices for smallholders and/or reduce the scale of operation in more marginal areas.

### Poor State of Transport Infrastructure

Zambia is a large landlocked country with relatively unreliable and expensive access to ports; be they in Tanzania or Mozambique (or South Africa). Improving transport infrastructure is critical for improving the provision of services to smallholders, both private and public, and improving the general competitiveness and profitability of smallholder supply chains. For example, the ACF survey of outgrowers in Zambia identified the poor state of rural roads network as one of the major constraints for outgrower operators to expand their schemes – 75 percent of respondents considered it as important or very important issue.

Smallholders in Zambia are dispersed throughout the country, many located far from the main trunk roads. The lack of direct port access, the poor state of rural infrastructure, and the physical dispersion of smallholders all make the marketing of agricultural inputs and outputs more expensive. Furthermore, many rural roads are in bad condition and often not passable during the rainy season.\(^{26}\) Private traders therefore tend to concentrate their business to the line-of-rail and

\[^{26}\text{Zambia has about 67,700 km of roads, including about 31,000 km of feeder roads. The high proportion of feeder roads is attributed to the large land area of the country and the corresponding long distances involved in linking main roads and population centers, and circumventing the many geographical/topographical obstacles. The feeder road system in Zambia is rudimentary at best and exacts a heavy toll on collection units that have to retrieve the produce. About 80 percent of feeder roads in Zambia are in poor or very poor condition. This imposes high costs to private agribusinesses and outgrower scheme operators along value chains, such as provision of services to smallholders, collection their produce, and processing and marketing.}\]
other main trunk roads, leaving farmers in remote areas without reliable service. These factors contribute to high transaction costs and uncertainty about markets, and have had a negative impact on Zambia’s competitiveness in international commodity markets.

Summary

This chapter has highlighted issues related to low on-farm productivity and profitability of private value chains. As noted, because of the linkages between smaller and larger farms and agribusinesses in the commercialization of smallholders, it is difficult to separate issues and constraints which affect these groups. In addition, many of the issues are multi-sectoral in their nature and lay beyond the narrow domains of commodity sectors. This could limit the effectiveness of commodity specific policies and investments to overcome constraints for smallholder commercialization. It also requires much greater long-term strategic planning and cooperation among Government ministries, the public and private sectors, and among donors.
Chapter 4

Agribusiness Support to Smallholders: Analysis of Outgrower Schemes

Introduction

Outgrower arrangements are becoming an increasingly important aspect of smallholder commercialization in Zambia. The approach seems to have considerable potential because the sector is characterized by a large number of smallholder households and many of the arrangements under outgrower schemes are similar to past relations with the Government who provided support services like extension, credit and market outlets. With the decline of public services many of these smallholders would no longer be able to be engaged in commercial farming activities without access to the services provided by agribusinesses.

The oldest formal outgrower schemes in Zambia are those in the cotton and tobacco sectors. More recent entries in the arena of outgrower schemes are paprika and honey, which have developed initially at the initiative of and largely with internal funding from the private sector, with, at some later stage, limited government (under PRSP) and donor support for a select number of outgrower promoters. The third category of outgrower schemes are those in the coffee and vegetable sectors, which have been largely donor driven. A separate case is that of the sugar sub-sector, which is example of nucleus estate model.

The main motivation for the outgrower promoters for starting outgrower schemes is twofold. For enterprises without their own production base, outsourcing production to smallholders is their only opportunity to collect raw material for further processing and exports. Others use outgrower arrangements to bulk smallholder production with their own production base. In Zambia, outgrower schemes take a variety of forms depending on the crop, objectives and resources of the outgrower scheme promoter, and the experience of farmers. In most cases, the promoter provides support the production of the crop by smallholders, purchases the crop from these farmers, and then processes, packages and markets the product, thereby controlling its quality. The level of involvement of the contracting company in production may vary from the provision of correct type of seed, seedlings and agrochemicals to support in land preparation, and even harvesting services. The following sections provide a more detailed description of the types and implementation arrangements of outgrower operations in Zambia.

Mode of operation

There are three basic types of outgrower arrangements (models) in Zambia to organize their field operations and credit delivery activities. In a way they represent the level of evolution that the diverse commodity chains have been able to develop over time.

\[\text{\url{See Annex 1 for the detailed account of recent dynamics of the main smallholder commodity sub-sectors}}\]

\[\text{including the development of outgrower schemes.}\]

29
Model 1: Centralized System

This model is based on the company’s (promoter’s) own field network and staff managing the entire outgrower operation. The model is normally used for crops for which relatively high quality standards apply, and which therefore require good on-farm management practices and high levels of supervision from outgrower companies to ensure that quality standards and requirements are met. It is being used mainly in paprika sector, but also by some tobacco and cotton outgrowers. Under this model the outgrower operators aim to have a hands-on control over the input delivery and extension services as a means to secure adequate volumes of high quality raw material. A comprehensive field network for service delivery also makes it possible to deliver specific extension messages to smallholders in order to collect adequate volumes of raw material, according to the desired quality standards.

Under this model farmers are organized into informal groups or clubs of about 20-25 farmers (e.g. paprika sector) as a channel for input distribution, dissemination of technical support, and marketing arrangements. Farmer groups are mostly ‘interest groups’ and are rarely established formal cooperatives or associations\(^{28}\). Individual contracts are sometimes put in place, even though they are difficult to enforce in case of defaults or side-selling. The contracts are expected to provide at least some form of a legally binding agreement between the parties and allow for better monitoring and evaluation of the performance of individual farmers.

The centralized service provision system is relatively costly because outgrower promoter, which needs to advance credit for farm inputs to the farmers, carries an additional financial burden of managing a wide extension network and field supervision. If promoter collects sufficient amount of raw material, the high investment and recurrent costs of the service delivery can be justified. If the operator wants to cut costs by decreasing the volume of extension services, it would risk doing so at the cost of reduced monitoring capacity of producers, productivity and loan recovery, which could all lead to increased side-selling. The option of using public extension services or NGOs has not proven viable. Government extension officers often do not possess the up-to-date knowledge required for the specialized crops. The use of NGOs, if implemented in a supply-driven manner, without a clear exit strategy and without following a joint strategy with the concerned industry, has shown to create distortions in the value chain.

Model 2: Distributor System

In the second model the promoting company uses local agents (i.e. distributors), which work on the basis of a commission and are link between the company and smallholders. The system which is known also as a ‘distributor’ system, is currently being used by some cotton and tobacco companies. The companies do not have formal contracts with individual farmers due to the vast numbers involved and the high management cost.

The agents distribute inputs to farmers and organize the collection of crops. They do not have a fixed salary but receive a commission on the recovery rate of loans provided and on the amount of cotton collected. For particularly good output levels the company pays “volume incentives”. The system has proven quite successful in terms of loan recovery and appears to defeat the side-

\(^{28}\) This is important because of history with politically motivated and poorly managed cooperatives.
selling issue when compared to centralized system. The advantage for the industry is that this network of people is not employed, but operates on a commission basis, reducing overhead costs of the operation. The distributor also removes the need for the farmer groups to operate as commercial enterprises, as it is the distributor that takes charge of this function.

Farmers are organized into groups, on average of about 50-60 farmers. Groups are the vehicle for input distribution, dissemination of technical support, and marketing arrangements. As in the case of the centralized system, groups are mere ‘interest groups’ and rarely establish formal cooperatives or associations.

The distributor system is based on the horizontal expansion of smallholders, rather than trying to improve the productivity of smallholders who already participate in schemes. This is also its major limitation, as distributors who are contracted on a commission basis based on loan recovery, have an interest in contracting a larger number of producers (i.e. borrowers), rather than increasing yields of existing farmers. Box 1 below presents the main differences between the centralized and distributor models discussed above.

<table>
<thead>
<tr>
<th>Box 1: Comparison of centralized and distributor Outgrower Models</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1: Centralized System (paprika)</strong></td>
</tr>
<tr>
<td>Extension Staff, responsible for recruitment of smallholders, provision of inputs and extension, credit recovery and crop collection.</td>
</tr>
<tr>
<td>Group leaders as intermediary link with farmers, receiving small commission on crop volumes.</td>
</tr>
<tr>
<td>Individually contracted farmers with no collateral.</td>
</tr>
<tr>
<td>Characterized by low credit recoveries (&lt;50%), with little or no judicial recourse.</td>
</tr>
<tr>
<td>High incidence of side-selling.</td>
</tr>
<tr>
<td>High transaction costs per farmer or per kg of produce.</td>
</tr>
<tr>
<td>Stagnant or reduced number of farmers reached.</td>
</tr>
<tr>
<td><strong>Model 2: Distributor System (cotton)</strong></td>
</tr>
<tr>
<td>Area Managers, having a supervisory and monitoring role.</td>
</tr>
<tr>
<td>Distributors as intermediary link with farmers, receiving substantial commission based on credit recovery, crop volumes, and correct grading.</td>
</tr>
<tr>
<td>Distributors provide collateral, and are fully responsible for selection of farmers, provision of inputs and extension, credit recovery and crop collection.</td>
</tr>
<tr>
<td>Characterized by high credit recovery rates (&gt;85%), if only because of distributors being in a position to exercise peer pressure.</td>
</tr>
<tr>
<td>Much reduced incidence of side-selling.</td>
</tr>
<tr>
<td>Much reduced transaction costs per farmer or kg of produce.</td>
</tr>
<tr>
<td>Increasing numbers of farmers mobilized.</td>
</tr>
</tbody>
</table>

**Model 3. Intermediary System**

In this model the agribusiness company is linked to smallholders via intermediary organizations, such as cooperative societies (e.g., dairy, coffee and export vegetable sectors), farmer
associations (e.g., tobacco and paprika sectors) or a management company (e.g., sugar), which manages smallholders on behalf of outgrower promoters. The existence of an intermediary between the individual producers and the industry is essentially an evolutionary arrangement in outgrower schemes. When this has been as the result of natural process, the systems in place have proven successful as they carry the virtues of developing sustainable smallholder organizational and commercial expertise, thereby enhancing human and social capital of smallholders. The advantages for the industrial sector are securing a required quantity and quality of produce while maintaining system competitiveness. A good example of such higher level smallholder organizational evolution is that of the sugar industry, whose success is perhaps tied to the fact that it has been limited in terms of numbers of farmers involved (160 emergent farmers) and being focused in a well defined geographical location (Box 2).

**Box 2: Kaleya Smallholder Company Ltd**

Smallholder sugar outgrower scheme is managed by Kaleya Smallholder Company Limited (KASCOL), which was set up in 1980 to incorporate smallholder farmers into production and marketing of sugar cane. The scheme was started as a community outreach by the Zambia Sugar Company who also saw the scheme as an opportunity to expand cane area for their mill. The KASCOL is essentially the management company for the outgrower scheme. It is responsible for production management, service provision, training, harvesting schedules and negotiations between the smallholder farmers and the market, Zambia Sugar Company Limited.

Some 160 farmers are currently participating in the scheme. The average land area used by smallholders is between 6.2 to 7.5 hectares, which includes also land for homestead and food crop production, where they are encouraged to build a house with a loan finance available from KASCOL. For food crop production, the scheme supports smallholders with land preparation and drainage water used to grow vegetables for their own consumption and for sale for extra income.

Participating smallholder farmers sign a 14 year sub-lease for the land. This is signed simultaneously with a sugar cane supply agreement, which stipulates the smallholder and the scheme's responsibilities. Should farmers not adhere to the rules and regulations set by KASCOL, they are given warnings and can be given notice on the termination of their lease. Upon leaving they will be compensated for the value of their dwelling and standing cane crop.

Zambia Sugar provides bulk water supply for irrigation and 2 extension officers and agronomy services. KASCOL provides a range of services to the smallholders: extension service, irrigation, input procurement and provision, cutting (contracted out), haulage (contracted out), land preparation, planting and training. Input loans are recovered at the time of marketing. Loan recovery rate of the scheme has been at 100 percent. Farmers do not negotiate on the input cost. They are however made aware and have the opportunity to compare with the retail prices of similar products in town.

Transport of the cut cane from the smallholders is outsourced to a private contractor. To ensure traceability, each movement of cane is accompanied by a crop ticket which has a farmer identification number, the crop variety, etc. The weight of the cane is recorded on the ticket, including the results of the Estimated Recoverable Crystal (ERC) analysis. The average quality of smallholder sugar is around 12.5 ECR (minimum required quality level is 10.5 ECR).

The pricing for the cane is controlled by a ‘Division of Proceeds’ system (DOP). The system is market

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29 There are very few examples of genuine producer associations in Zambia. The best known ones include the Central Growers Association (CGA) of Kabwe (tobacco, paprika and soybean) and the Lusaka Agricultural Marketing Company (LAMACO) (paprika, vegetables). LAMACO, in reality, is not a producer association but a sort of producer promoter company with a focus in paprika production.
related and will establish the tabled prices based on the ERC formula. The system takes all revenue from both domestic, export and bi-product sales, deducts cost of milling and marketing and then divides it by agreed percentage, which is 60 percent for the miller and 40 percent for farmer. This system creates a close partnership between the company and the farmers as any market fluctuations affect all stakeholders.

Smallholders who participate in the scheme are more productive than the estate. Average yields on smallholder are at 115 Mt per hectare/year where as the estate average yield per hectare is 110 Mt per year. The annual incomes to farmers in 2004 ranged from ZMK 19 - 45 million (US$4,000 - 10,000).

The export vegetable sub-sector also works with a limited number of farmers. The link between the company and the farmers is through cooperative societies, called Lubulima Agricultural and Commercial Cooperative Union (LACCU), which is managing the individual member outgrowers. The agri-business company does not deal on any scale with individual farmers. The agreement is made with the LACCU, which in turn organizes the local cooperatives to mobilize farmers according to supply and demand. Under this arrangement the agri-business companies (mainly York Farm Ltd.) only provides a market for the farmers. The company does not provide any direct support to farmers, nor does it provide any training or extension. Farmers have to purchase seeds and other inputs commercially and also finance capital investments. Farmers deliver their produce to the cooperative depot where it is weighed, graded, recorded and stored briefly before delivery to company.

The dairy sector also does not have a formal outgrower-operator arrangement. The industry does not provide inputs to the producers, but only enters into a buying arrangement with dairy cooperatives at pre-fixed prices. The processor is associated with an increasing number of widely scattered smallholder groups. The industry has followed horizontal development approach through increasing the number of smallholders, largely through donor driven initiatives, as processors need large volumes of raw milk on a daily basis located within a reasonable distance to keep the overhead costs down. Parmalat for example cannot bring a tanker to a milk collection point unless it can secure 10,000 litres.

The smallholder coffee outgrower scheme is managed by the Zambia Coffee Growers Association (ZCGA). However, the arrangement is slightly different than other sectors as the ZCGA does not take title to the produce from the smallholders but processes it for a fee before selling it on international markets. In addition, the Coffee Board of Zambia (CBZ) is supporting smallholder outgrowers through large scale coffee estates (the nucleus estate model). The private estates, however, do not buy coffee from the outgrowers as it is sold through ZCGA’s auction. Hence, it is not an outgrower system in its traditional form but a contract for outsourced service provision.

Members of LACCU are mainly individuals who retired early from government service or the private sector, who are thus much possess higher human capital than the average smallholder farmer in Zambia. As such, they are not representative for typical smallholder farmers, as they are more business minded, are capable of planning of activities and budgeting for the crop requirements, and have a clear sense of their obligations under contractual agreements with other parties. However, even these smallholders are not able to access markets without the help of agribusinesses and the scheme remains heavily dependent on donor support.
All models described above are based on linkage-dependent relationships between smallholders and agribusiness enterprises, who guarantee markets for their produce. The common element of the first two models is that companies provide smallholders inputs and technical support in return for access to smallholder produce. In the third model, procurement of inputs is being carried out by smallholders themselves or by intermediaries. To facilitate working with smallholder farmers, in all cases the companies or participating intermediaries have organized smallholders into small ‘interest’ groups. Rarely the groups are formally registered associations or cooperatives, with the exception of dairy and vegetable sub-sectors. Table 9 compares the characteristics of key operational modalities of three outgrower models discussed above.

<table>
<thead>
<tr>
<th>Quality requirements</th>
<th>Model 1: Centralized System (paprika and tobacco)</th>
<th>Model 2: Distributor System (cotton)</th>
<th>Model 3: Cooperative System (dairy, vegetables, coffee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension services</td>
<td>• Blending of different qualities possible</td>
<td>• Least demanding in respect of quality</td>
<td>• No compromise on stringent quality requirements</td>
</tr>
<tr>
<td></td>
<td>• Own extension staff or local scheme operators</td>
<td>• Local agents (distributors)</td>
<td>• Semi-commercial farmers or intermediary organizations</td>
</tr>
<tr>
<td>Number of smallholders</td>
<td>• Intermediate number of growers involved (few thousand up to several ten-thousands)</td>
<td>• Large number of growers involved (ten-thousands up to several hundred-thousands)</td>
<td>• Limited number of growers involved (few up to a several hundred)</td>
</tr>
<tr>
<td>Geographical concentration</td>
<td>• Concentrating on fewer areas with highest potential</td>
<td>• Widespread production over large parts of the country</td>
<td>• Close to central processing plant</td>
</tr>
</tbody>
</table>
Contract Terms and Conditions

Type of Contract Arrangements

Contract terms and conditions vary widely from scheme to scheme\textsuperscript{31}. It normally covers the types of services provided by the companies, pricing of inputs, the interest rate on advances and the price paid for produce supplied to company.

In the cotton industry, the contractual agreement is signed between the company and distributors, which places full legal responsibility for credit recovery upon the distributor. The contract with the distributor details that they must deliver to the company the crop to the value of loan amount of inputs provided. The distributor, on the other hand, does not have legally binding contracts with the producers. This has often led to a belief by smallholders that once the loan has been repaid to the company in the amount of cotton, they can sell the remainder of the crop to any party. Farmers interviewed for the case studies often mentioned that they would welcome more competition, meaning that with more companies operating in the same area they could off-set their loans with the company that provided them the inputs (and qualify again for inputs on credit in the following season), but sell the rest of their production to whoever would offer the best price\textsuperscript{32}.

In other sub-sectors investigated under the outgrower case studies there are no clearly defined contracts between the processing or procuring companies and the individual producers, reducing the transparency and relationship with the farmers. Companies often make agreements with the farmer organizations, many of which have no legal standing, resulting in difficulties in the enforcement of agreements. There is a need for companies to deal with farmer organizations, as the large number of producers diminish their ability to deal with individuals. This, however, diminishes a requirement for the producers to have individual responsibility within the system and a clear understanding of where and how they fit into the value chain.

In coffee and partly also in fresh vegetable sub-sectors, the contracts or Memorandum of Understandings (MoU) between the outgrower companies/farmer organizations and various service providers are too ambiguous and non-binding in their nature. For example, the MoU between in the coffee sector between farmer groups involves 2-3 different parties with no clear separation of responsibilities leaving the responsibility for the provision of extension and marketing services for smallholders unclear.

The case studies identified that there are some significant mis-perceptions held by many smallholder farmers regarding contract terms. In all reviewed cases, contracts were prepared by outgrower companies and are written in legal language which makes it difficult for the smallholders and their organizations to comprehend the full implications of the contract along

\textsuperscript{31} The ACF survey of outgrower operators showed that the majority of outgrower schemes (90 percent) entered into a contract with their farmers.

\textsuperscript{32} It has been perceived that the 'oligopolistic' structure of cotton industry harms the interests of smallholders. There are four major players in relatively small Zambian cotton market who compete with each other. For comparison, there is only one major exporter in sugar market, and two in paprika, honey, dairy and export vegetables sub-sectors each.
with their full role and responsibility. This leads to misinterpretation, distrust and a perceived lack of transparency – i.e. if a party does not understand its obligations, it is difficult them to adhere and meet them. There is thus a need for guidelines, or agreed Codes of Conducts, at all levels of the value chain to clearly determine the terms and conditions of contractual arrangements.

**Provision of Inputs**

Inputs provided are usually limited to (certified) seed, and sometimes agrichemicals (e.g. fertilizer, pest and disease control). Fertilizer inputs are rarely provided by outgrower promoters (both in paprika and cotton sectors) as it is considered too risky due to the diversion of inputs to other crops (maize) or sold to other farmers, farmer default and side-selling, and unpredictable weather conditions that may result in crop failure. It was pointed out by agro-businesses that the first priority is that farmers improve their management practices of the crop before they are able to benefit from fertilizer application.

There is a wide range of approaches in pricing of inputs. In some schemes (i.e. cotton) the price of inputs is based on the cost of procurement and delivery (including transport, distribution and interest charges), and the resultant price is lower than the wholesale or retail price available to farmers due to economies of scale of bulk procurement and logistical arrangements of the agribusiness company. In other schemes, such as tobacco and paprika, the common procedure is to price the inputs at the wholesale price the companies pay, without any mark-up. Some outgrower promoters apply a small commission for handling charges, usually around 5 percent but in some cases up to 15-20 percent over the procurement price. The overall impression is that prices of inputs charged by the companies in credit schemes have been fair and in most cases lower than the smallholder can obtain from alternative supply sources. The terms of these arrangements appear to be supportive to both the smallholder production activity and the processing and marketing process.

**Interest Rates**

Three types of approaches were identified for setting the interest rates for the loans extended to smallholders. By far the most common is the practice that no interest is charged on the outstanding loan balances. This applies to majority of outgrower schemes in Zambia. Another option is to pass the cost of capital of borrowed funds on to contracted smallholders (i.e. tobacco sector). The third used by some outgrower operators was to charge interest rates above the commercial rate (ZAHVAC), which varies from 15-30 percent on annual basis. If there was a default, then the interest rate was increased to the “commercial” rate of 49 percent, plus a 10 percent collection fee. These rates can be considered high for smallholders and are not in line with the long-term target of increasing the production quality and quantity.

**Crop Pricing**

The approach to the pricing of the procured crops presents a more complex picture. In general, farmers have no say in the determination crop purchase prices. According to the ACF survey, only 40 percent of outgrower schemes negotiated the price with the farmers. About one third of
the outgrower operators offered fixed prices at the beginning of the season. For example, some cotton companies guarantee a fixed minimum price for seed cotton. This is later adjusted upwards if the world market price allows. As an example, the market situation improved between 2002 and 2003 and the farm gate price for seed cotton was increased by 43 percent. Zambian agribusiness companies were found to pay the highest average producer price calculated as a share of the world market price when compared to other countries in the region. It is, however, more difficult for the companies to reduce the purchase price downwards should the world market price decline, as it could lead farmers to turn away from the crop or lead to increased side-selling. This would not be in the interest of the companies as it would imply the loss of part of the production base.

In the cotton sector, uniform prices are being applied irrespective of where the crop is being delivered and the distance to the ginneries, with only a differentiation for different grades. On the other hand, crop pricing in paprika sector makes a distinction for deliveries of produce to the processing plant (factory price) or to local depots/buying centers (farm-gate price), with farmers having a free choice to deliver to either of the two. Prices for smallholder paprika produce are lower than for commercially produced paprika not only because of a lower quality, but also because the investment costs in smallholder production is much higher.

Smallholder farmers often expect companies to announce pre-planting prices. This perception is partly rooted in the past Government policies of pan-territorial prices of maize. However, enterprises operating in world market conditions find it often difficult to commit to pre-planting prices, because of uncertainties over the development of international market prices or macro-economic instability. Absence of pre-planting prices, coupled with limited or no understanding of why and how international market prices fluctuate and how companies derive farm gate prices, and limited access to information, particularly in a format that can be understood by farmers, leads to uncertainty and a feeling of exploitation. Developing a transparent pricing system and explaining pricing system to smallholder farmers (or their group leaders) could greatly alleviate some of these concerns.

**Provision of Extension Services**

There is a well established positive relationship between the provision of extension services and improved productivity of smallholders in Zambia. A survey of outgrower schemes in Zambia by ACF found a strong link between the increased provision of extension services by outgrower companies and the improved revenues per hectare in several crops, particularly for cotton and tobacco. For example, long standing schemes in tobacco invested heavily into the provision of extension services and building the capacity of the farmers. The survey also demonstrated strong linkages between the mobility of extension service providers and/or lower ratio of extension providers to farmers, and increased revenues.

In general, smallholder farmers perceive extension services provided by outgrower companies as free and therefore have minimal demands on the quality and regularity of services the receive. Any services provided by the companies will be ultimately recovered through the purchase price of the crop. The sugar industry seems to be the only exemption where smallholders directly pay
for their extension services. Therefore farmers know exactly the cost of extension services, and have in the past demanded that the services be improved to meet their required standards. There is evidence also from other programs that some commercializing smallholders are willing to contribute towards the cost of extension provision if they are satisfied with the quality of services. In some cases farmers stated that they would be willing to pay up to 20,000 Kwacha for a training session.

Paprika particularly is a specialized and high value crop, which requires close control and supervision during production process. As standards in importing countries are becoming more stringent, especially on aflatoxins, companies cannot always rely on third parties being in charge of the production base due to high risks to them. As a result, outgrower companies in the paprika industry employ their own extension officers, who are assisted by locally recruited field assistants. Also, specific to paprika industry, extension officers play an important role during the time of marketing of the paprika to ensure that the crop produced by contracted farmers is not diverted elsewhere. The overhead costs of provision of extension services are high for the industry, especially because of low yields and production levels by smallholder farmers and the issue of side-selling, coupled with a wide geographical distribution of farmers. Both Cheetah and Central Growers Association reported overhead cost of US$ 0.35-0.40 per kg. of crop just for extension and procurement of the paprika at the 2005 production levels, compared to paprika market prices of US$1.15 to US$1.25 in Lusaka.

Some cotton companies, such as Dunavant, have by now replaced their own extension services with distributors in an effort to curb the overhead costs. However, utilizing the distributors as extension officers has often lead to a lower quality of services provided to smallholders. As explained above, this is because the main objective of the distributor is to increase the number of farmers and improve loan recovery, not necessarily to increase yields. Although they receive a limited amount of training from Dunavant and are being supervised by its shed managers, and must be proven cotton farmers themselves, they may still lack the skills and ability to effectively disseminate extension messages. The other reason for declining quality of extension services in cotton sector is the large number of smallholders serviced by one distributor. For example, a distributor may interact with up to 1,000 smallholders, which makes the provision of quality extension services difficult. The lack of mobility of some distributors, whose main mode of transport is bicycle, also reduces their ability of efficient service provision.

In vegetables and dairy sub-sectors provision of farm advisory services is organized largely by commodity trusts (i.e. ZEGA Training Trust and Livestock Development Trust). In other sectors (mainly paprika), the extension services are sometimes provided opportunistically by NGOs.

Although increase in smallholder production volumes should directly translate into reduction in overhead costs, lack of public market infrastructure and support mechanisms contributes to high transaction costs. High risk of farmer default and side-selling have made it difficult for companies to invest into service provision, leading sometimes to a vicious cycle of low yields and low production volumes to fill their processing capacity. Understandably, outgrower promoters’ primary objective is to maximize profits and should therefore not be expected to provide public goods at their own private expense. The public extension services provided by the Government, however, have not been able to fill the gap as Government extension officers
are viewed by private sector companies as ineffective, expensive (due to high levels of field allowances) and not having the specialized knowledge needed to provide support to farmers in cash crop production. In paprika sector outgrower companies have now realized that too wide geographical distribution of smallholder farmers is stretching their resources and have addressed this issue by concentrating on fewer geographic areas with the highest production potential and close proximity to transport infrastructure. Mechanisms are also being developed to curb side-selling by transferring more responsibilities to group leaders, for which they receive a commission based on recruitment of farmers, credit recoveries and product volumes along the lines of the distributor model developed in cotton sector, without losing control over production volumes and quality.

Value Chain Financing and Credit Recovery

Value chain financing arranged by outgrower companies is the dominant form of smallholder credit in Zambia. The basic approach followed by almost all outgrower schemes is where the promoter issues inputs to farmers on credit, in cash, or in kind. The agreed debt repayment will be deducted from the sale proceeds. The credit enables farmers to acquire required inputs to which they would not otherwise have access. The promoter guarantees to buy the farmer's produce. The repayment for the provided inputs is deducted when the crops are sold to the contracting firm.

The cotton sub-sector is the largest provider of credit for smallholders. Total annual seasonal credit disbursements by cotton companies were estimated to approach US$10 million in 2003. The majority of contracted farmers receive credit for seasonal input packages, which consist of graded and treated cotton seeds, a package of chemicals and sometimes also spraying instruments. Other supply chain credit schemes in Zambia are smaller in scale, with tobacco being the next largest source of credit for smallholders, followed by paprika sub-sector.

The assessment of performance of credit schemes provided by outgrower promoters follows different principles than in standard financial sector operations. In agricultural credit operations of formal financial institutions, high recovery rates normally indicate profitability of production activities and a strong appreciation by the farmers towards the partnership between them and the financial institution. This is the general picture for value chain credit too: when farming fails and/or farmers do not see the benefits from the scheme, they often do not repay their loans in full. However, in the case of outgrower arrangements, the scheme can be profitable for a promoter even when it faces a relatively high default rate, as long as it secures an adequate supply of quality produce. On the other hand, full recovery of input credit does not guarantee that the whole contract farming operation is a success and that the promoter would want to continue to implement it. In all the reviewed outgrower operations, the objective of companies is to not to profit from input credit arrangements, but to gain access to raw materials and to profit on post-harvest activities up on the value chain. The credit amounts also tend to represent a relatively small share of the value of the crops. Therefore, if the produce buying targets of the company can be reached, reasonable credit losses are acceptable.

In general outgrower scheme operators in Zambia did not see the non-availability of collateral among small scale farmers as a constraint for their credit operations. The ACF survey showed
that only 30 percent of outgrower companies considered smallholder collaterals as important or very important factor in the development of their schemes. The repayment rate on the other hand was considered the most critical issue in the success of an out-grower scheme.

While the repayment of credit performance varies significantly among various outgrower schemes, consistently high recovery rates have been achieved in input credit schemes in some sub-sectors. The average credit recovery rate among those outgrower operators who participated in ACF survey was 87 percent in 2003/04, up from 80 percent in 2001/02. After experiencing problems in the past, Dunavant operates today a smallholder credit schemes at over 95 percent recovery level. The tobacco sub-sector reported 95-98 percent recovery levels in their smallholder seasonal credit. Of the smaller credit schemes, CRM Farm reported a full recovery performance year after year, with recovery problems only in one season when the government confused the produce market with free deliveries of relief fertilizer (Box 3).

**Box 3: CRM Farm: Successful smallholder credit by commercial farmer**

CRM Farm is a commercial family farming enterprise close to Kabwe, of Lusaka, on the lien of rail. The major businesses on the farm are wheat, production and manufacturing of stock feeds, production and processing of soybeans, and maize. The total area under cultivation is around 1,000 hectares.

The CRM smallholder credit scheme is an innovative approach to small-scale finance and also a reflection of the structure and farmer relationships in Zambia’s agricultural sector. The scheme has its origins in the severe 1994/95 drought. CRM Farm is on one side surrounded by a nature reserve, which is cultivated by a fairly large smallholder population. As government was late to react to the serious hunger caused by the drought, CRM farm started to face significant losses due to crop theft. To counteract the situation, the owner of CRM Farm designed a private credit scheme to increase acreage and improve the yields of smallholder maize production around his farm. In the first year, the 1995/96 season, CRM Farm procured 200 bags of fertilizer from the private traders and distributed it to 20 farmers operating around the commercial farm. The deal was that based on the price fertilizer-maize price relation, the farmers were to pay the loan back to CRM Farm by delivering at harvest two bags of maize for each bag of fertilizer received. The scheme achieved a 100 percent in-time recovery in its first year of operation. It should be mentioned that the Government fertilizer credit scheme achieved a 6 percent recovery rate the same year.

CRM Farm sold the maize received from the farmers on the commercial market and used the proceeds to increase the volume of the scheme. In the next season, 1996/97 smallholders received 400 bags of fertilizer as input advance and again paid back in full. Since then, the scheme has continued to grow annually. In the current season, CRM Farm disbursed 1,000 bags of fertilizer to smallholders on credit. New farmers in the scheme received also quality seeds as a part of the package. Some 70 farmers participated in the scheme this year and the total value of the inputs issued on credit to smallholder was some USD 15,000. Repayments in the scheme have remained nearly perfect and in 2002, the 100 percent recovery level was again reached. The operators of the scheme see the following key factors behind this performance:

- The small-scale farmers see the scheme as a reliable source of inputs to which they would otherwise have very little access. Default would automatically exclude them from this service.
- The Farm Supervisor, who manages the scheme has very good knowledge of his clientele, which has been the basis for successful farmer selection to the scheme. He has also used the local Chiefs to assist him in farmer selection.
- The Farm owners have from the start introduced the scheme as a commercial operation, not a social service, and the responsibility for repayments has been made clear to the farmers.
- The option to pay back in maize has made it easy for the cash-poor farmers to take care of the repayments.

The only problems in recoveries were experienced in 2001. Two main reasons contributed to the problems. First, the price of maize dropped sharply and the price of fertilizer went up. The repayment ratio was changed to 3.5 bags
of maize for one bag of fertilizer. This caused some concern with the smallholders. Second, in the mid-season the government started to distribute in the villages free fertilizer, which it has received from donor relief sources. This confused the commercial maize and fertilizer marketing situation in the area and adversely affected the credit scheme operations. In 2002, the price ratio was reduced to three bags of maize to one bag of fertilizer and the scheme achieved a 100 percent recovery again.

The farmers’ positive view of the importance of this private sector credit scheme can be observed from their good repayment performance in a sector where willful default has been the rule of the game, and in farmers’ willingness to borrow more and intensify their maize cultivation. The more active smallholders have now much larger areas under maize, and the biggest borrower received 80 bags of fertilizer in this season and invested also own funds to his small-scale but increasingly commercial maize operation.

For CRM Farm, the main impact has been that crop theft has virtually stopped. The owner considers that he has earned back his initial investment many times as a result of reduced theft but also in the form of a much smaller number of required farm watchmen as compared to his neighboring commercial farmers who do not supply similar services to close-by smallholders. All the trading income from the repaid maize has been used to expand the scheme. As the biggest problem for the continued successful operations of the credit scheme the owner of the CRM farm sees the continuous interference of the government in both the input market and the pricing of maize. The key constraint for CRM Farm to progress in this way is that smallholders in the area still lack the business orientation to farming which would be required for sustainable production of more sophisticated and better paying cash crops based on outgrower contracts.

On the other hand, some other outgrower schemes achieved very low rates of recovery for their input advances. For example, paprika operations recorded average recovery rates of around 50-60 percent in 2003, and some companies (e.g. ZAHVAC) were able to recover only 26-34 percent of the credit provided to smallholders.

**Impact on Smallholder Incomes**

The outgrower case studies did not find the evidence of exploitative nature in reviewed smallholder contract farming arrangements and in related input credit operations. Most of the operations had a positive financial impact both to outgrower company and to smallholder farmers. Input credit packages by processing and marketing companies make it possible for small-scale farmers, who do not otherwise have access to formal credit and markets, to get involved in the production of high-value crops. The companies also provide them with secured markets for their produce. In most of the reviewed cases, this has meant increase in the cash earnings of the participating households. Through participation in outgrower schemes, smallholders are able to generate a cash income (sometimes first time in their lives) to satisfy their cash expenditure requirements (school fees, hospital bills and clothing), even in years when their maize crops have failed.

There are significant differences between sub-sectors in terms of the return to land and labor farmers received for participation in outgrower schemes. Crops such as paprika, coffee, vegetables and cotton produce much higher per hectare net earnings than is the case with the most common alternative, the low-input low-output production of maize. Calculations made by the study teams show that on a per hectare basis sugar has the highest gross margins of about US$1,100 per hectare, followed by export vegetables (US$500 – 850 per ha) and coffee (US$250-400 per ha). However, these three crops involved only a small number of smallholder households throughout the country and are therefore insignificant from the broader poverty
reduction point of view. The two crops which had the largest number of smallholders – cotton and paprika – had gross margins per hectare of US$157 and US$120 respectively. This is considerably higher than maize, which has an average gross margin of US$80 per hectare. In terms of return to labor, cotton generated income of US$1.8 per day compared to US$1.4 per day for paprika. The return to labor for maize was estimated at US$1.2 per day.

However, income generated from outgrower operations would probably not lift majority of smallholders above the poverty line of one-dollar-a-day, unless they are able to increase yields. For example, the farm model calculations carried out by study team showed that by increasing average cotton yield from 600 kg/ha to 800 kg/ha with improved farm management practices would increase smallholder gross margins from US$120/ha to US$180/ha. The respective increase of return to labor would be from US$1.8 per day to US$2.5 per day. Further improvement of yields, with increased input use, to 1,000 kg/ha would increase gross margins to US$230/ha or return to labor of US$2.8 per day.

Finally, there is also an evidence of positive spill-over effects from production under out-grower schemes to regular farming activities in form of technology and skills transfer and inputs. For example, it was claimed by some cotton scheme operators that their farmers have higher maize yields than their fellow farmers, who are not connected to outgrower scheme, simply because they have become better farmers. However, it is also possible that farmers who get involved in outgrower arrangements are simply more advanced in their farming operations. In several tobacco schemes farmers were advised to cultivate maize after tobacco in order for the maize to benefit from residual fertilizer from tobacco. In coffee schemes intercropping with other crops is promoted to bridge the first 3-4 years in which the coffee does not yet bear harvest.

**Sustainability of Outgrower Operations**

As discussed above, one of the major problems to outgrower scheme sustainability emerges when the company fails to procure the expected volumes and qualities of crops from contracted smallholders. In a number of the reviewed cases, despite the training provided, smallholders had difficulties to meet the quality standards required for export production. In paprika operations for some companies several containers were rejected on arrival in Europe in 2003-2004 due to high levels of aflatoxin.

The second factor what affects the scheme sustainability is the issue of side-selling and side-buying. The contracting companies find it often difficult to buy crops from their own contracted farmers. Opportunistic competitors buy actively and systematically from farmers contracted by other companies, and often find willing sellers within the smallholder community. Side-selling has adversely affected the sustainability of many input credit schemes and discouraged new companies from engaging in these activities. According to the ACF survey, side-selling was a strong concern to tobacco and cotton outgrower companies. In paprika sector some companies lose as much as 30-40 percent of its outgrower production to their competitors. There is a need to establish clear rules both on the company and the farmer side to direct the behavior of the

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33 The study team did not estimate the returns on tobacco. According to the ACF survey of outgrower arrangements, revenues generated by tobacco are comparable to vegetables and sugar.
market players. However, the issue of side-selling and side-buying is linked to general problems related to weak law enforcement in Zambia. The companies have little trust in the law enforcement systems and seldom take legal action against firms buying illegally (sometimes with close political connections) from their outgrowers.

Other issues related to the sustainability of outgrower schemes have their roots in the past Government interventions in the agriculture sector and economy in general. The government has historically provided all inputs on credit to the farmers along with extension and markets. Donors and NGOs alike have been continuing this, and now smallholder farmers are expecting the same from private companies and continue to depend on them for their input needs. The study did not find any examples where smallholder farmers involved in outgrower schemes were able or willing to secure their inputs independently grow the crop using their own resources, and then sell the crop to the company of their choice. The linkage-dependent relationship between the smallholder farmers and the private sector is essentially similar to the system which existed under former state parastatals. Furthermore, a culture of credit non-repayment has developed over the years as a result of government interventions in the sector. The legacy of this is at the core of many of the problems (and criticism) faced by the private sector in promoting smallholder outgrower schemes. On the one hand there is a need to boost production by providing smallholders inputs and extension services, while on the other hand there is a risk of increased exposure of the companies in view of the prevailing high default rates. Efforts by some companies in paprika sector (i.e. Cheetah) to make inputs for the new season available at the time when farmers are selling their paprika crop, and encourage farmers to use some of the proceeds from the sales for securing the inputs for the following season have so far met limited but increasing success.

Another challenge for outgrower schemes is the lack of business orientation of smallholder farmers. Due to prevailing cultural attitudes a large number of smallholders see farming still as a life style, and not a business activity. Furthermore, partly because of past Government policies and partly because of activities of some NGOs, there is still a wide spread dependency mentality in rural Zambia which further complicates developing an independent and business oriented smallholder farming community. Smallholder export vegetable production in Zambia is a good example of donor dependency. There is a wealth of external support for smallholder groups, such as LACCU. Whereas the organization has stronger capacity than most smallholder groups in Zambia and has built up a strong support network to facilitate the development of the organization and its members, it has become so donor-dependent that it is not able to survive independently in a business environment.

However, probably the biggest challenges for the sustainability of outgrower schemes lay beyond the domain of the smallholder sector. According to the survey of outgrower schemes by ACF, the large majority of operators (95 percent) identified the fluctuations of the world commodity prices and instability of domestic exchange rate as a most critical factor what affects the sustainability of their operations, followed by cost of finance (85 percent).
Summary

The outgrower schemes reviewed above have different operating modalities in terms of the type and number of farmers, their spatial distribution, contract arrangements, delivery of inputs and technical support (extension services), marketing mechanisms, and quality requirements. It would not be realistic to recommend a single best practice outgrower model that suits all of these diverse scenarios. However, it is possible to extract some relevant elements and lessons learned from the reviewed outgrower models that could be incorporated into recommended best practice models suited to the specific conditions of different sub-sectors. The best practice models which is proposed in Annex 2, aims to move away from (Government/donor) dependency towards self-sufficient, economically viable supply chains, incorporating producers, service providers and processors, each party knowing and recognizing its roles and responsibilities and undertaking them in a responsible, profitable and sustainable manner.

Characteristics of Smallholder Producer Groups in Zambia

There are several advantages for smallholder farmers to organize themselves in producer groups. Outgrower companies and agribusinesses in general prefer to work with farmer groups rather than with individual smallholders. Group approaches to farmer groups means reaching economies of scale and thus reducing transaction costs, which is beneficial for both farmers and outgrower companies. By working through farmer groups companies can reduce their cost on delivery of services, whereas farmers can reduce transport and other transaction costs to bring their produce to the company, or negotiate better prices when delivering in bulk. Groups are also more efficient channels for the distribution of inputs, dissemination of technical advice, and procurement of the crop. Below, we discuss the main types of smallholder groups/organizations found in various forms of outgrower arrangements in Zambia.

Cooperative Societies

Most dairy groups and vegetable growers operate as Cooperative Societies (CS). CSs are formed under the Cooperative Societies Act (1998). There are about 3,000 cooperative societies registered under the Cooperative Societies Act. The main advantage for farmers to belong to a CS is that they can access the government’s fertilizer subsidies (FSP), Food Security Packs and similar Government programs, or sell their maize to FRA at their procurement price. As a result, the CSs are still seen largely as being top-down and with a high level of political influence in their formation and operations. Many of the ‘new’ cooperative societies are simply continuations of the ‘old-style’ cooperatives, or have been formed to serve the interests of a few, usually relatively well educated and well off farmers, and do not necessarily represent the interests of majority of smallholders. Most CSs become active only at the beginning of the growing season in order to access subsidized fertilizer become often dormant for the rest of the season.

Most CSs lack strong self-management and have been plagued by problems of mismanagement of financial resources and poor accountability. Although some CSs have received capacity

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34 Other sources mention tens of thousands of cooperative societies.
building in financial management, majority have not managed to set up proper accounting systems and procedures. Poor management of CSs is partly a result of unrestricted membership with too little emphasis on commercial selection criteria. It is not uncommon for CSs to have a membership of 100-200 farmers or more, but only very few active members.

Farmer Associations

Farmer Associations (FA) have become an alternative to cooperative societies. While CSs have been promoted mainly by Government, FAs have developed mainly through donor funded operations as a means to deliver services to its members. The number of FAs has rapidly expanded as evidenced by the number of associations seeking registration with the Registrar of Societies. Although they provide an organizational framework for mobilizing farmers to participate in various programs and fill the institutional vacuum that exists in rural areas, many associations seem to some extent come into existence merely as a response to the availability of donor funds.

It is not uncommon for an individual farmer to belong to as many as four or five different associations, all located within a small geographical area. As stated by some smallholders: 'it is always useful to belong to several associations, in case another donor or NGO passes by'. Membership fees are usually minimal, and paying a membership fee many times over is far outweighed by the possible benefits that may come by belonging to the right association at the right time.

The following weaknesses of the FAs were identified:

- FAs are generally weakly organized, with limited managerial skills, limited access to capital, and generally suffer from low productivity resulting from late and inappropriate inputs and poor management;
- Membership fees charged by associations were often inadequate to maintain a vibrant organizational structures, particularly for new associations which reduce its fees in order to attract membership. In many cases, regardless of the fee levels, membership subscriptions are not proactively collected;
- There is lack of understanding of recruitment concepts. When the initial or pioneering membership has been settled, there appears to be little focus on attracting new members; and
- In some instances, the associations have been formed on a single-issue basis, and if that issue disappears, there may not be incentives to sustain the association.

The findings of the study is that there are only few cooperative societies or farmer associations in Zambia that could become a genuine partners for outgrower promoters. They are widely scattered to provide a strong and reliable production base and effective supply network on the ground. Often outgrower promoters are approached by a cooperative society or farmer association wishing to grow a particular crop in collaboration with the outgrower promoter, whereby it soon transpires that the only thing really wanted is fertilizers on credit. It is therefore not surprising that outgrower promoters prefer to work with individuals, such as distributors,
who can provide the necessary guarantees, thus avoiding all the complexities of working with formal farmer organizations.

**Characteristics of Successful Farmer Organizations in Zambia**

Farmer organizations are most successful with small, cohesive groups involved in simple activities in liaison with agribusiness. They are generally built upon pre-existing organizations and/or social groups, where members already share considerable trust and familiarity and have a strong sense of local ownership. They tend to have a small membership, between 10 and 30 members, of relatively homogeneous characteristics. The agenda of successful organizations is usually member-driven and shows internal cohesion, which tends to occur more in groups of small size. Taking into account former misuse of funds by formal cooperatives, transparency is very important to establish farmers’ trust in each other and to the organization.

Successful farmer organizations cases which were identified by the study were never associated with subsidized inputs or credit, but with viable business objectives. However, they need capacity building, particularly when aimed at integrating the group into the wider economy through development of links with financial and market intermediaries. Other main characteristics of successful farmer organizations which were identified in the outgrower case studies include the following:

- Successful farmer organizations are generally involved in relatively simple marketing, input supply and saving/credit operations involving liaison with market intermediaries higher up the marketing chain;
- They have a close match between the activity and services on the one hand and the group’s experience, and financial and managerial capacity on the other hand;
- They tend to begin with a single activity as more complex operations often fail; and
- They tend to concentrate on relatively high value produce rather than low-value staples; or concentrate on produce with an added value component through grading and/or processing and/or storing over seasons.

**Lessons Learned From Donor Funded Projects**

The presence of donors and donor-funded NGOs in smallholder commercialization activities varies significantly by commodity sub-sector. While the large Zambian outgrower schemes, such as cotton and tobacco, are operated and funded entirely by private outgrower companies themselves, the smaller schemes, such as paprika, vegetables and dairy, have received substantial aid allocations. Annex 3 presents the major donor funded smallholder commercialization projects in Zambia. In general, schemes that have received little donor support (cotton, tobacco, sugar, honey, chilli) have shown relatively good performance, both in terms of smallholder numbers and export value. On the other hand, two sectors which have received a largest amount of donor support in Zambia, such as paprika and export vegetables, have seen declining number of smallholder farmers and export volumes since their peak in 2002.

A number of donor-funded NGOs have been involved in farmer mobilization and capacity building among farmer groups, notably in imparting in business skills training. While many of
these activities have been successful in establishing farmer groups, others have however floundered because of the lack of direct market linkages and industry involvement. Often farmer groups were formed on an ad hoc basis or on a large scale as part of development projects. This has often not lead to the emergence of viable farmer groups. Often the groups were formed hastily with little reference to the underlying patterns of social and economic organization or commitment to cooperative action. Farmers were typically required to join a group in order to receive inputs that were donated or subsidized, thus attracting those primarily interested in the subsidy.

There is a need to clarify the roles and responsibilities of NGOs which are supporting the development of smallholder-private sector linkages, especially since some donor funded NGOs have become competitors rather than facilitators to the private sector. For example, some NGO’s had a tendency to masquerade as agribusiness enterprises, cross-subsidizing their business activities with donor funding which has distorted markets. Beneficiaries from donor funded organizations with cheap financial sources have been pushing up market prices in an attempt to increase margins for smallholders (e.g. paprika) which has disadvantaged commercial outgrower companies who consequently have been facing viability problems and increased side selling. This has reduced the sustainability of the industry once the donor support ends.

In some instances, extension services provided by NGOs have reduced the control that agribusiness companies have over the standard of service provided or the content of the technical advice and messages being given. This has resulted in inconsistent advice being given, causing confusion and having a negative impact on smallholder production. The situation with inappropriate NGO or donor involvement in extension services is exacerbated when the project or funding ends and there is no sound exit strategy to ensure that service continues to be provided in a sustainable manner.

On the other hand, training and capacity building operations by some donor programs and NGOs have been instrumental in the development of farmers groups. Some donor funded projects have managed to broker functional relationships between the outgrower companies and farmer associations/groups, including financial links. The presence of donor funded NGOs in the field has helped companies to reduce risks and transaction costs. These actions have often served as useful starting points in the intensification of smallholder agriculture in rural areas of Zambia.

Overall, experiences from donor funded smallholder commercialization projects in Zambia suggests that funds for smallholder mobilization and capacity building should be preferably channelled through industry associations, agribusinesses/outgrower promoters and farmer organizations, in the form of 'results based contracts', in order to have a lasting impact. This could also lower the cost of service provision as there will be no duplication of overhead costs. The functions of the development organizations in terms of farmer capacity building, extension, marketing, etc. should be the responsibility of outgrower scheme operators who ensure their consistency with industry priorities and business needs, and who can contract NGOs or other service providers on a demand-driven basis. Finally, there is a need to ensure a more coordinated approach between development partners supporting smallholder outgrower sector in Zambia. Lack of coordination of agency policies and activities and competition for smallholders
is often restricting the impact of the assistance provided. It is thus important that the role of each partner is clearly defined and understood by all from the onset.

**Summary**

The analysis above provides a review of experiences and lessons learned from smallholder commercialization process in Zambia. There are many successful examples of smallholder commercialization from other countries in the region or globally, which could serve as useful benchmarks for Zambia. In general, successful cases of smallholder agricultural commercialization and value chain development have benefited from the active role of public sector through the investments into complementary public goods, such as research and extension, transport infrastructure, improved regulatory environment, etc. That is, successful cases of smallholder agricultural commercialization and value chain development did not, in general, emerge only from efforts of the private sector.

Given the increasing importance of private value chains in agricultural production systems, a larger share of limited public resources may need to go to investments related to the development of “software” (improving farm management, technology transfer, capacity building of farmers and their associations), while private sector is expected to increase their investments into hardware (for example irrigation infrastructure). In the future, most benefits can be generated through co-financing and complimenting the special skills in the two sectors through public-private partnerships. In order for smallholders to become competitive in increasingly sophisticated global food markets, public sector support for the development of innovation systems which is based on public-private partnerships is becoming an important focus of “software” related investments. This is because effective innovation capacity often already exists within private sector value chains, because innovation systems and value chains often have many shared partners. Although they respond to different organizational principles, innovation systems and value chains are highly complementary and overlapping. Experience from China and elsewhere shows that innovation systems can be used to help to expand opportunities and means for resource-poor smallholder farmers to become actors and stakeholders in global value chains (Box 4).

**Box 4 Reducing rural poverty by linking farmer organizations with public-private partnerships in China**

Agriculture in Western China is characterized by deep rural poverty linked to traditional production systems. World Bank support is focusing on assisting the national plan to restructure and modernize the sector. An especially innovative part of this effort is the development and testing of tripartite joint ventures between agribusinesses, small-scale farmers, and research providers to enhance knowledge-based value addition in agricultural production, especially farmers’ share of the value added. The focus on partnerships grew out of an assessment of rural communities and their links with public and private stakeholders, which revealed:

- Increasingly complex and nonlinear linkages from research to product, with networks for public and private partners engaged in innovation, development, production, and marketing.
- Consumer demand-driven research agendas, including the integration of agricultural production and emerging environmental sustainability agendas (such as integrated pest management and “green” food).
- A changing public sector role away from productive activities and towards setting and enforcing regulatory...
Partners in these joint ventures (researcher/research institution, company, and farmer/farmer association) enter into a risk- and benefit-sharing arrangement in the form of contracts, joint shareholding, or revenue sharing, which guarantees that benefits are not captured by one partner alone. Farmer organizations have legal support for negotiating contracts. This institutional arrangement seeks to ensure that new products and technologies propagated, developed, or under development respond to market demand, are supported by research to stay competitive, and involve farmer organizations as business partners to assure fair benefit sharing.

Source: Adapted from Agriculture Investment Sourcebook World Bank (2006)

Global experience also shows that institutional changes are needed to support the development of competitive and efficient agricultural markets and increase smallholder farmers' access to these markets. Institutional innovation has been shown to reduce transaction costs related to markets and/or value chain coordination, facilitate expansion of exchange outside of personalized networks, and enhance market specialization (see Box 5).

**Box 5: Mali: “Silicon Mali”**

Mali’s success in establishing a market information system earned it the title of “Silicon Mali” from *Forbes Magazine* in 2002. Mali’s market information system (Observatoire des Marchés Agricoles) is based on enumerators visiting 58 markets around Mali and recording the high and low prices for grains, crops, and livestock. They enter these on laptop computers and e-mail the information by FM radio waves—all solar-powered equipment—to other regional offices where data are compiled and reports prepared for different types of producers.

The system, built up over a decade, has helped make Malian grain farmers more efficient, by letting them know when and where to sell and for what price. With better information, the government can now rely on the private sector to shift surpluses to areas with shortages without resorting to foreign aid. Mali’s information system has become a model for the rest of West Africa, where such countries as Niger and Burkina Faso are setting up similar systems that will be linked together. Soon farmers will be able to carry out more selling across national boundaries.


As discussed throughout this report, value chain competitiveness depends on a variety of factors, such as good logistics, low transaction costs, enabling business environment, and macroeconomic stability. The public sector can create conditions for the development of efficient value chains by the private sector, but government capacity to support value chain development and increase the involvement of smallholders is typically limited. Boxes 6 and 7 below present two examples, one from Colombia and another from Madagascar, on the development of effective productive agribusiness/farmer partnerships which have emerged from clearly defined public-private collaboration.

**Box 6: Colombia: Building productive agribusiness-farmer partnerships**

Liberalization of the economy, coupled with an overvalued currency and falling world prices for commodities, have led to fundamental changes in the composition of Colombia’s agricultural production. However, the rural population’s limited education and business skills, the high cost of and limited access to capital (particularly for smallholders), and the prevalence of rural violence have impeded smallholders’ ability to deal with these changes. The challenge facing the rural sector is to increase its competitiveness in a free market economy. The government’s strategy is to promote farming systems that combine both perennial crops (agro-ecological conditions permitting) with subsistence and annual crops and animal husbandry. This strategy is expected to allow farmers to reduce debt levels, diversify risk, and increase employment and incomes.
The World Bank is supporting the Government of Colombia to establish economically viable and sustainable partnerships between agribusiness and organizations of small-scale producers through the Productive Partnerships Support Project. A “productive partnership” is considered as any collaborative arrangement between a small-farmer organization and an agribusiness that reduces technical, commercial, financial, and/or social risks; increases productivity; and produces income gains in a value chain in ways that benefit all parties.

The development of productive partnerships is based on three principles: (i) limited responsibilities of the public sector are specifically defined; (ii) execution of project activities is completely decentralized and transferred to the private sector; and (iii) participation of stakeholders is structured through a clear allocation of roles and responsibilities, based on the recognized competencies and capacities of each party.

The project supports the implementation of productive partnerships by financing cost-sharing transfers as a financial incentive for participating producer organizations (i.e. on-farm infrastructure, such as irrigation canals, aquaculture facilities, greenhouses and storage facilities; durable goods, such as machinery and equipment; operational inputs, such as fertilizers and approved chemicals; special studies and inventories; etc.). It also finances technical assistance and training for participants in productive partnership. The incentives can be used for farmers to access output markets and inputs (for example, high quality seed or credit for working capital). They also help agribusinesses to expand food processing activities by securing supplies from small-scale producers whose products meet predetermined quality standards, without the need to expand own production capacity.

There is now evidence that development of productive partnerships between agribusinesses and small-farmer organizations has improved smallholders’ access to input as well as output markets. Farmers’ range of production alternatives has increased, along with the profitability of diversification alternatives. In conjunction with these changes, rural employment has increased, a broader range of production systems has been established, and the financial and climatic risks associated with agricultural production have been reduced. Agribusiness investments in the sector have improved the provision of new technologies and the linkages between farmers and the markets they serve. The main lessons learned from this program include the following:

- A flexible, open design is preferred, given the great diversity in capacity and socioeconomic conditions;
- The process of designing partnerships should be participatory, drawing on the contributions of local governments and local small-farmer organizations;
- Proper mechanisms must be set in place to provide participating farmers with independent sources of technical assistance to counterbalance dependence in relationships with agribusinesses;
- Clearly defining contractual, arbitration, and conflict resolution mechanisms as well as operational, monitoring, and supervision procedures can ensure transparency in financial transactions.

A recent study on smallholders in Madagascar producing for supermarkets, concludes: "given the right incentives and contracting systems, small farmers in developing countries – and in Africa in particular – can participate successfully in these emerging value chains. Thousands of small farmers benefit because of a combination of effects, such as improved access to inputs, credit, extension services, technology adoption, and farm productivity spillover effects on other crops and enhanced income stability.” This study analyzes primary data collected to measure the impact of supermarkets on small contract farmers in Madagascar (one of the poorest countries in the world). Almost 10,000 farmers in the Highlands of Madagascar produce vegetables for supermarkets in Europe. In this global supply chain, small farmers’ micro-contracts are combined with extensive farm assistance and supervision programs to fulfill complex quality requirements and phyto-sanitary standards of supermarkets. Small farmers that participate in these contracts have higher welfare, more income stability, and shorter lean periods. There were also significant effects on improved technology adoption, better resource management and spillovers on the productivity of the staple crop rice.” The authors identify three key constraints: (i) bad road infrastructure and high transport costs; (ii) low human capital and high training costs; and (iii) high transaction costs for individualized farmer contracts. Possible solutions are: (i) investments in infrastructure; (ii) invest in child and adult education and training; and (iii) promote group formation. Because of the bad road infrastructure and high transport costs and other high transaction costs related to distance, all of the contracted farmers live in a 120 km radius around the capital, where there is a processing plant and export production units are located.

Chapter 5
Development Potential and Opportunities for Smallholder Commercialization in Zambia

Potential for Smallholder Commercialization

Smallholder agriculture has demonstrated some potential in Zambia. It is estimated that about one-third of smallholders in Zambia are currently linked to global markets through various outgrower (i.e., contract farming) schemes. Smallholders produce the majority of cotton, tobacco, honey, and paprika exports, and contribute to the increasing share of sugar. There are opportunities for import substitution as more smallholder producers have also started to make inroads into the domestic dairy sector and there is evidence of attempts to link into domestic supermarket chains. Availability of land and low production costs (especially in labor-intensive activities) makes smallholders attractive partners for agribusinesses who require access to raw materials for processing and exports.

Three major themes emerge from the Zambia SACS that might lead to a broader rethinking of Zambia’s agricultural and rural development. These findings can serve as guidance for donors and Government in shaping their support programs for smallholder commercialization.

First, there is a strong convergence of interests between agribusinesses, larger scale commercial farmers and smallholders. This convergence of interests is evident in the different contract farming and outgrower arrangements. The majority of smallholder households in Zambia will not be able to access on their own increasingly sophisticated global value chains (regardless of their individual or organizational capacity) without the support of agribusinesses, and will therefore continue to rely on outgrower schemes for their livelihoods. Agro-processing and marketing companies are therefore likely to remain the main drivers of growth for agriculture. However, increased competition on world markets implies that the comparative advantage of Zambian agricultural exports will continue to rely on low production costs of smallholder production systems. This has important policy implications from macro and sectoral perspectives, and also in terms of the legal and regulatory framework. Addressing constraints for smallholder commercialization will therefore require multi-sectoral interventions which benefit both smallholder and large scale commercial agriculture sector, and agricultural/non-agricultural enterprises in rural areas. This means that the greatest potential for smallholder commercialization lies not so much in addressing smallholder or commodity specific constraints, but in overall increases in the efficiency of value chains arising from removal of economy and sector-wide constraints, and the strengthening of institutional mechanisms by which key stakeholders and their service providers can effectively link to each other by forming partnerships and alliances.

Second, there is a pronounced heterogeneity among smallholders in terms of potential for commercialization which requires different targeting strategies. The heterogeneity of smallholder households with differential potential has also implications for poverty reducing impacts of smallholder commercialization. It is most likely that smallholders already involved in
commercial activity (located in more favored areas and having more household assets) and who already possess necessary productive and social assets, such as land and labor, human capital (education and health), social capital (e.g. functioning farmer groups), and access to physical and financial assets, will be the vanguard of commercialization efforts. Most of these smallholder households are still relatively poor, so there is potential for poverty reduction in the short-term, mainly through participation in outgrower schemes (i.e. improving productivity of current smallholders as opposed to large scale expansion of number of smallholder farmers). In the longer-term, with new investments in transport and communication infrastructure, and in irrigation, some poor rural households in what are currently considered remote and/or drought-prone areas might also benefit from agricultural commercialization process.

Third, addressing the issues of rural poverty, and household risks and vulnerabilities requires holistic solutions which go beyond agricultural sector. The commercialization of smallholder agriculture might create some rural linkages that can benefit non-commercializing smallholders. Smallholder agricultural production systems will continue to remain important from a household food security perspective, especially for those smallholders that do not have commercial potential. However, there will be still need for safety nets and/or off-farm and non-agricultural livelihood options for more vulnerable groups.

Opportunities for Smallholder Commercialization

There is a need to develop more realistic expectations about the short and medium-term potential of moving smallholders to higher levels of commercialization. If we draw upon past productivity performance, then it will probably take decades, not years, to achieve significant, sustainable and broad-based increases in smallholder agricultural productivity and income levels. Donor support should therefore address simultaneously both smallholder specific and broader sector-wide issues what limit development of value chains. It is also suggested that the focus of donor support be limited to more market neutral interventions (e.g. extension, research, infrastructure, etc.), as lessons learned discourage direct commodity or enterprise specific interventions. There is a need for a flexible investment approaches to accommodate changes in demand-side factors and to support development of emerging market opportunities. It is also equally important to recognize that many of the key constraints for smallholder commercialization are multi-sectoral in nature, and lay largely outside the domain of MACO and the agriculture sector.

The opportunities for the Government and donor support for smallholder commercialization can be organized around the following three strategies:
Strategy 1: Strengthen Existing Market Mechanisms

Improve the efficiency of existing mechanisms of smallholder commercialization, such as outgrower schemes or nucleus estate models, and continue to support development of new and more innovative collaborative arrangements for farm productivity improvement (i.e. independent management companies, input dealers, etc). First, there is a need to continue supporting the development of appropriate farmer organizations, especially in the areas of strengthening their business orientation and capacity, since it would make smallholders more attractive business partners for agri-businesses and input-credit provision by the companies. Second, there is a need to continue to strengthen the working models and schemes, such as supporting the development of existing and new outgrower schemes for improved service delivery. Resources could be made available to address the production and organizational constraints facing the functioning outgrower schemes that are constraining the positive momentum of the more dynamic sub-sectors. Third, there is a need to continue supporting efforts to increase farm level productivity by encouraging adoption of innovative farming technologies which have proven to work in Zambia smallholder farming systems. Fourth, there is a need to strengthen risk management practices by smallholders dealing with weather related risks that directly affect household choice of production systems and willingness to participate in commercial agriculture activities.

Develop Appropriate Farmer Organizations

Development of appropriate farmer organizations is critical for individual farmers to capture economies of scale and for developing the business orientation of smallholders. Strengthening the capacity of existing and new farmers' organizations and producers groups, especially building their business orientation, would make smallholders more attractive business partners for agri-businesses and input-credit provision by the companies. Commercially oriented farmer organizations are needed. This should not be confused with old-time politically motivated farmer cooperatives. Well functioning associations can reduce transaction costs and risks to agribusinesses, which make credit delivery, input supply, extension, and produce collection easier to manage. Smallholders need technical support and training in business management skills in order to establish and operate effective associations. This often involves higher up-front costs than companies are prepared or able to pay. A justified donor intervention would be to support the development of farmer organizations, especially during their infant operational period. This could include facilitation of business development services to viable and commercially oriented farmers organizations in the areas of group formation, group governance skills, farm planning skills, market intelligence training, and business skills and training on contracts and understanding contractual obligations (for all parties).

Develop Existing and New Outgrower Schemes for Improved Service Delivery

The modalities of supporting development of outgrower schemes vary from situation to situation and business opportunity. In cases where access to term capital is the major constraining factor for the expansion of service coverage, donor support could be in the form of a targeted credit lines for outgrower scheme development and expansion, preferably through the formal financial institutions. In other cases, support could be in the form of initial support for the establishment of technical advisory services, financed either through loans or matching grants. To date, most
of the donor support for outgrower schemes has relied on contracted intermediaries or the project staff to play an active role in the implementation activity. However, many of the large and successful credit-based input delivery operations rely solely on the companies’ own networks linked to field activities with the smallholders. An interesting opportunity would be to develop the ways of using donor funding to widen the outreach of the established contract farming operations through well-performing outgrower operators using companies’ own networks to carry out their field operations. Building on existing institutional arrangements that are functioning successfully increases the chances of continued success on the ground, while reducing transaction costs that arise from contracting intermediaries. Resources could be made available to address the production and organizational constraints facing the functioning outgrower schemes that are keeping up the positive momentum of the agriculture and respective dynamic sub-sectors. On the other hand, since market and business opportunities are dynamic, provision should also be made to address new demands and markets that might arise in the context of smallholder commercialization.

**Support Conservation Farming and Other Innovative Technology Transfer Efforts to Increase Farm Productivity**

Increasing farm productivity is a key to Zambia agriculture exports to be competitive in global markets. Conservation farming (CF) is one of the major positive innovations in recent years in Zambia, which has improved farm productivity (i.e. crop yields) of smallholder production systems. CF is based on improved farm management technology, which can lead to improved profitability of farm operations. Therefore, it has been also widely adopted by commercial and emergent farmers to minimize input costs and increase productivity. CF has gained popularity among smallholders in response to perceived needs to increase fertilizer efficiency, better conserve and manage water resources, increase productivity, and also to spread labor more evenly over the year. One of the emerging success stories has been the adoption of CF by many smallholders who participate in cotton (i.e. Dunavant) outgrower schemes. There is a potential to support the further expansion of CF practices for a larger number of smallholders, especially in conjunction with the development of outgrower and other contract farming schemes.

**Improve Smallholders Risk Management Capacity**

Zambia’s smallholders face significant climatic, as well as market and health risks. Outgrower schemes directly address many of the market related risks (e.g., price risk, market access risk). Health risks are best dealt directly with the health sector. This leaves weather-based risks, which for smallholders without irrigation, are very important. Weather-based insurance instruments can facilitate farmers’ access to credit and thereby allow them to purchase the inputs which can boost productivity. Currently, commercial banks are unwilling to lend to smallholder farmers for a variety of reasons, including the risk that farmers would not be able to repay their loans if there was drought. The index based weather insurance instruments can improve farmer’s creditworthiness. Under these schemes, interested commercial banks can team up with insurance companies to provide loans that include insurance on weather risk that is based on the farmer’s local rainfall index. The farmer would pay an interest rate that includes the weather insurance premium. If there is a drought that triggers a pay out from the insurance contract, funds will be paid to the bank to pay off the farmers’ loans. If there is no drought, the farmers will benefit
from selling the higher value production in the marketplace. The index-based weather insurance instruments have been successfully piloted in Malawi and it could be also introduced in Zambia where commercializing smallholders have, in general, more diverse access to export markets due to the development of a dynamic agribusiness sector. There is a scope for donors, working with banks and insurance companies, to support implementation of weather-based insurance systems by supporting technical assistance and necessary start-up investments.

**Strategy 2: Reform and Strengthen Implementation of Sectoral, Multi-sectoral and Macro Policies**

Many issues that are critical for smallholder commercialization are part and parcel of broader "investment climate” issues in the country, which could be addressed through the coordinated policy dialogue. There are opportunities for sectoral, multi-sectoral, and macro policy interventions that are relatively low cost, and have potentially significant impacts, and high returns. A constraint to rapidly achieving these reforms is the broader political economy situation in Zambia.

Sectoral policies for agriculture need to reflect a strong growth orientation, with attention also devoted to food security and safety net issues. First, there is a need to speed-up policy reforms which improve enabling business environment, especially as they relate to weaknesses in legal and judiciary systems in Zambia, which affect the long-term sustainability of contract farming (i.e., outgrower schemes) arrangements. Second, there is a need to reduce the uncertainty of the Government policy making process, which has a negative effect on developing the private sector led markets and appropriate market institutions. Third, there is a need to take a broader and more holistic multi-sectoral approach to agricultural and rural development. This approach should include differentiated strategies for different household types and areas of the country based on economic potential. Disadvantaged households and areas will require different strategies that complement efforts at smallholder commercialization.

**Improve Implementation of Existing Policies**

The overall policy environment for agriculture sector is generally conducive towards agricultural commercialization as pronounced in various Government policy documents (ACP, NAP). The main issues are related to weak implementation and administration of existing policies, which often lead to uncertainties of policy-making process and ad-hoc reversals of manifested policy decisions. Furthermore, there is a continuing and damaging ambiguity in Government actions related to the division of roles between the public and private sector. The Government is under strong external pressure to abandon its interventionist role, but frequently finds ad hoc justifications, such as weather related shocks, to intervene. These ad hoc interventions run counter to Governments’s often stated commitments to allow market forces to operate. The unpredictability of policy interventions has a negative impact on the development of the private sector, in general, and agri-businesses in particular. Donors have a role, through effective and persuasive policy dialogue, to improve the transparency and consistency of the Government’s policy making processes. This could include improving the efficiency of allocation budgetary resources towards public goods and phasing out input subsidies; redefining the role of public sector institutions, such as FRA, which currently carry out private sector functions; and
improving the overall efficiency of agricultural markets through introduction and enforcing appropriate policy acts (i.e. Agricultural Marketing Act). There is also a scope to strengthen the institutional capacity of MACO and its related agencies which would increase their ability to communicate more effectively with political interest groups and other stakeholders, and improve its services to commercial agriculture stakeholders (i.e. seed certification, SPS control, policy analysis and market information systems).

**Improve Enabling Business Environment for Contract Farming**

Most of the relevant policy and regulatory issues which fall under this strategic action are driven largely by the PSD Steering Committee and on-going policy dialogue between GRZ and key donors (including the Bank). The specific actions which relate to smallholder commercialization include addressing the significant weaknesses related to the legal and judiciary systems in Zambia, which make enforcement of financial and commercial contracts between agribusinesses and smallholders very difficult (if not impossible). Legislative reforms/improvements are needed in areas such as the regulations for collective bargaining, conflict resolution and development of standard contracts which have full legal backing. Related to this issue is the need to introduce and implement a code of conduct between enterprises and smallholders which has some legal backing and/or introduce a stand-alone legal framework which would regulate contract farming arrangements in Zambia, given that almost one third of smallholders are already involved in some form of contract farming arrangements and numbers are increasing. These reforms would aim at creating appropriate procedures and the development of clearly understood and fully acknowledged mechanisms which are accepted by all relevant parties in the smallholder commercialization process.

**Improve Macroeconomic Management**

The aim of this strategic action is to improve Government’s macroeconomic management and deepen of financial markets which would increase availability of credit to private sector at more affordable costs and reduce exchange rate volatility. The following actions are suggested. First, improve and develop instruments available to the monetary and fiscal authorities to manage foreign inflows e.g. through introduction of a (competitively priced) forward market and better surveillance as well as to stimulate the development of hedging instruments by financial intermediaries that the private sector can use to insure itself against exchange rate volatility caused by the structural characteristics of Zambia’s economy i.e. dependence on copper as its main export earner. Second, there is a need for the GRZ to continue to enforce strict fiscal discipline to avoid large budget deficits and reduce domestic borrowing which can bring down interest rates and allow for increased availability of financial resources to the private sector. Third, there might be a need to readdress the composition of public expenditures towards productivity enhancing public expenditures that favor the tradable sector. This could include larger allocations of budgetary resources towards agricultural research, extension, transport and other productive infrastructure.
Strategic 3: Investments in Public Infrastructure

This strategy would focus on investments of public good nature that have potential to generate new economic opportunities, improve accessibility and facilitate forward and backward linkages to other sectors in the economy. There is a need to support the development of new approaches and partnerships for the delivery of productive infrastructure assets (i.e. irrigation infrastructure, storage and post-harvesting facilities, etc.) in order to intensify smallholder farming and to improve the competitiveness of value chains. Secondly, Zambia is a large country and resources for infrastructure development are extremely limited. There is therefore a need for geographically targeted approaches for transport, energy and communication infrastructure investments. The strategic focus for infrastructure development should be on those rural areas which have the highest potential for agricultural growth and linked activities (e.g., development of infrastructure growth poles).

Promote Innovative Public-Private Partnerships for Productive Investments

In order to intensify smallholder farming and to improve the competitiveness of value chains, new approaches and partnerships need to be considered and tested for the delivery of productive infrastructure assets of quasi-public nature, such as infrastructure, storage and post-harvesting facilities, etc. In many cases, this will mean that donor agencies may need to work directly with the private agribusiness companies as implementing partners, rather through Government structures. This calls for both donors and the government to use creative approaches in the program designs, with adequate room for private sector participation in the implementation process. For example, one of the innovative approaches for developing Zambian irrigation potential could be to support innovative public–private partnerships in irrigation development (perhaps via an “Irrigation Fund”), on a matching grant basis, where the subsidy element would cover the cost of construction of structures of public good nature, while private sector contribution would cover the cost of on-farm investments for smallholders, and operating and maintenance of the scheme on a long-term lease basis, which may include contract farming arrangements with smallholders. Other opportunities could include cost sharing in the provision of extension and farm advisory services to smallholders, adaptive research, the development of market information systems, etc.

Develop Infrastructure Growth Poles

Significant investments for infrastructure development are needed if Zambia wishes to be competitive in global and domestic markets and to accelerate/sustain its current growth path. This includes investments into road transport network, railroads, communication and rural electrification. However, Zambia is a large country and resources for infrastructure development are limited. Furthermore, agricultural production potential in Zambia, both in terms of natural resource endowment and economic viability, varies widely across rural space. There is therefore a need for geographically targeted approaches to identify specific high potential areas (i.e., growth poles), which would be targeted for road and communication infrastructure investments. There is an increasing significance of rural-urban linkages in the livelihoods of rural population in Zambia. Urban centers, including secondary towns, contribute to rural development in adjacent areas by generating off-farm jobs and acting as centers of demand and markets for
agricultural produce from their surrounding rural region, either for local consumers or as links to national (including supermarket and food retail sector) and export markets. At the same time urban centers act as centers for the production and distribution of goods and services to their rural regions. Zambia has relatively large urban population compared to other SSA countries (i.e. some 36 percent). The Copperbelt-Lusaka-Livingstone "line-of-rail" and a highway connection to high potential districts in Eastern Province (i.e. agro-ecological Zone II) represents about half of total smallholder households in Zambia and more than 80 percent of urban residents. The strategic focus for infrastructure development should be on those rural areas which have the highest potential for agricultural growth through development of urban-rural market linkages.

**Strategies, Suggested Actions and Indicative Timeframe**

Given its limited resources, the Government of Zambia needs to consider the priorities and sequencing of policy reforms and public sector investments. There are also actions that need to take place immediately to energize the existing outgrower schemes and plan for medium and longer term actions. In the summary table below, the three main strategies are presented along with priority actions, and an indicative timeframe (Table 10).
### Table 10: Strategies, Suggested Actions and Indicative Timeframe

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<thead>
<tr>
<th>Short-term (up to 1 year)</th>
<th>Medium-term (1-3 years)</th>
<th>Longer-term (3-5 years)</th>
<th>Key Facilitators</th>
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<tr>
<td><strong>Strategy 1: Strengthen Existing Market Mechanisms</strong></td>
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<td>Develop appropriate farmer organizations through capacity building in</td>
<td>Develop appropriate farmer organizations through capacity building in</td>
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<td>Private sector, NGOs, donors</td>
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<td>- group formation</td>
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<td>- governance skills</td>
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<td>- farm planning and business management skills</td>
<td>- farm planning and business management skills</td>
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<td>- market intelligence</td>
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<td>- training on contracts</td>
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<td>Support development of existing and new outgrower schemes through:</td>
<td>Support development of existing and new outgrower schemes through:</td>
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<td>Private sector, NGOs, donors</td>
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<td>- targeted lines of credits for working capital and term financing</td>
<td>- targeted lines of credits for working capital and term financing</td>
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<td>- matching grants for farmer training, private extension, technology transfer, and general value chain strengthening</td>
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<tr>
<td>Promote innovative technology transfer efforts to increase smallholder farm productivity</td>
<td>Promote innovative technology transfer efforts to increase smallholder farm productivity</td>
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<td>Promote weather-based insurance instruments:</td>
<td>Promote weather-based insurance instruments:</td>
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<td>Private sector, Donors, NGOs, GRZ</td>
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<td>- technical assistance</td>
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<td>- training and capacity building</td>
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<td><strong>Strategy 2: Reform and Strengthen Implementation of Sectoral, Multi-sectoral and Macro Policies</strong></td>
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<td>GRZ in consultation with private sector and donors</td>
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<td>Improve implementation of existing policies:</td>
<td>Improve implementation of existing policies:</td>
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<tr>
<td>- improve the efficiency of allocating budgetary resources towards public goods and productive investments</td>
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<td>- phase out FSP fertilizer subsidies</td>
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<td>- redefine and restrict the role of FRA to maintenance of strategic food reserves</td>
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<td>- improve the efficiency of agricultural markets through adoption of Agricultural Marketing Act following the</td>
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<th>Improve enabling business environment:</th>
<th>Improve enabling business environment:</th>
<th>Improve enabling business environment:</th>
<th>GRZ in consultation with private sector and donors</th>
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<td>• introduce widely accepted code of conducts for outgrower schemes</td>
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<td>GRZ in consultation with private sector and donors</td>
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<td>• introduce and improve legal framework for contract farming which would regulate collective bargaining, conflict resolution and development of standard contracts which have full legal backing and enforcement capacity.</td>
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<th>Improve macroeconomic and risk management through:</th>
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<th>GRZ in consultation with private sector and donors</th>
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<td>• improve and develop instruments available to the monetary and fiscal authorities to manage foreign inflows, incl. development of hedging instruments</td>
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<td>GRZ in consultation with private sector and donors</td>
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<td>• continue to enforce strict fiscal discipline to avoid large budget deficits</td>
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<td>GRZ in consultation with private sector and donors</td>
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<td>• readdress the composition of public expenditures towards productivity enhancing public expenditures that favor the tradable sector.</td>
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### Strategy 3: Investments in Public Infrastructure

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<tr>
<th>Promote innovative public-private partnerships for productive investments:</th>
<th>Promote innovative public-private partnerships for productive investments:</th>
<th>GRZ together with private sector, donors</th>
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<tr>
<td>- credit, matching grants and budget allocations for productive infrastructure operated and maintained by private sector (i.e. irrigation)</td>
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<td>Develop infrastructure growth poles:</td>
<td>Develop infrastructure growth poles:</td>
<td>GRZ with donors and private sector</td>
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<td>- construction and rehabilitation of rural roads</td>
<td>- construction and rehabilitation of rural roads</td>
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<td>- construction and rehabilitation of main national and cross-border transport infrastructure</td>
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<td>- investments into rural energy and communication infrastructure</td>
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<td>- farm bloc development</td>
<td>- farm bloc development</td>
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</table>
References


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Pearce, D. (2003). Buyer and Supplier Credit to Farmers: Do Donors have a Role to Play? CGAP Research Paper.


Cotton

Cotton production in Zambia increased in the late 1970’s, when the Lint Company of Zambia (LINTCO), a parastatal organization was established by GRZ to control the cotton sector in Zambia, supplying all inputs, extension services, credit facilities, technology and equipment, and procuring and processing all cotton produced. LINTCO was privatized in 1991. In 1996, London based Lonrho Plc established Lonrho Cotton Zambia Ltd and purchased three of the LINTCO ginneries, making it the largest ginning company in Zambia. To meet its raw material requirements, Lonrho established an outgrower program providing inputs and extension services to farmers, resulting in a rapid increase in the number of smallholder farmers producing cotton who were attracted by pre-financing of inputs, guaranteed market access, pre-planting price guarantee and relatively favorable pricing. However, large scale side-buying and side-selling resulted in the inability to recover credits and secure enough produce to keep its activities profitable, and contributed to the withdrawal of Lonrho from Zambia in 1999, after having sustained repeated heavy losses. Dunavant Ltd. took over Lonrho’s cotton business and instituted a new system called “Dunavant Distributor System”, whereby independent agents contract with the company to receive inputs on credit and deliver them along with extension services to farmers. Agents’ earnings are a function of credit recovery, so they have an incentive to provide quality inputs on time with extension and to have high yields and repayment rates.

Currently the cotton industry is dominated by four major companies; Dunavant (Z) Ltd, Clark Cotton (Z) Ltd, Continental Ginnery and Zambia-China Mulungushi Textiles. Of the four companies, Dunavant is the largest. All companies procure their cotton from smallholder farmers through outgrower arrangements. Smallholder produced cotton in Zambia is known for its relatively good quality due to higher quality of hand-picked cotton in comparison with mechanically harvested cotton, although the good quality is in part offset by the short staple length characteristic of the cotton. The industry, which earlier suffered from side-selling and side-buying has been able to organize itself, largely thanks to the introduction of the innovative distributor system which has had a high recovery of loans for the farmer’s inputs.

In 2004, Zambia produced 172,000 ton of seed cotton, up from 45,000 tons in 1999. Exports of cotton lint have increased significantly from about US$ 8 million in 1999 to US$ 70 million 2005. The impressive performance of the sector is due to significant investments made by private sector to encourage and stimulate smallholder production.

All cotton produced in Zambia is ginned locally, however, none of the ginneries in Zambia are running at full capacity. This is mainly because of the low and declining yields of smallholder cotton production.

It is estimated that more than 95 percent of total cotton production in Zambia is produced by approximately 260,000 smallholder farmers – approximately one in every four rural households
derives a part of its income from cotton production. According to the 2005 Crop Forecasting Survey, cotton was produced in 28 districts. However, production is actually concentrated in a small number of districts, with 3 districts producing 40 percent of Zambia's cotton (i.e. Choma district in Southern province and Lundazi and Chipata in Eastern province). The average yield attained by majority of smallholders is about 600 kg/ha or less, while with a good management practices and crop husbandry techniques it would possible to reach average yields of 800 kg/ha even with the same input level. 

<table>
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<tr>
<th>Table 1: Cotton production trends in Zambia, 1999/00 to 2004/05</th>
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<tr>
<td><strong>Production (tons)</strong></td>
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<tr>
<td>Export value (USD mill.)</td>
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<td>Number of cotton farmers</td>
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<td>Average yields (tons/ha)</td>
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Source: Cotton Development Trust, Cotton Outgrowers Scheme Progress Report 2002-2003, and ZNFU

Cotton planting is sensitive to prices; unusually high international prices in 1998 preceded a spike in land planted and production in 1999. Cotton prices have continued to fluctuate in recent years and there is some evidence of a long term decline in real prices. Combined with international price movements, with smallholders recording lower average yields and ginneries running below capacity, the long-term competitiveness and sustainability of the cotton sub-sector is uncertain.

**Tobacco**

Tobacco is the second largest smallholder crop in Zambia, and together with cotton, accounts for about 50 percent of Zambia's total agricultural exports. In 2004/5 there were 23,389 licensed tobacco farmers in Zambia in 2004/05, out of which about 100 were large-scale commercial farmers. Most of the licensed farmers are contracted by four companies – Stancom/Dimon, Zambia Leaf Tobacco Company, Tombwe Processing Ltd., and Associated Central Africa Ltd.

Zambia's tobacco exports show no noticeable trend. Production of both flue-cured and burley tobacco have fluctuated over the years although there has been some modest increase in recent years, with the active participation of major multinational tobacco buyers sourcing smallholder burley tobacco mainly from two districts in Eastern Province - Lundazi and Chipata. The bulk of Zambia's tobacco is currently sold through Zimbabwe and Malawi, where there are well-developed auction and processing facilities.

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For comparison, the average yield of the world's largest cotton producer, China, is about 1,000 kg/ha. Average yields of cotton in Northeast Brazil, which has similar agro-ecological conditions to Zambia are about 1,100 kg/ha.

According to the ZNFU, licensed tobacco farmers employ up to 100,000 smallholders and rural dwellers to work on their tobacco fields though informal contract arrangements.
Zambia remains a very small player in international tobacco trade, with its total production of 18,800 tons of burley and 15,000 tons of Virginia in 2005, contrasting with Malawi's production of 150,000 tons burley and 15,000 tons Virginia flue-cured. Zimbabwean production was 68,000 tons in 2004 (down from 175,000 tons in 2002, mostly flue-cured). The political and economic instability in Zimbabwe has led international tobacco companies to search for alternative supply sources, including Zambia, Mozambique, and Tanzania. Tobacco production volumes increased from 7,000 tons in 1999 to 33,800 tons in 2005 season, of which some 60 percent was produced by smallholders. Total value of tobacco received by farmers in 2005 was US$50.1 million, of which US$20.7 million went to burley tobacco farmers.

Table 2: Tobacco production and value, 1999 to 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Weight (ton)</th>
<th>Value (USD '000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>7,067</td>
<td>9,919</td>
</tr>
<tr>
<td>2000</td>
<td>6,483</td>
<td>6,910</td>
</tr>
<tr>
<td>2001</td>
<td>6,682</td>
<td>8,739</td>
</tr>
<tr>
<td>2002</td>
<td>13,217</td>
<td>14,851</td>
</tr>
<tr>
<td>2003</td>
<td>17,701</td>
<td>22,275</td>
</tr>
<tr>
<td>2004</td>
<td>29,331</td>
<td>52,096</td>
</tr>
<tr>
<td>2005</td>
<td>33,800</td>
<td>50,080</td>
</tr>
</tbody>
</table>

Source: TAZ

Paprika/Chilli

Paprika was introduced to Zambia in 1993 by Cheetah Zambia Ltd. who started promoting paprika in the commercial farming sector. Support for smallholder paprika production began in 1997/1998. After the initial success, a number of other organizations started to promote the crop in the smallholder sector. In 1997 the Zambia High Value Agriculture Corporation (ZAHVAC) was established by a small group of people who wanted to promote smallholder paprika production around Lusaka. The members of ZAHVAC (Enviro Oil & Colourants, Biopest, Mipachima and White Rose) provided inputs and market for paprika. ZAHVAC and its members received a significant donor support. However, most of the companies under ZAHVAC have ceased their operations when donor support stopped, or are continuing their activities on a much-reduced scale. Other enterprises and NGOs also supported smallholder paprika production at one time or another who sold their produce either to Cheetah or ZAHVAC for export.

Total production of paprika in Zambia grew from 1,500 tons in 1998 to 3,000 tons in 2002, when exports reached US$2.5 million. However, since this time there had been a serious decline in the sector, largely because of rivalry between two main exporters which resulted in the development of a culture of side selling. In 2004 the value of exports has declined to a mere US$ 0.9 million in spite of the significant support the sector has received from donors and the void in the export market caused by the problems in Zimbabwe. The later is particularly disappointing as production in Zimbabwe started at the same time as in Zambia and export reached around US$ 20 million a year before the start of its political problems.

37 Some of the donor supported NGO projects included CLUSA program in Eastern Province, Africare and Kalingwiza Enterprises Ltd. in Eastern Province, Agricrops Ltd. in Western Province, CONASA in Southern Province.
The crop is suited to smallholders who currently dominate production. The crop fits comfortably into a cotton-soya rotation and as Eastern province produces about 50 percent of Zambia’s cotton, the scope for paprika is there to be developed. The number of smallholders contracted through outgrower schemes reached 6,000 farmers in 2002, but has been in decline since then. The industry currently contracts less than 5,000 smallholders. More that 50 percent of production comes from Chongwe district, Lusaka Province, with another 25 percent coming from Mazabuka district, Southern Province.

Smallholder paprika crop is generally of a lower quality than commercially produced paprika, making it necessary to blend higher and lower qualities of paprika to meet minimum export quality standards. In addition, paprika produced by smallholder farmers is often contaminated from aflatoxin, E. coli and salmonella. This is due to poor management practices during drying and inadequate storage facilities. In addition, yields of smallholder farmers are well below its potential. The average yield attained by majority of smallholders is about 400 kg/ha or less, whereas with a good management practices and crop husbandry techniques it would possible to reach average yields of 600-800 kg/ha even with the same input level.

A new opportunity for Zambian smallholders is to produce chili peppers, which are closely related to paprika. African Spice Ltd. (ASL), which is operating in Livingstone district, is a chili processing company operating in Zambia and promoting chili as both a high value export and a development crop for Africa. It has been actively involved in the development of chilli cultivation throughout the Zambezi Valley since 2001 and has a strong focus on helping smallholders to produce crops that are both profitable and sustainable. Incorporated in March 2004 in Zambia as part of the relocation of business operations from Zimbabwe, ASL has started establishing linkages with small-scale and larger commercial farmers in Southern province around the Livingston region.

The strength in ASL’s offering lies in their exclusive contract to supply Tabasco chilli mash to McIlhenny Company USA. In addition ASL has built strategic relationships with merchants that export dried chili products to the USA, Europe and South Africa. Given that ASL can continue to produce high quality chili mash product and meet its targets, the room for expansion and increase sales is forecasted at 300 percent growth per annum over the next four years. Current production which comes largely from some 100 contracted smallholders stands at 342 tons.

*Vegetables*

The export of horticulture crops began in Zambia in the early-1980’s with a small number of commercial producers. The development of horticulture focused on exports of mangetout, fine beans, baby carrots, baby corn and other crops to the UK and North European markets. The industry gradually expanded and became much more professional and is regarded as significant.
competition to Kenya, which is the biggest exporter of air-freighted horticultural produce to Europe. Horticulture exports peaked in 2003, but have decreased since then. This decline was mainly due to the biggest horticultural exporter – Agriflora – went into receivership in 2004. Currently there are three main exporters of horticultural produce – York farm, Borassus and Chalimbana. The main market is the EU (predominantly the UK supermarkets), with small amounts exported to South Africa, Australia and the Far East.

| Table 4: Values and weight of horticultural exports, 1999 to 2005 |
|------------------|------------|------------|------------|------------|------------|------------|
|                  | 1999       | 2000       | 2001       | 2002       | 2003       | 2004       | 2005       |
| Total value (US$ '000) | 20,020     | 17,541     | 23,272     | 26,780     | 25,910     | 18,145     | 16,791     |
| Weight (tons/year)    | 5,005      | 4,874      | 7,884      | 8,485      | 8,330      | 6,238      | 5,784      |

Source: ZEGA

The vast majority of export vegetables grown in Zambia are produced within 50 km radius from Lusaka. Various donor supported projects have promoted smallholder export vegetable production through outgrower schemes. At its peak, Agriflora had established outgrower arrangements with up to 500 growers. This number is now reduced to 85 ex-Agriflora growers who are currently supplying baby corn to some commercial farms for export. These smallholders do not currently meet EUREPGAP quality and safety standards required by the industry, although baby corn is a relatively safe crop for small-scale commercial farmers to grow, due to the low volumes of chemicals used and the protective sheath around the cob. Smallholder vegetable growers generally do not have the capacity to make the investments needed to upgrade their facilities to meet EUREPGAP standards, nor do they have the technical capacity to compete in this highly competitive and regulated sector without continual supervision by a sponsoring partner. Commercial exporters that run their own packing houses, however, are not prepared to engage in this supervisory activity — at least not without some special compensation from donors, NGOs or government.

Sugar

Sugar has remained one of Zambia's leading agricultural export for the last decade and accounted for about 20 percent of these exports during 1999-2003. Zambia has a quota under the EU Sugar Protocol, allowing it to sell at a favorable price of more than €500 per ton and sell 20,000 tons to the Portuguese market. About 40 percent of Zambia’s sugar exports go to the Great Lakes region in Africa, mostly to the Democratic Republic of Congo (DRC), and more recently to Kenya. A further 10,000 tons goes to the South African market. Entry into the latter market was the primary factor in the jump in exports in 2001. Internationally, Zambia is considered a low cost producer of sugar and would benefit from further liberalization of this highly distorted market.

The major player of the sub-sector, Nakambala Sugar Refinery based in Mazabuka district, Southern Province, has utilized its milling capacity, about 150,000 tons of sugar, annually. Nakambala accounts for more than 80 percent of the total production and over 90 percent of Zambia’s sugar exports. About 11 percent of sugarcane processed by the refinery is supplied by 160 smallholders who have been linked to outgrower scheme through the independent management company called Kaleya Smallholder Company limited (KASCOL). However,
There is very limited scope within existing outgrower schemes to easily expand smallholder sugar production.

**Table 5: Value of sugar exports, 1999 to 2005**

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar (US$ '000)</td>
<td>23,143</td>
<td>22,754</td>
<td>37,043</td>
<td>35,111</td>
<td>35,249</td>
<td>35,990</td>
<td>65,296</td>
</tr>
</tbody>
</table>

*Source: EBZ*

**Coffee**

The coffee sector was supported by the World Bank loans in the 1980s and 1990s through Coffee I and II projects, which included privatization of the government-owned Zambia Coffee Company and the subsequent plantings of nearly 1,000 hectares by African Plantations Company. With the maturation of this and other plantings, commercial coffee production has grown steadily, underpinning a rise in exports despite the unfavorable trend in international coffee prices. Production has grown steadily from 3,450 tons in 1999 to 6,655 tons in 2005, and exports are about US$ 10 million a year.

In international terms, Zambia is a very minor exporter of coffee. It produces about 6,000-7,000 tons of Arabica coffee per year, of which more than 99 percent comes from about 40 large-scale commercial estates. The number of smallholder coffee growers is estimated at 250 farmers who cultivate in average 0.5 ha of coffee. Until recently, the quality of Zambian coffee was considered better than that of many of its competitors. It is regarded as having an acidic taste and thin body, which is in high demand among the world's blenders and roasters. As a result, producers have regularly received a premium over the benchmark coffee prices.

However, Zambia is a relatively high cost producer because nearly all production involves irrigation, while competitors obtain high yields under rain-fed conditions. The viability of the sector will thus depend upon its attaining and maintaining a reputation for high quality, and achieving the premium prices which accompany this. Efforts are being made to add value to Zambia coffee and attempts are made to develop niche market opportunities.

**Table 6: Weight and value of coffee exports, 1999 to 2005**

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (tons)</td>
<td>3,450</td>
<td>2,200</td>
<td>5,868</td>
<td>5,000</td>
<td>6,500</td>
<td>5,881</td>
<td>6,655</td>
</tr>
<tr>
<td>Value ($US thousands)</td>
<td>9,695</td>
<td>4,492</td>
<td>9,048</td>
<td>6,250</td>
<td>6,810</td>
<td>7,578</td>
<td>9,712</td>
</tr>
<tr>
<td>Average price ($US/t)</td>
<td>2,811</td>
<td>2,041</td>
<td>1,542</td>
<td>1,250</td>
<td>1,135</td>
<td>1,289</td>
<td>1,846</td>
</tr>
</tbody>
</table>

*Source: ZCGA*

**Honey**

Smallholders in North-Western Province in Zambia have been producing honey and beeswax for many years. Traditionally, the honey was wild-harvested and used in the production of local beer. More recently there have been a number of initiatives to encourage smallholder honey
production in hives and develop exports. It is now estimated that there are about 500,000 hives and 10,000 smallholder beekeepers in North-Western Province who are linked to export markets through outgrower schemes. The province is an accredited producer of organic and “Fair Trade” honey and receives premium prices in the export market. The private sector estimates that total honey exports are about 600 to 700 tons, worth about USD 1.5 to 2 million each year, which is higher than the Central Statistics Office data in the table below.

<table>
<thead>
<tr>
<th>Table 7: Zambian honey exports, 2002 to 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
</tr>
<tr>
<td>Tons</td>
</tr>
<tr>
<td>USD  (thousands)</td>
</tr>
</tbody>
</table>

Source: CSO

There are two main exporters of honey who organize also smallholder outgrower schemes - Forest Fruits and North Western Bee Products who, along with Honey Bee Farms, have formed the Zambia Bee Products Association. Despite the impressive growth of honey exports and establishing a good name in the EU market, the Zambian honey industry reportedly operates on small margins. This is because of the high costs of transport to collect the honey from the rural villages and then move it from North-Western Province to Lusaka and then to the international markets. In addition, it requires a large number of people to harvest the hives, organize and train the producer groups and operate the equipment in factories to separate the honey out from the combs.

Since the Government-owned glass factory at Kapri Mposhi closed, Zambia has had to import glass jars, which has made retail packing of honey very difficult. The retail packs of honey for the local market use low quality plastic jars which are unsuitable for export. The lack of good quality packing facilities hampers the development of regional market opportunities. Forest Fruits export most of its honey to Europe in bulk where it is blended with other sources and sold mainly into the catering or industrial market where it is used as an ingredient for organic pastries/cakes etc. Another exporter sends honey to Europe in bulk where it is repackaged into glass jars for retailing.

**Dairy**

The dairy sub-sector is currently static in production and its processing capacity has declined from a decade ago. Parmalat, the largest processor in Zambia buys 85 percent of its raw milk supplies from commercial farmers and enters in to a five year production contract with them. These farmers also hold shares in the processor so there is a symbiotic relationship between the commercial producers and the processors. Parmalat sees its current processing capacity capped at 20 million liters a year, 15 percent of which comes from small-scale farmers and estimates the total size of the formal milk market at 35 million liters, with a further 15 million liters coming from the informal sector. Fresh milk consumption in Zambia is stagnant and the capacity to diversify into yoghurts and flavored drinks is limited. Consumers on lower incomes tend to favor powdered milk as this allows them to consume exactly the quality they want and not have to contend with an open packet that has a limited shelf life. .
Monthly local processing output in Zambia is about 3,354,000 liters per month and monthly imports of dairy products (estimated) is currently running at 250,000 – 300,000 liters per month. A lot of these imports are being brought in by the supermarket chains and shows the scope for the industry to expand to meet demand if the large South African supermarket chains were to change their buying policies. Development of regional markets is talked about but has not materialized in any significant quantities yet due to transport difficulties and barriers to entry into these countries both physical and political.
Annex 2

Recommendations for Best Practice Outgrower Models

For outgrower models to succeed there must be ideally a demand-driven approach for all services. Processing or buying companies, representing the markets, must be able to demonstrate a sustainable demand for their product prior to commencing the development of an outgrower scheme. Producers should demonstrate a desire to participate in outgrower schemes, and for commercial development and income generation. There should be a demand (and readily available supply) from local service providers to be involved in schemes, providing inputs and services on a commercial basis. Finally, there should be interest and support from Government authorities at all levels in order to minimize disruptions and problems at a later stage. We will discuss below the key elements that could be incorporated into outgrower models based on the findings of outgrower case studies:

Criteria for grower selection.

If an outgrower scheme is to succeed and eventually become a self-sustaining income generating supply chain, focus has to be placed on ensuring that the right caliber producers are contracted. There is a need for developing selection criteria to ensure that potential participants in outgrower schemes meet minimum standards. Selection criteria could include land availability, location and conditions, agricultural knowledge and experience, basic business-awareness and willingness to learn. Minimum acceptable production standards relating to yield and quality should also be developed. Farmers repeatedly failing to meet these standards should be removed from the scheme to increase its sustainability. Whereas this is already happening to some extent through self-selection of farmers, this issue may have to be approached much more pro-actively. Developing selection criteria and production standards will also help in assessing what level of support is required to facilitate further development. Simple mechanisms that may enhance farmer selection are a contribution to the value of inputs, or membership fees which entitle farmers to inputs at discounted prices.

Registration of growers and maintenance of records.

In order to ensure good and transparent management practices of outgrower operations it is imperative to develop Management Information Systems (MIS) which would include information regarding personal details of participating smallholders, location, credit provision, and previous crop history. Computer programs could be designed to facilitate monitoring the performance of individual smallholder farmers (i.e. providing a basis for assessing the eligibility of farmers for higher input packages through tracking their performances). In more developed outgrower schemes the MIS could be linked to GIS aerial mapping systems, which include more detailed information about land use planning.
Contracts.

There is need for a balanced contract design with risks, incentives and enforcements modalities being fairly applied for all parties. It is desirable that contracts or agreements between companies and farmers are transparent and comprehensive, incorporating as a minimum personal details of the individual farmer, identification and registration number, area contracted, period of agreement, quality requirements, grades and their descriptions, input costs and repayment modalities, extension provision, and obligations and responsibilities of the two parties to the contract or agreement. Contracts and agreements should be understood by the farmers. This may require translation of the contract or agreement into the local language. If necessary, the company or a third party must provide a degree of training and capacity building amongst the farmers to ensure that they understand and accept the terms of the contract. To facilitate this, a degree of training and capacity building may be required to ensure transparency.

Input supply and loan recovery.

Conditions that apply to the provision of inputs, the range of inputs made available, their cost, farmer contributions towards the value of inputs, interest charged and repayment modalities must be clearly stipulated in contract terms. MIS could enable companies to record all inputs supplied on credit against the producers’ IDs, as well as deductions made against crop delivery. Timely delivery of inputs and other services needs to be properly planned and should respond to farmers’ needs, creating incentives for farmers to honor contracts. The better and broader the range of services offered, the closer the relationship between farmers and business, and the more the farmer will lose by breaking the relationship.

Extension services.

There may be a need for companies to perform a training and extension needs assessment to establish a base line to enable them to plan the implementation or expansion of extension services to smallholder farmers, who could be involved in the process to ensure that their needs are being addressed where feasible. If feasible, the costs of extension services should be reflected in the prices paid to smallholders so that there is a clear understanding by the farmers that extension services received are not free of charge. It is imperative that farmers are charged for the service in a clear and transparent way so that they can evaluate the quality of services provided and value for money.

Pricing mechanisms.

Farmers often expect a minimum pre-planting price for the crop they wish to grow. However, in view of uncertainties with regard to developments on the international markets or macro-economic policies of governments, this is often not feasible for the outgrower companies. Absence of pre-planting prices, coupled with limited or no understanding of why and how international market prices fluctuate and how companies derive the price they pay for the produce, and limited access to information, particularly in a format that can be understood by the farmers, leads to uncertainty and a feeling of exploitation. Development of transparent pricing systems could alleviate some of these constraints. Furthermore, grading standards and their
relationships to product prices should be clear and transparent to the farmers. When possible, visual grading aids should be made available. Farmers need to be well trained in grading of the produce. When there is a differentiation in prices paid at the factory gate or at the depots/buying centers (farm-gate price), farmers should have a free choice in where to deliver their produce.

Payment modalities.

Payment to farmers should be as prompt as possible. Any transaction should be properly recorded, indicating grades, corresponding weights and prices, total value of the delivery, and any deductions for inputs or, if applicable, other services provided.

Group development and communication facilitation.

It is suggested that group leaders are the main link between the companies and farmers. Selection of a group leader is mostly an interactive process between the company and the group. Group leaders must be literate and be able to keep a minimum of administration, and also accepted and trusted by the farmers. Good communication and close monitoring remain particularly critical issues, especially with export products involving European and Northern American markets, where there is a need to ensure quality and traceability of produce. When communication between agribusiness and farmers is weak, group members can still monitor each other. More generally, good communications to foster good company-farmer relationships and a sense of trust has a positive effect by reducing strategic farmer default. Peer pressure mechanisms with groups can further contribute to a reduction of farmer default by eliminating potential defaulters.

Development of a sub-sector specific Code of Conduct.

The objective of a Code of Conduct would be to promote ethical and transparent trading between buyers (processing and procurement companies), service providers, and smallholder farmers, with the aim of establishing minimum standards of service and transparency. Most elements of outgrower best practices could be captured in a Code of Conduct.

Participation in the Code should be voluntary. However, it is suggested that outgrower companies and smallholder service providers that sign up to conform to the Code of Conduct, will be certified after having been audited by independent auditors, with reviews being carried out at regular intervals to ensure that they continue following the code. The development and introduction of a Code of Conduct must be supported by discussions with the judicial system to ensure that contracts and agreements are enforceable, a problem that is currently faced by most outgrower companies.

The Code of Conduct could be used as a guideline to design agreements that are tailored to meet the specific requirements of each industry, within the parameters outlined in the code. Adhering to the Code of Conduct could possibly assist companies in exporting to the EU and other developed countries because of compliance with increasingly stringent conditions.
### Annex 3

**Major On-going Donor Supported Smallholder Commercialization Projects in Zambia**

<table>
<thead>
<tr>
<th>Project</th>
<th>Duration</th>
<th>Funding Agency</th>
<th>Costs USD million</th>
<th>Objectives</th>
<th>Main Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smallholder Livestock Investment Project (SLIP)</td>
<td>2006-2012</td>
<td>IFAD</td>
<td>15</td>
<td>Increase in incomes and food security among poor smallholder farmers through the restoration of their access to draught animal power</td>
<td>Measures to achieve a reduction in the incidence of ECF and CBPP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Re-stocking of smallholder farmers who have lost their cattle due to disease</td>
<td></td>
</tr>
<tr>
<td>Smallholder Enterprises and Marketing Program (SHEMP)</td>
<td>2000-2008</td>
<td>IFAD</td>
<td>18.35</td>
<td>Increase the incomes of smallholders by improving access to inputs, services and marketing of output</td>
<td>Strengthen farmers’ group, physical access to inputs, diversification legal/policy dialogue</td>
</tr>
<tr>
<td>Small-scale Irrigation</td>
<td>2001-2006</td>
<td>AfDB/AD F</td>
<td>10.77</td>
<td>Increase food production and farmers’ incomes in 3 districts</td>
<td>Establishment of irrigation, rural banks, capacity building of MACO and Cooperatives</td>
</tr>
<tr>
<td>AfDB Support to ASIP in the Eastern Province</td>
<td>1999-2004 (extended to 2007?)</td>
<td>AfDB</td>
<td>21.65</td>
<td>Enhance productive capacity of smallholders and living standards</td>
<td>Extension, credit, research, animal health</td>
</tr>
<tr>
<td>Agricultural Support Program (ASP)</td>
<td>2003-2007</td>
<td>SIDA</td>
<td>42</td>
<td>Improved livelihoods in terms of (a) increased food security, (b) increased income through sale of agricultural related products and services</td>
<td>Crop diversification, seeds, land management, agribusiness. Development of extension models based on “Farming as a business”</td>
</tr>
<tr>
<td>Project</td>
<td>Duration</td>
<td>Funding Agency</td>
<td>Costs USD million</td>
<td>Objectives</td>
<td>Main Activities</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Support to Agricultural Diversification &amp; Food Security in Western and North Western Zambia</td>
<td>2006-2011</td>
<td>EC</td>
<td>19</td>
<td>Rural smallholders in Western and North Western Provinces improve their performance with respect to food security and agricultural diversification strategies</td>
<td>Implementation of the food security components of the NAP operationalized and action plans implemented</td>
</tr>
<tr>
<td>Agricultural Development Support Program (ADSP)</td>
<td>2006-2010</td>
<td>WB</td>
<td>37.2</td>
<td>To advance smallholder agriculture commercialization along value chains</td>
<td>Provision of capital for improved productivity, quality and efficiency of value chains</td>
</tr>
<tr>
<td>Programme for Luapula Agricultural and Rural Development (PLARD)</td>
<td>2006-2009</td>
<td>FINLAND</td>
<td>13</td>
<td>Contribute to the development of an efficient, competitive and sustainable agricultural and rural sector, which ensures increased income and food security for small-scale rural households in Luapula Province</td>
<td>Fisheries and Fish-farming</td>
</tr>
<tr>
<td>Production, Finance and Improved Technologies Project (PROFIT)</td>
<td>2005-2010?</td>
<td>USAID</td>
<td>15</td>
<td>Increase smallholder client production and productivity, reduce costs of production, and, together with the private and public sectors, extend services to some 100,000 smallholders in high-economic-potential areas of Zambia.</td>
<td>Agriculture and Non-Farm economic activities</td>
</tr>
<tr>
<td>Market Access, Trade and Enabling Policies Project (MATEP)</td>
<td>2005-2010?</td>
<td>USAID</td>
<td>10</td>
<td>Increase access to markets and an improved enabling environment for small and medium agriculture and natural resource producers and processors</td>
<td>Marketing and communication</td>
</tr>
</tbody>
</table>

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