

Research Article

Growth Opportunities and Employment Creation Potential of Zambia's Coffee Value Chain

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Abstract: The main objective of this study was to identify the actors in the coffee value chain in Zambia as well as to identify and assess the opportunities and employment creation potential of the value chain. The study found that the potential for the growth of the coffee sector lies in Zambia's production of the globally competitive Arabica coffee variety; the increasing global demand for specialty coffee in premium niche markets (mainly based on fair trade and organic farming principles); and the existence of institutional arrangements such as the Zambia Coffee Growers Association that promote, regulate and coordinate the development of coffee in Zambia. However, despite this potential, the coffee sector has been experiencing a downward trend in production and export of coffee beans. While a wide range of constraints from production to policy issues limit the growth of the coffee sector, the most noteworthy factors are the long production period of the coffee plant which acts as a disincentive to invest in coffee production; the lack of research programmes; limited Zambian brand recognition; and the lack of accessible and affordable financing for coffee growers. Sustainable growth and employment creation in the coffee sector can be achieved through coherent strategies such as the government working with the private sector to come up with innovative ways of availing affordable financing mechanisms for farmers. The government should also facilitate the development of technologies and marketing strategies to ensure that Zambian coffee fetches premium prices on the world market.

Keywords: Coffee, diversification, employment creation, sustainable economic growth, value chain analysis, Zambia

INTRODUCTION

Zambia is located in the Southern Africa Sub-region. It has a land area of about 752,614 km² and is bordered by Tanzania (in the North), Malawi (in the East), Mozambique (in the South-East), Zimbabwe (in the South) Botswana and Namibia (in the South-West), Angola (in the West) and the Democratic Republic of Congo (in the North-West). The country has an estimated population of about 13 million and its annual population growth rate is estimated at 3.1%. It is estimated that about 46% of the population, representing an active and productive workforce, are between 15 and 64 years of age (Government of the Republic of Zambia, 2011).

The country's economy has historically been based on the copper mining industry. However the Zambian government is undertaking economic diversification to reduce the economy's reliance on the copper industry and exploit other components of Zambia's rich resource base by promoting agriculture, tourism, gemstone mining and hydro-power. To this effect Government has established liberalized market-led economic

policies aimed at facilitating a private sector-led economic development (Government of the Republic of Zambia, 2006, 2011).

Zambia's future development will depend significantly on the diversification of the economy. Most stakeholders believe that the best prospects for diversification are currently found within the agricultural sector given Zambia's natural resource endowment. Against this background, government policy has focused on enhancing agriculture productivity as a means of promoting growth, food security and poverty reduction. The sector is dominated by the production of cash crops such as maize, tobacco, sorghum, groundnuts and cotton. The major exports are sugar, floricultural and horticultural products (Government of the Republic of Zambia, 2004). In addition to these, there is considerable potential for expansion in respect of a number of other agricultural products. Research evidence has shown that several agricultural products such as coffee have the potential to be internationally competitive and have great potential for growth and employment creation (Government of the Republic of Zambia, 2004, 2006).

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This study examines the growth and employment creation potential of coffee. The main objective of this study was to identify the major actors in the coffee value chain in Zambia as well as to identify and assess the major opportunities and employment potential in the coffee value chain. In so doing, the study aimed at providing an in depth analysis of the coffee sub-sector with a view of assisting in the formulation of sector strategies that can contribute to sustainable economic growth in Zambia.

METHODOLOGY

Analytical framework: The study employed a Value Chain Analysis (VCA) approach. The VCA is one of the many tools that have been used in analyzing markets with the aim of contributing to the process of linking rural industries and enterprises into the mainstream markets (AsiaDHRRA, 2008). This provides useful information that can help policy-makers to harness and maximize the benefits of the value chain as well as aid in developing strategic linkages between commodity producers, market players and consumers. As defined by Kaplinsky and Morris (2001), the value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (i.e., involving combinations of physical transformation and the input of several producer services), delivery to final consumers and final disposal after use. The essence of VCA is to improve strategic learning in enterprise development as it treats the enterprise not as a singular (autonomous) entity, but as part of an integrated chain of economic functions and linkages across geographical boundaries.

The VCA seeks to understand the various factors that drive the incentives, growth and competitiveness within a particular industry and identify opportunities and constraints to increasing benefits for stakeholders operating throughout the industry. This feature of VCA lends to its completeness as a strategic tool in exploring different alternative strategies for poverty reduction (AsiaDHRRA, 2008). The purpose of analyzing the value chain of coffee was to identify key points of intervention along the chain and to recommend specific policy directions to enhance the competitiveness of the coffee sub-sector. This study took a descriptive approach to map the coffee value chain and identify the major actors and the functions they perform as well as identify major constraints and opportunities in the chain.

Data collection: Both secondary and primary data was used in the study. The data was gathered through desk research and key informant interviews. Secondary data was collected through a review of published and unpublished material including past value chain studies,

academic thesis, relevant websites and other documents.

Key informant interviews were carried out with leaders in the coffee industry or sector. Additional sources with a detailed knowledge of growth and investment opportunities including the producers' associations and government officials were also consulted for relevant information. Focus of the semi-structured key informant interviews was on the specific research objectives as outlined above and to highlight any pertinent issues concerning the coffee industry in Zambia.

Data analysis: For purposes of this study, descriptive data analysis was employed to characterize the coffee industry in Zambia. The data collected was analyzed to identify the main actors, or elements of Zambia's coffee value chain. Quantitative and qualitative data collected from documents and key informants was also analyzed to assess the opportunities for enhancing growth of the sugar industry and the constraints hampering growth of the industry. A descriptive-analytical narrative was used to present the findings from the study in order to have a comprehensive picture of the key issues concerning the coffee industry in Zambia.

RESULTS AND DISCUSSION

Overview of the global coffee market: Coffee is the most valuable tropical agricultural product. World coffee consumption has been growing steadily at a rate of around 2.5% per annum and was estimated at approximately 128 million 60-kg bags in 2008. Consumption is concentrated in the mature markets of Western Europe and North America, but is now growing faster in emerging markets, such as those in Eastern Europe and Asia (ICO, 2009). Market fundamentals continue to favour firm prices with current prices at their highest levels since 1977. Vibrant world consumption means that the supply/demand balance will continue to be tight and prices will remain firm. A brief analysis of world consumption over the last forty years confirms its buoyancy, particularly during the last ten years. Nevertheless, credit restrictions and the lack of liquidity caused by the world financial and economic crisis, combined with higher production costs and could lead to a reduction in supplies. This in turn could also lead to a slackening in the current growth rate of consumption (Pay, 2009; ICO, 2009).

A closer look the main consumption markets of the EU and the USA reveals that the consumption of traditional coffee has declined over the recent years to be overtaken by the growth in differentiated speciality coffees. The development of the segment of speciality coffee consumers is growing mostly in the EU where it is stimulated mainly by the increasing supply of differentiated coffees such as organic and fair trade certified coffees in the large retail stores and the rising coffee shops in the EU (Pay, 2009). The new speciality coffees tend to fetch premium prices over traditional

coffee rewarding efforts of uplifting social, economic and environmental conditions of coffee producers. This segment is particularly important for the developing country producers that are faced with social, economic and development challenges and therefore, acts as an incentive for producers to work towards meeting these challenges.

Overview of coffee production in Zambia: Zambia produces Arabica coffee, the most highly regarded species from plant seedlings that are raised in on-farm nurseries. Coffee production is most suited to areas with high rainfall and high altitude and thus 40% of the coffee is grown in the Northern districts of the Muchinga Mountains encompassing the Nakonde, Kasama and Isoka regions. Approximately 5% of the coffee is grown in some parts of Central province and a further 8% in the North-Western province near the Copperbelt. The balance is grown in the vicinity of the capital city of Lusaka and Southern province around Mazabuka area (Keyser *et al.*, 2001).

Zambia is well-suited for irrigated coffee production, with favourable climatic conditions and abundant land resources. Coffee was introduced in the late seventies for commercial purposes through the World Bank Coffee I (1974) and Coffee II (1994) projects as a non-traditional agricultural crop to spearhead government's policy of seeking alternatives in the countries diversification programme from solely depending on copper for foreign exchange earnings (Taguma, personal communication). While coffee ranks as one of Zambia's top ten non-traditional exports, it generates less than US\$10 million a year. Hence, coffee constitutes a very small share of Zambia's agricultural exports.

The total national production of coffee in Zambia for the 2009/2010 crop year was approximately 1,620 metric tonnes. The Zambia Coffee Growers Association (ZCGA) has estimated the 2010/2011 production figure at 766 metric tonnes. This represents a significant decline from the previous years, due in part to several farm closures, such as that of the Kasama Coffee Company which at one point delivered over 30% of the industry's total produce. The dramatic fall in coffee production is also as a result of a combination other factors such as depressed prices and investment in coffee production that has declined considerably in the last decade due to volatile prices of coffee on the world market. The appreciation of the *Zambian Kwacha* against other foreign major currencies in 2006 has also been cited as another contributing factor. Equally, droughts that have been experienced in some of the years in the past decade have had a negative effect on the production of coffee in Zambia. These and other phenomena have contributed to the low production figures that have been recorded resulting in an inability by numerous farmers to recover their operating costs and in turn, uprooting their coffee crops.

The recovery of the Northern Coffee Corporation plantation is likely to revive the Zambian coffee industry. The company intends to plant over 500 ha of coffee, with the first 200 ha planted in the first half of 2012. Production of coffee beans will commence in 2014. There is a window of opportunity for the growth for coffee growers in Zambia to which these farmers are responding by increasing their hectares. Zambia has the potential of producing an annual production of more than 50,000 metric tonnes of good quality handpicked green beans with an average value of US\$175 million and more than 400,000 metric tonnes using mechanical pickers with an average value of US\$1.040 billion. The local coffee industry is relatively well organized, with functioning structures and institutions to support its growth. However, the industry faces several constraints ranging from financial resources to limited promotional information. The coffee sector in Zambia has no established out grower schemes that encourage the participation of small-scale producers as the case is in the sugar and cotton sectors. Research and development in the coffee sector in Zambia is equally non-existent. Thus, Zambia still remains a very small coffee producing country contributing only 0.02% of the world's coffee (Mofya-Mukuka, 2011).

As a result, under favourable conditions, high short-term and medium-term price expectations can lead to higher production from existing trees and vice-versa, while new trees are planted-provided land is not a binding constraint. Conversely, periods of very low prices can induce cash-strapped small producers to forego even basic maintenance investments and in so doing jeopardize future production potentials. The same outcome can be the product of non-price factors, such as the disarray or non-existence of markets or other institutional arrangements for the availability of inputs and the disposal of output; lack of financing; transportation, etc. These effects may be magnified by the existence of a set of productive techniques-albeit limited-the most advanced of which require a certain non-labour investment and some additional skills on the part of the producer, as well as a suitable market, infrastructure and technological and informational environment and hence are not available altogether in the least developed areas and countries (Branchi *et al.*, 1999).

Structure of the coffee value chain in Zambia: The coffee industry is relatively well-organized in Zambia, with functioning structures and institutions to support its growth. The Coffee Board of Zambia, a statutory government agency, is the primary regulatory body. The Board oversees the growth of the coffee sector, ensures the equitable distribution of Government resources to small and large-scale commercial farmers alike and markets Zambia's coffee brand/image internationally.

The Zambia Coffee Growers' Association (ZCGA) is the operating wing of the Coffee Board, which provides coffee extension services and ensures quality

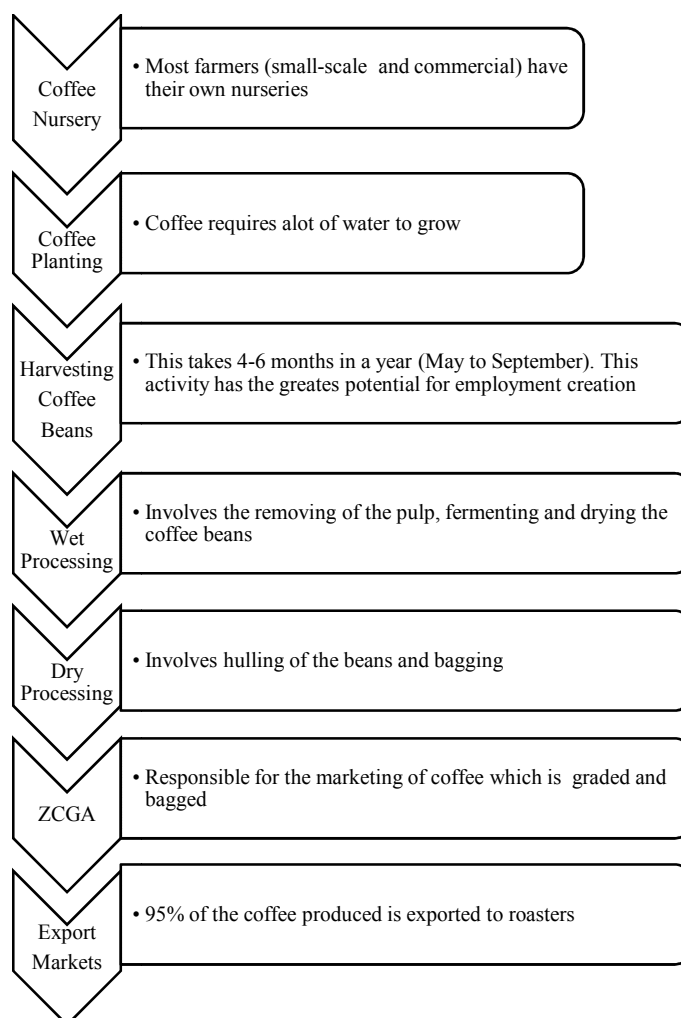


Fig. 1: Zambia's coffee value chain

control. It also provides administrative, milling, warehousing and shipping services to its members and bears the sole responsibility for export sales. ZCGA members who meet certain criteria may conduct their own independent marketing. The association also handles the logistics for all exported coffee products. ZCGA is wholly owned and funded by its members (coffee growers) who presently number 9 large-scale (over 11 ha each) and 6 small-scale producers (below 11 ha each). It is also a company limited by guarantee with 7 Board members, mainly drawn from the regional coffee growing areas of the country and 4 members of staff who administer its activities. The ZCGA has successfully co-ordinated Zambia's coffee industry for 24 years (Taguma, 2011).

Zambia's coffee value chain is relatively uncomplicated as shown in Fig. 1. The value chain is composed of commercial coffee growers, small-scale farmers and the Zambia Coffee Growers Association (ZCGA). The coffee industry also has five roasters that produce for the local market. The process of coffee production starts with the establishment of nurseries by

coffee growers both small-scale and commercial. Thereafter, the seedlings are transplanted and moved to the main field. Farmers harvest red (ripe) coffee cherries (Mofya-Mukuka, 2011) over a period of 4-6 months (May to September).

Coffee is regarded as a commercial crop in Zambia; hence all farmers that are engaged in coffee production are regarded as commercial producers. Ninety-nine percent of the coffee growers in Zambia produce their coffee on large estates whilst the remainder of the growers cultivate their coffee on small holdings (Mofya-Mukuka, 2011). Once the coffee beans have been harvested, they are wet-processed on the farm. The process involves removing of the pulp and fermenting the beans before they are dried and subsequently dry-processed. The process of dry processing involves the hulling of the parchment and then bagging the beans. After the beans have been dry-processed, they are transported to the ZCGA where they are sorted, graded and repackaged. The grading and export presentation is in grades AAA, AA, AB and numerous additional smaller grades totalling up to twelve coffee grades. The

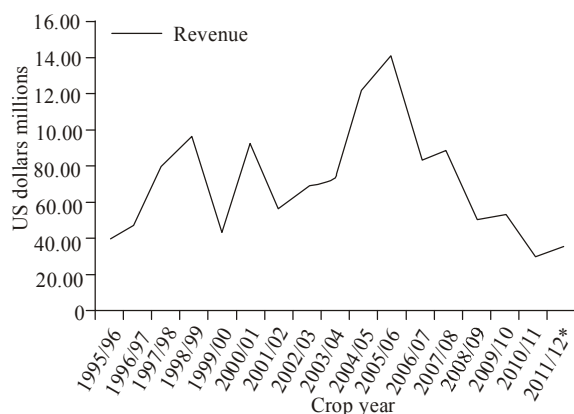


Fig. 2: Revenue from coffee exports in Zambia; Source: Adapted from Taguma (2011)

ZCGA is also responsible for marketing of the coffee beans through a silent auction system (Mofya-Mukuka, 2011). Ninety-five percent of the coffee that is produced in Zambia assumes the value chain as depicted in Fig. 1. The physical exports are shipped through the neighbouring countries in East Africa and South Africa.

Revenue realized from the coffee industry reached its peak in the 2005/06 crop year. As shown in Fig. 2, ever since the peak revenue was recorded, there has been a slump in the revenues derived from coffee exports in Zambia. The reduction in revenue is as a result of the reduced production of coffee due to the reasons cited in some sections below.

Regulation and governance: By law, the coffee industry in Zambia is regulated by the Coffee Board of Zambia (CBZ) with a statutory delegation of almost 95% of its functions to the private farmer run and owned Zambia Coffee Growers Association (ZCGA). The ZCGA has successfully co-ordinated Zambia's coffee industry for 24 years. The Association derives its existence from the Coffee Act of 1989, as an operative wing of the CBZ, which is the National policy making body of the industry. The CBZ is managed by a 7 member board (presently being re-constituted) that consists of members from government organs such as the Research Department of the Ministry of Agriculture, Ministry of Finance, Roasting industry, the ZCGA and the Ministry of Agriculture Permanent Secretary's office. With all the coffee growers being members of the ZCGA, the main objective of the Association is to ensure the increased production of good quality range of coffee products both in its green and roasted form and to achieve good prices on behalf of its members. Its functions are to provide secretarial, quality assurance/assessment, marketing, milling and shipping services on behalf of its members (Taguma, 2011).

Production trends: Zambia produces Arabica coffee from plant seedlings that are raised in on-farm nurseries. The coffee consists of two categories, conventional varieties and semi-dwarf varieties and is harvested

between March and July. The freshly picked coffee cherries (red-hulled beans) are mechanically hulled, washed and sun-dried on wire mesh trays. Many of the farmers undertake to apply progressive agronomic techniques, including prudent water usage, crop protection and nutrition, "fertigation" (fertilizer in irrigation water), composting of coffee pulp, biological pest control and the promotion of biodiversity. Coffee in Zambia is predominantly produced by commercial farmers who constitute up to 99% of the growers, where as in the rest of Africa the coffee industry is dominated by small-scale farmers. However, these small-scale farmers only cultivate less than 5% of the crop (Mofya-Mukuka, 2011; Ponte, 2002). Bellachew (2008) also notes that in almost all coffee growing countries of the world, over 85% of coffee production comes from smallholder coffee producers.

Zambia's unique case of dominance by commercial farmers in the production of the coffee bean is partly attributed to the fact that Zambia was a late entrant into the coffee industry compared to the other countries in East Africa where small-scale farmers dominate the industry. In Zambia, the commercial growers immediately adopted some latest technologies for cultivation practices including composite manure from the coffee pulp and pest management through chemical and biological methods. In addition, they use sophisticated methods for irrigation, fertilization and chemical application (Mofya-Mukuka, 2011). On the other hand, most small-scale farmers in Zambia are resource poor and have concentrated on production of maize which has been heavily promoted through government policies and subsidies. This has been at the expense of diversification into other crops like coffee.

The few smallholder farmers who have started producing coffee generally lack irrigation capabilities and other necessary equipment like pulping facilities. Hence, the technology used in the coffee sector acts as a barrier for small-scale farmers to venture into the production of coffee in Zambia and also accounts for the productivity differences between large commercial farmers and small-scale farmers. Large commercial farmers are 3 times more productive than small farmers. In addition to this, the current government agricultural policy does not strongly promote the production of coffee by small-scale growers. Furthermore, there is no sufficient investment in primary movers of agriculture such as irrigation facilities and extension services to support coffee production by small-scale producers (Taguma, 2011). Most often small-scale farmers do not have access to titled land hence discouraging them from investing in long-term investments like tree crops such as coffee.

An analysis of the production trends (Fig. 3) show that the coffee sector in Zambia recorded a spike in the growth in production and reached a record high in the seasons 2000/2001 to 2004/2005. The main reason for this upsurge in production was that at the time, the

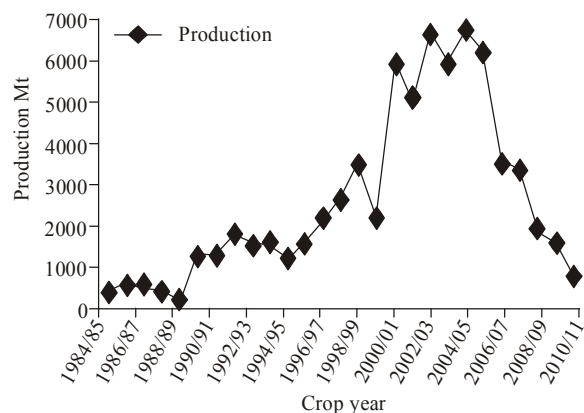


Fig. 3: Coffee production trends in Zambia (1984-2011)

industry was availed pre-shipment finance for inputs and working capital at concessionary interest rate provided by the European Union under the Export Development Fund (EDF). This financing facility played a very critical role in increasing productivity in Zambia's coffee sector, despite the fact that during this period the sector was faced with marked challenges that included a price depression in the world market, a variable and unstable exchange rate and high cost of fuel (Taguma, 2011).

The total national production of coffee in Zambia for the 2009/2010 crop year was approximately 1,620 metric tonnes. The Zambia Coffee Growers Association (ZCGA) estimated the 2010/2011 production figure at approximately 766 metric tonnes (Fig. 3). This represents a significant decline from the previous years, due in part to some farm closures such as that of the Kasama Coffee Company. At its peak in 2004, the Kasama coffee plantation produced one-third of Zambia's approximately 6,654 metric tonnes of output. Depressed world coffee prices have also contributed to the low production figures that have been recorded. Bafess (quoted in Mofya-Mukuka, 2011) also notes that investment in coffee production in Zambia has declined considerably in the last decade due to volatile prices of coffee on the world market.

Some farmers have also experienced difficulties recovering their operating costs and consequently uprooted their coffee crops. The drop in production in the season 2005/06 was due to the drought experienced in 2004/05. The effect of this drought had its full impact with yields for the 2006/07 season, which was additionally affected by a number of coffee growers uprooting their coffee trees to replace them with easier cash crops like wheat. This was largely prompted by lack of long-term finance and farmers could not, particularly in the face of a depressed market environment dating back to the 1999/2000 season, reinvest from their own resources. The unstable exchange rate prevailing at that time also affected the coffee producers (Taguma, 2011). According to Mofya-

Mukuka (2011), coffee trees take up to four years before the first harvest, hence the current low production could largely be a consequence of farmers' low investment in planting and crop management during the price decline and drought periods.

Zambia still remains a very small coffee producing country contributing only 0.02 % of the world coffee market (Mofya-Mukuka, 2011). Several options have been considered in an attempt to increase coffee production through smallholder coffee schemes. For example, in 2001, Agriflora had announced plans to invest US\$1 million in a scheme to promote small-scale coffee on an outgrower basis. It was envisaged that the coffee would be processed at cooperative-based pulparies managed by Agriflora staff. Under the same scheme farmers were to be encouraged to intercrop the coffee plants with export-quality vegetables to ensure a cash flow while awaiting the first harvest from the coffee plants. However, this initiative did not get implemented because Agriflora experienced operational problems and was eventually liquidated in 2001 (Agrifood Consulting International, 2005).

Projected future trends in coffee production: The revival of the Northern Coffee Corporation plantation is likely to revive the coffee industry in Zambia. The company intends to plant over 500 ha of coffee, with the first 200 ha planted in the first half of 2012. Production of the coffee bean will commence in 2014. The production of 766 metric tonnes in the 2010/2011 season is the lowest level of coffee output the industry has ever produce and that from here onwards it is envisaged that there will be increased production. The Northern Coffee Corporation investment is thought highly likely to boost the morale of Zambian coffee farmers (Lublinkhof, 2011).

Industry experts have noted that the coffee sector in Zambia has enormous potential for growth. Observations are made that the major producer of coffee, Brazil, is moving away from extensive production of coffee to intensify its industrialization efforts. Thus, there is a window of opportunity for growth for coffee growers in Zambia to which local coffee growers are responding by increasing their hectares. According to Taguma (2011), Zambia has the potential of producing an annual production of more than 50,000 metric tons of good quality handpicked green beans with an average value of US\$175 million and more than 400,000 metric tonnes using mechanical pickers with an average value of US\$1.040 billion.

Currently, there is no coffee out grower schemes in the industry. In the past, the Coffee Board of Zambia in partnership with Agriflora Limited Company had made an attempt to promote a scheme which has since then gone defunct. This development or setback limits the potential for further growth in the coffee industry (Taguma, personal communication).

Table 1: Projected employment creation by some ZCGA members

Grower	2011/2012 Production year			2012/2013 Production year			Projected income 2012/13
	Hec-Tares	Employment	Production	Hec-Tares	Employment	Production	
			Mts.			Mts.	US\$
Terranova	250	150 ^a 1,600 ^b	510	250	150 1,800	580	2,320,000
Mubuyu Farms	240	139 1,400	200	240	139 1,600	350	1,400,000
Munama Farm (CBZ)	70	35 180	55	70	40 250	176	704,000
Balmoral Farm	20	28 250	20	25	30 270	40	160,000
Kansato	15	20 120	5	15	20 130	22	88,000
Totals	595	372 3,550	800	600	379 4,050	1,168	4,672,000

Taguma (2011); ^a: Top figures in each cell of the employment column represent permanent employees. ^b: Bottom figures in each cell of the employment column represent seasonal employees

Employment and income distribution: Coffee production is labour intensive and therefore can be a major employer in the Zambian economy. Even with the current small crop, the industry employees as many as 3,000 coffee pickers who are in employment practically 5 months of the year. This figure could easily grow tenfold as it did when the coffee industry produced 6,500 metric tonnes of green beans and employed approximately 25,000 workers. Several large coffee estates in Zambia have closed down, leaving a large rural population out of seasonal or permanent employment (Mofya-Mukuka, 2011). Increased production would therefore contribute immensely to reducing Zambia's high unemployment rate.

Table 1 illustrates projected employment creation and its associated production and income among some of the ZCGA members. The number of seasonal employment is likely to increase by 500 in two farming seasons representing approximately 14% increment in seasonal employment. The number of permanent employees is likely to increase by 7 workers representing an increment of approximately 2%. This is despite recording a marginal increment in the hectareage.

The projected increase of 46% in coffee production will result in increased revenue to be received by the growers. The increase in revenue will further in turn be used for reinvestment in the industry thus expanding the hectareage of coffee production by the growers. Further, it has also been noted that the rebranded Kasama Coffee Company will be managed by an independent team and is expected to contribute to the economy of the northern region of the country by employing more than 100 workers. It has also been noted that Munali Coffee Estate employs approximately 1,700 labourers year-round, though the workforce rises to well over 2,000 during the peak planting season. Coffee pickers, the majority of whom are women, earn about 120 ZMK (2 to 3 U.S cents) per kilogram, with the average worker able to pick 80 to 90 kg of coffee beans per day. Efficient workers can gather up to 200 kg of coffee beans, with some workers exceeding 300 kg per day (Lublinkhof, 2011; cited in Luxner, 2006).

Opportunities for growth in the Zambian coffee industry: The following presents an analysis highlighting the major opportunities for the growth of the coffee industry in Zambia:

Competitiveness of Zambian coffee: The marketing of coffee in Zambia is highly liberalised with producers selling their coffee beans on a competitive basis. Interviews held with key stakeholders revealed that the price (competitiveness) of Zambia's coffee is determined by several factors among which include:

- **Variety:** Zambia grows and produces washed Arabica coffees which are among some of the most competitive coffee species. Arabica coffee carries greater value on the market compared to Robusta coffee thus making Zambia's coffee competitive.
- **Production:** Zambia produces shade grown coffee and is considered to have good qualities which makes the coffee competitive. Zambian coffee is largely produced by commercial farmers that employ good field management practices. Unlike most other countries where the majority of the coffee is produced by small scale farmers who do not observe some of the good management practices.
- **Processing:** After harvesting, the processes that follow are what determine the quality that is retained. The manner in which coffee is processed to a large extent determines the price of coffee. Arabica coffees produced in Zambia are processed using the 'wet-processing' method which ensures that the inherent qualities of coffee are retained, hence making it competitive on the international market.
- **Specialty:** Zambia produces specialty coffee although this is not on a very large scale. This is a premium type of coffee that fetches a relatively higher value compared to the ordinary type of coffee. Zambia also produces triple a grade coffee which is competitive on the world's niche markets.

Table 2: Sales performance in specialty markets vs. traditional markets

Item	Year									
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	
Mt. Sold	102.60	211.80	529.56	100.80	124.68	74.28	51.00	387	470.28	
% of total sales	1.70	3.64	8.04	1.70	3.65	2.23	2.68	24.00	64.00	
Aver. Price \$/Mt	1,897	1,959	2,014	2,941	3,330	3,3393	3,660	3,919	4,500	
	1,135	1,289	1,846	2,313	2,443	2,632	2,636	3,353	4,000	
% aver. price spec/trad.	+67	+52	+9	+27	+36	+29	+39	+17	+13	
Aver. Diff.	+49+0.4	+27-4.5	+16-5.0	+25-2.7	+30+1.3	+23-7.6	+45+5.6	+52+26	+43+20	

Adapted from Taguma (2011); Spec/trad denotes "specialty" and "traditional"; The figures at the bottom of rows under, "Average price \$/Mt." and "Average differential", are averages for all the grades sold in the season with the top ones being averages achieved for specialty products

- **Certification:** Strides have been made to certify coffees produced by some commercial growers in Zambia. This improves the competitiveness of Zambia's coffee both in regional and world market.

One good example of competitiveness of Zambia's coffee is the Munali Estate in Mazabuka which became the second African coffee producer to receive Utz Certified certification, an organization whose name comes from the Guatemalan Mayan words for "decently produced coffee." This strict certification consists of "good agricultural practices" that run the gamut from plant protection and sanitation procedures to social and economic welfare. Complying with the Utz Certified code means that Munali Estate meets criteria for responsible coffee production, such as protection of labour rights, responsible use of agro-chemicals, standards for efficient farm management and access to education and health-care for employees. Munali coffee has the advantage of being a high-grade product. The market for such coffees has been growing worldwide at a rate faster than that of the coffee market as a whole.

Zambian specialty coffee has entered into the global niche market. Table 2 shows how the industry has fared over the years. The industry has over the years progressively moved into positioning itself in the high quality and value specialty markets of Europe, USA and Japan. This success is partly attributed to Zambia's membership to the only specialty coffee association in Africa known as the Eastern African Fine Coffees Association (EAFCA). The Association even nominated Zambia to host the second conference in Africa in 2004 in spite of Zambia's coffee industry being one of the smallest in Africa and the world over (Taguma, 2011).

The majority of the Zambian coffee exports head to European markets, primarily Germany, the UK, Switzerland and the Netherlands. The remaining export markets include South Africa, Australia, Japan and the U.S. Local sales of roasted coffee account for less than 10% of total Zambian coffee production.

Support programmes for coffee production: An enabling policy framework is integral to the transformation of Zambian agriculture into the main stay of the Zambian economy. The National Agricultural Policy (NAP) 2004-2015 provides the policy framework for development of the agriculture

sector in Zambia. The main thrusts of NAP are liberalization, commercialization and promotion of public and private partnerships and provision of effective agricultural services that will ensure sustainable agricultural growth (Government of the Republic of Zambia, 2004). The coffee industry in Zambia is also guided by the Coffee Act No.24 (CAP 228) which was enacted in 1989 through an Act of parliament and was later amended in 1994. The Act provides the legal framework and guidance for the coffee industry in Zambia.

The Zambian government is encouraging farmers to diversify into production of high value cash crops such as cotton, tobacco, coffee, herbs and spices, floriculture and horticulture products. The agricultural sector is projected to be the major source of export diversification required to boost the country's job creation capacity and balance of payments. The government is promoting out grower programmes earmarked to assist smallholder farmers improve their productivity and farm income. Crops supported under the programme include tobacco, cotton and coffee among others. In general, the main principle of out grower schemes is the provision of extension services, inputs, credit and marketing by the private sector, all linked to timely payment. They have become a popular method of providing extension services for high value export crops. However, currently there are no out grower schemes in the coffee sector that are being promoted either by the government or the private sector. The case is however different in the sugar, cotton and tobacco sectors where out grower schemes are prevalent and has attracted the participation of small-scale farmers in places where the schemes are being promoted.

In 2009 the Zambian government signed an International Coffee Agreement (ICA) with a United Kingdom (UK) based Company aimed at encouraging sustainable development of the coffee sector worldwide. The main purpose of the agreement is to enhance and promote sustainable development of the coffee sector by promoting international cooperation on coffee matters and provide a forum for consultation among governments and the private sector. The agreement is also meant to encourage signatories to develop a sustainable coffee sector in economic, social and environmental terms that seek a balance between supply and demand and fair pricing for both consumers and producers (Chinyamu, 2009).

It is expected that this will benefit producers and develop strategies that will improve the capacity of small scale farmers for them to benefit from coffee production which can contribute to poverty alleviation among others. The agreement stipulates that members should limit tariff-related and regulatory barriers to coffee consumption such as preferential tariffs, quotas, government monopolies and subsidies. One of the objectives of sustainable development in the agreement is that each exporting member country will be required to implement the system of certificates of origin as established by the International Coffee Organization (ICO) which is to improve the living standards of people engaged in the coffee industry (Chinyamu, 2009).

With the increasing tonnage of coffee produced, the European Union provided assistance to establish a dry processing mill at ZCGA's office in Lusaka's industrial area. This mill enables the industry to enhance the quality of its export coffee products as similar types can be blended and standardised at a central location. The operation is closely monitored and evaluated by a team of specialised on-site staff. Growers and in particular small-scale members who do not have on-farm mills are able to send their coffee for processing at the mill saving on the financial outlay for such a facility.

Large scale coffee producers also benefit from GRZ agricultural incentives, such as Value Added Tax (VAT) rebates, capital equipment purchase discounts and electrical rate reductions. Small-scale farmers or out growers who do not register as agricultural enterprises are not eligible to benefit from these agricultural incentives. Commercial borrowing is not easily or widely available. Some banks have begun to introduce agricultural loans, although the rates are not yet competitive.

Challenges in the coffee industry: The analysis highlighting the major challenges facing the coffee industry in Zambia is presented below:

Lack of financing: As earlier noted, one of the major constraint militating against the industry growing towards becoming a strong contributor to the national GDP, is lack of long-term finance. Coffee being a tree crop requires long-term developmental finance of between 8 to 13 years considering that the first crop only yields in the third year from planting. Zambia has the climate and resources such as water and land to be able to produce 100,000 metric tonnes within 15 years. The country is presently (2012/2013) estimated to produce approximately 800 metric tonnes.

There is also a lack of pre-shipment finance in Zambia's coffee sector. Pre-shipment is not readily available because commercial banks in Zambia are not willing to lend to coffee farmers on a long-term basis.

Financing of between 8 to 13 years (cropping only begins in the third year after planting). The industry needs pre-shipment finance to ease the management of the crop. Harvesting starts in May through to the month of September. For one to produce a good quality product, the crop needs to be conditioned for a period of at least 6 weeks so that the moisture evens out and the crop matures. This means a crop that was picked between May and September can only be sold after taking into account processes of pulping, fermentation, drying, conditioning, milling and grading in preparation for the market. Once sold, it takes at least 8 weeks from time of sale to receiving payment. The earliest therefore that one would receive funds for the coffee picked in May would be November which is at least 6 months from the time of picking. On the other hand, the crop for the following year is grown during the period August to December with fertiliser applications, etc. It therefore, becomes difficult for the farmer to find resources to finance the crop that is ripe and being picked in readiness for sale and at the same time find finance to grow the following year's crop. The two activities take place before cash inflow for the crop yields starts flowing in. It is for this reason that pre-shipment finance against the crop that is being picked is of absolute necessity to ensure the financing of crop picking and processing as well as timely procurement of inputs for growing the crop for the subsequent season (Taguma, 2011).

Lack of coffee research programmes: At present, there is no coffee research programme in Zambia. Research is an important tool to provide technical backstopping, reduce risks of technical failure, standardize all aspects of coffee management and processing practices to the local environment and lay a base for any predictable problems related to variety, disease and pest management, that may evolve along with the expansion of coffee production in different agro-ecologies (Bellachew, 2008).

Limited use of Irrigation facilities: Coffee production is also constrained by the limited use or lack of irrigation facilities. Zambia only has one rainy season thus making rain dependent coffee production challenging considering that coffee production requires a lot of water.

High labour costs: Coffee trees start bearing fruits several years after planting, normally five, with a productive life spanning up to and beyond 20 years. The main annual production cost is that of harvesting, which is highly labour-intensive and often implies the hiring of labour outside the farmer's household, even for relatively small plots. Other annual production costs include pruning, fertilization and other activities, some

of which normally need cash disbursements on the part of the producer (for fertilizer, pesticides and the like). The amount of these labour and non-labour investments has, of course, an impact on the productivity of the trees, both in the short and longer term (Branchi *et al.*, 1999). The high labour costs have also been cited as being partly responsible for discouraging small-scale farmers from entering into the coffee sector and large-scale producers from expanding their hectareage.

High fuel costs: High fuel costs have negatively affected the production of coffee in Zambia. Fuel pump prices in Zambia are high relative to other neighboring SADC and COMESA countries.

Limited access to market promotional information: Opportunities for exploiting speciality (niche) markets for Zambia's coffee products have been limited by a lack of access to information and ability to carry out more robust market promotion campaigns. The ZCGA is unable to meet the costs of investing in more effective market intelligence gathering and actual promotional activities. It is also not easy to simply request additional contributions from the members in order to undertake thorough market research and promotional campaigns, particularly in the light of the reduced number of growers. Despite this being an important activity, Zambia is not sufficiently established in the international markets as a coffee producer. Furthermore, even if the industry was well established, regular promotional campaigns are important if potential and existing consumers are to be won and maintained respectively. An export promotion fund would thus enable the ZCGA to address the needs for strengthening international marketing efforts on behalf of its members.

CONCLUSION

The coffee sector in Zambia has the potential to grow and contribute significantly to foreign exchange earnings, employment creation and the promotion of small-scale farmer inclusion. The potential for the growth of the coffee sector lies in Zambia's production of the globally competitive Arabica coffee variety; the increasing global demand for specialty coffee in premium niche markets (mainly based on fair trade and organic farming principles) and the existence of institutional arrangements (the ZCGA and the CBZ) to promote, regulate and coordinate the development of coffee in Zambia. However, despite this indicative potential, the coffee sector has been experiencing a downward trend in the production and export of the coffee beans.

While a wide range of constraints from production to policy issues limit the growth and realization of the potential of the coffee sector, the most noteworthy factors are the long production period of the coffee

plant (which acts as a disincentive to invest in coffee production); the lack of research programmers; limited Zambian brand recognition (essential to enhance the competitiveness of Zambia's coffee on the world market) and the lack of accessible and affordable financing for coffee growers.

On the basis of the identified opportunities and constraints, sustainable growth and employment creation in the coffee sector can be achieved through coherent strategies such as:

- Government and development partners exploring affordable financing mechanisms for the both the small-scale and large-scale commercial farmers. Support for small-scale farmers engaged in coffee production should especially be targeted for the time when the crop is still developing and has not matured enough to sell.
- The development of strong technology and/ or innovations to ensure that Zambian coffee fetches premium prices in the world market.
- The development of a marketing strategy to grow Zambian access to premium niche markets. For the small-scale farmers this would particularly involve programmers that link them to fair trade initiatives that offer premium prices based on altruistic reasons such as supporting poor farmers from developing countries.

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