JESUIT CENTRE FOR THEOLOGICAL REFLECTION (JCTR)

COST BENEFIT ANALYSIS OF EMPLOYMENT CREATED BY ZAMBIAN AGRIBUSINESSES

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Acronyms and Abbreviations

AfDB	-	African Development Bank
BOZ	-	Bank of Zambia
CFS	-	Crop Forecast Survey
CSO	-	Central Statistics Office
CSOs	-	Civil Society Organisations
CTPD	-	Centre for Trade Policy and Development
Z-DWCP	-	Zambia Decent Work Country Programme
EA	-	The Employment Act
ECA	-	Economic Commission for Africa
FDI	-	Foreign Direct Investment
FFTUZ	-	Federation of Free Trade Unions in Zambia
FISP	-	Farmer and Input Support Programme
FRA	-	Food Reserve Agency
FSRP	-	Food Security Research Project
GDP	-	Gross Domestic Product
GRZ	-	Government of the Republic of Zambia
IFAD	-	International Fund for Agricultural Development
ILRA	-	The Industrial and Labour Relations Act
ILO	-	International Labour Organization
IMF	-	International Monetary Fund
JCTR	-	Jesuit Centre for Theological Reflection
LFS	-	Labour Force Survey
LCMS	-	Living Conditions Monitoring Survey
MAL	-	Ministry of Agriculture and Livestock
MACO	-	Ministry of Agriculture and Cooperatives
MCAZ	-	Millennium Challenge Account Zambia
MCTI	-	Ministry of Commerce, Trade and Industry
MDG	-	Millennium Development Goal
MFNP	-	Ministry of Finance and National Planning
MLSS	-	Ministry of Labour and Social Security
MSE	-	Micro and Small Enterprises
MSME	-	Micro, Small and Medium Enterprises
NAPSA	-	National Pension Scheme Authority
NUPAAW	-	National Union of Plantation, Agricultural and Allied Workers
NELMP	-	National Employment and Labour Market Policy
OECD	-	Organization for Economic Cooperation and Development
SAP	-	Structural Adjustment Programme
SNDP	-	Sixth National Development Plan
TCLC	-	Trilateral Consultative Labour Council
UN	-	United Nations
UNDP	-	United Nations Development Programme
UNZA	-	University of Zambia
WCFCB	-	Workers Compensation Fund Control Board
ZCTU	-	Zambia Congress of Trade Unions
ZDA	-	Zambia Development Agency
ZFEA	-	Zambia Farm Employers Federation
ZNFU	-	Zambia National Farmers Union

1. Introduction

Zambia is endowed with abundant natural resources, but in spite of the nation's potential the problems of unemployment, underemployment and poverty have not been meaningfully alleviated by substantial investment and a fast growing economy. Recent economic indicators showed that 84% of the labour force is either unemployed or underemployed in the informal sector[1], despite the fact that the economy has been growing steadily with a real GDP growth rate above 5% since 2003. The high prevalence of moderate poverty is evidenced by recently released national statistics: moderate poverty stood at 60.5% in 2010 and extreme poverty stood at 42.3% for the same period, and the rates had not improved significantly from the levels reported in 2006[2].

This cost-benefit analysis was commissioned to assess whether a meaningful relationship has existed between decent employment and investment in a labour intensive sector. Zambia's agriculture and livestock sector is labour-intensive and significant, it accounted for 86.8% of rural employment, 66.7% of total employment and 12.6% of real GDP in 2011 (CSO, 2012: 113; BOZ, 2012a: 33). The nation also has a large 43 million hectare endowment of arable land as well as ample water resources that can be used for irrigation and hydropower to serve the agriculture sector. However, the sector has been plagued by subpar productivity on account of a lack of technical training among many of the nation's smallholder farmers. Taken together, these factors make the Zambian agriculture and livestock sector a strategic target for development efforts and investment promotion because it has potential for both poverty alleviation and income generation if productivity is raised to acceptable levels (SNDP, 2010). Hence, the problem evaluated here is whether investment stimulated through government incentives has generated significant decent employment in the agriculture and livestock sector in the period since 1994, the year when special investment incentives were first offered for the sector.

Contrasting the employment created by agribusinesses that have benefited from special investment incentives with that of non-beneficiary agribusinesses may reveal valuable insights as to whether the sector can help to create significant decent employment in the country. To that end, this cost-benefit analysis set out to answer the following questions:

- Have agribusinesses stimulated by special government incentives created decent work opportunities and improved national welfare?

- How do the employment and welfare impacts of agribusinesses stimulated by government incentives compare to those of firms that have not benefited from government incentives?

- How do income generation, labour productivity and profitability compare for agribusinesses based on their size, specialization, labour-intensity and the presence or absence of stimulation through government incentives?

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[1] CSO (2012): Living Conditions Monitoring Survey Report 2006 and 2010: 121.
[2] CSO op. cit.: 180.

This study was underpinned by interviews from a firm-level study of agribusinesses located in or around Lusaka and a literature review concerning the Zambian agriculture and livestock sector's potential and past performance for providing decent work.

The results revealed that, by all reasonable measures, general workers are uniformly underpaid throughout Zambia's agriculture and livestock sector. Most of the workers interviewed for this study were among the working poor as a result of either food poverty or relative poverty. However, and secondly, large-scale and medium-scale agribusinesses are creating enough value to pay their workers decent wages. Small-scale agribusinesses suffered from mismanagement as well as low productivity and, thus, they did not have the capacity to pay their workers decent wages. Thirdly, the employment opportunities created by beneficiaries of special incentives were highly productive but most of the firms were foreign owned. As a result, the lion's share of the economic value created by beneficiaries of investment incentives was transferred to foreign shareholders.

Fourth, a substantial share of the employment created by large-scale firms was provided on a causal basis without job security, protection from unfair dismissals, paid leave or social security provisions but large floriculture firms were an exception to this rule. Medium-scale and small-scale agribusinesses provided lasting employment, but it was provided informally without provisions for social security or observation of workers' rights. Fifth, permanent workers at large-scale firms were the only workers represented by a union because it was mandatory under the ILRA for firms with 25 or more employees to recognize a relevant union and enter into a collective bargaining agreement. A sixth finding was that women's share of employment was low, but the floriculture sector and self-employed segments were exceptions. Youth's had the lowest share of employment, and it was especially low among medium-scale and small-scale firms. Generally, equality of employment was found to be positively related to firm size. Finally, working conditions were exploitative at large-scale agribusinesses during peak seasons and at poultry producers regardless of their size, as many workers did not have a day of rest and daily working hours were lengthened.

Hence, this paper firstly recommends that the new minimum wage should be enforced for large and medium-scale agribusinesses as the findings indicate that they can afford to pay at the stipulated levels. The second recommendation is that the wage negotiation capabilities of NUPAAW should be investigated to determine, and prescribe corrective measures for, the reasons they agreed to exploitatively low minimum wage levels. A third recommendation is that the government should provide affordable housing and lease it to farm workers; otherwise, their employers may not be able to afford to pay them wages adequate to provide for all of their basic needs. The fourth recommendation is that small-scale agribusinesses should be provided with technical training to improve their production techniques and financial management so that they can allocate their resources wisely, improve their productivity and create decent jobs. A fifth recommendation is that the government should intensify its efforts to recruit domestic investors into medium-scale and large-scale agribusiness, and take the lead in creating a tier on a securities exchange for new ventures and SMEs to issue shares. This would help to increase job creation, marshal domestic resources, and ensure that surplus profits from agribusiness can be retained in the local economy. The final recommendation is that the EA should be revised to abolish casual employment and replace it with temporary employment that protects rights at work, and that the MLSS's labour inspections should be intensified to enforce the rights of unrepresented casual and informal workers, especially at SMEs.

This introduction is followed by a review of relevant previous research in Section 2. The review discusses criteria for assessing decent work, the labour intensity of various industries in Zambia and the SADC region, and the determinants of foreign investment for developing countries. The methodology used to investigate and study the material and sources collected for this paper is described in Section 3. In Section 4, key facts and findings are established and discussed to provide an analysis segmented into three parts. Firstly, the nature of the employment and welfare impacts generated by agribusinesses benefiting from special government incentives are assessed. Secondly, the employment and welfare impacts generated by these firms are contrasted with those for firms that are not benefiting from special government incentives. Thirdly, the employment and welfare impacts for firms of different sizes are discussed. Implications are drawn in Section 5, which concludes the study and teases out key recommendations for generating decent employment in the agribusiness sector.

2. Background and Context

2.1 Background

The agriculture and livestock sector has been an important source of employment in Zambia, especially for women. Taken as a whole the sector is also highly labour intensive and has been targeted as a potential source employment and economic diversification away from the mining sector, which dominates the economy. Consequently, it has been earmarked as a priority sector for stimulation through government incentives aimed at attracting new investment or increasing productivity and incomes that can create employment. However, wages paid by the commercial segment of the Zambian agriculture and livestock sector are assumed to be very low based on interviews conducted with key stakeholders in the sector in 2009 (Bell and Newitt, 2010: 14). The collective bargaining agreement for the sector also provides for a very low minimum wage, approximately K330,000 per month[3]. MAL and CSO Crop Forecasting Surveys have established that the subsistence-farming segment generates low incomes based on the low productivity levels of subsistence farms, which are an important source of informal employment in the country. For the 2009 – 2010 crop production season, the CFS was modified to establish the costs of production and marketing for maize production. Production estimates and the costs of land, labour and capital were collected for the whole of Zambia, enabling the calculation of productivity levels (FSRP, 2011).

Yet, at the firm level, there are knowledge gaps regarding labour productivity, wages and other working conditions. Many formal agribusinesses are not households and therefore they are not covered by the CFS. So, there is a motivation to investigate production, profitability, labour productivity and critical conditions of employment such as wage levels and social protection in the formal, commercial farming segment to contrast its performance with what is known about the informal subsistence farming conducted by households. Studying labour productivity and the quality of employment in the sector can provide insights on how the sector can be positioned to generate inclusive growth.

[3] According to the ZNFU, K330,000 was a reasonable estimate for the monthly equivalent of the minimum daily wage rates collectively bargained for by NUPAAW and the ZFEA.

2.2 Context

This section discusses the labour market context as well as key determinants for investment as they apply to the agriculture sector. It draws out the important features and trends of the labour market such as the presence or absence of productive employment opportunities that can provide adequate wages for all workers, rights at work, social security and social dialogue. These trends and features are also related to broader themes that will be useful for evaluating the findings of the cost-benefit analysis of agribusiness that is reported in Section 4.

Out-dated labour market statistics

One factor that complicates the observation of recent trends relevant to employment is the absence of updated information on the labour market. Current research must therefore examine general employment trends using data reported in the 2005 and 2008 Labour Force Surveys. Nonetheless, this data can be supplemented by the more recently published data in the Living Conditions Monitoring Survey Report for 2006 and 2010, which sets out information on household incomes, employment and poverty among other things. Furthermore, for this paper, data from the MAL's Food Security Research Project regarding the costs of producing maize provided useful information on agricultural production, incomes and costs at the household level. This data has special relevance to the informal subsistence-farming subsector. Updated firm-level data on production is also available from the Zambia National Farmers Union's database.

Agriculture and livestock: an important source of employment in Zambia with low minimum wage levels

Agriculture and livestock accounts for 66.7% of Zambia's total employment and 72.3% of women's employment, making the sector an important source of employment for women[4]. The sector's share of men's employment is also high but significantly lower at 61.4%[5]. In recent years, women's occupations were concentrated in agriculture-related activities as reported in the most recent Labour Force Survey published in 2008. This situation arose because many occupations such as mining, other forms of industrial work and management or administration roles have been male dominated in Zambia. On the whole, women's achievements have been limited due to cultural norms concerning the traditional roles of men and women in Zambian society and, by extension, the limited education opportunities available to women (ILO, 2012).

Aside from providing an important source of employment in the country, the agriculture sector is also highly labour intensive as reflected in the high proportion of labour costs as a percentage of agriculture revenue. Based on national accounts data, the labour-to-output ratios for Zambia's agriculture sector stood at 51% for vegetable farming and 45% for other crops, including maize, which is the national staple food. Zambia has some of the highest labour-to-output ratios in the SADC region for crop production and vegetable farming. However, rice and sugar production were exceptions with relatively low labour-to-output ratios of 18% and 21%, respectively (See Table 1).

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[4] CSO: Living Conditions Monitoring Survey Report 2006 and 2010: 113 (Lusaka, 2012).
[5] CSO op. cit.: 113.

Table 1: Labour – Output Ratios for Selected SADC Members, by Industry

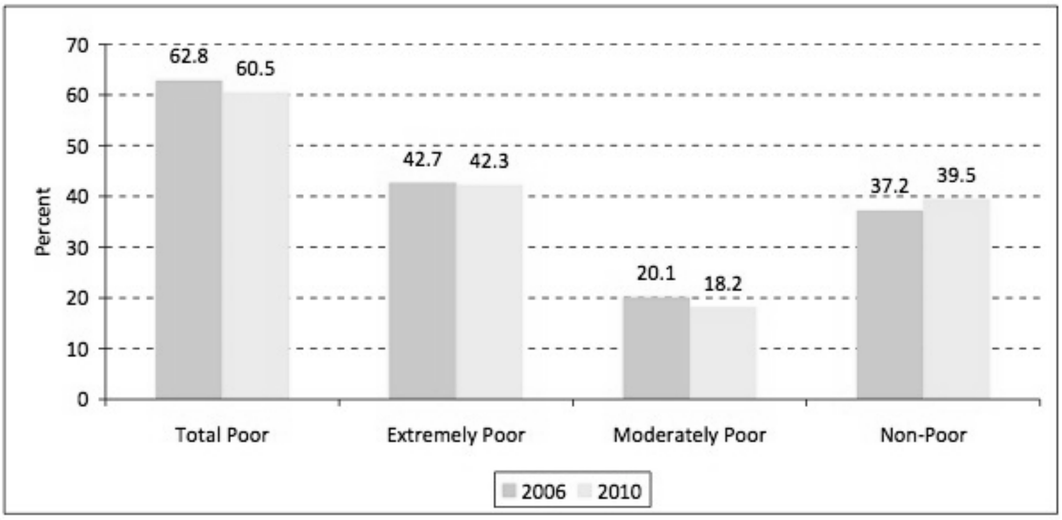
	Botswana	Mozambique	Mauritius	Malawi	Tanzania	Zambia	Zimbabwe	South Africa
Rice	20	43	0	31	30	18	0	6
Other crops	18	54	39	32	46	45	12	14
Vegetables	25	49	52	49	50	51	11	16
Sugar	0	14	23	16	13	21	6	7
Plant based fibres	0	40	0	48	26	42	11	7
Livestock	24	49	32	37	47	29	11	10
Fishing	0	23	13	47	45	5	0	10
Resources	8	63	10	28	64	19	11	10
Meat	23	4	27	10	29	13	1	4
Other processed agriculture	19	15	19	11	10	17	13	10
Textiles	38	14	21	9	9	9	19	14
Wearing apparel	41	21	26	14	6	12	8	18
Chemicals	23	20	49	10	3	34	0	7
Metal manufactures	80	10	13	29	4	2	11	12
Wood & paper products	26	17	29	13	15	22	39	15
Manufactures	23	16	17	21	4	11	15	9
Electronics	11	0	18	11	4	22	17	9
Transport & communications	26	13	19	29	23	31	23	16
Business services	35	27	34	51	24	33	25	24
Services and activities NES	33	27	45	37	20	24	30	31
Total	30	27	29	31	25	22	18	19

Source: Mashayekhi, Peters and Vanzetti (2012: 411).

The divergences in labour intensity for Zambian agriculture and livestock underline a need for further investigation to determine the causes of differences in labour productivity among agribusinesses in the country. For instance, it would be useful to determine if crops favoured by well organized large-scale producers and avoided by informal small-scale farmers have a distinctly lower labour-to-output ratio because labour is much more productive at large agribusinesses. Understanding labour productivity, which can be gauged by dividing a firm's earnings or profits by the number of workers it employs, would clarify the wage levels that agribusinesses can reasonably afford to pay their workers.

The payment of adequate wages and the provision of social security to workers are two critical conditions of employment that Zambian employers are generally failing to provide (ILO, 2012: 14). The collectively bargained minimum wage for the agriculture sector is a cause for concern as it may have aggravated or perpetuated the working poverty situation in the country. Low general wage levels have resulted in pervasive working poverty in recent years as 66.39% of employed persons lived in extreme poverty in 2006, and general poverty rates barely improved between 2006 and 2010 falling by three percentage points from 63.49% to 60.50% (See Figure 1).

Figure 1: Changes in Poverty Levels, 2006-2010, Zambia



Source: CSO (2012: 181).

As mentioned at subsection 2.1, collective bargaining between the ZFEA and the NUPAAW resulted in a nominal minimum wage of approximately K330,000 per month. This collectively bargained wage was well below the K850,320 required to meet the monthly food needs for an average-sized family in Zambia (JCTR, 2012). The minimum wage level was also below the K435,574 required to meet the food needs of an average-sized Zambian family according to the 2010 LCMS. This is a cause for concern; a recent study of the Zambian tourism sector found that employers lowered wages towards the applicable minimum wage for the sector once it was established (Jere and Valeta, 2010).

Further, as members of an industry covered by a collective bargaining agreement, firms in agriculture and livestock can be exempted from the higher minimum wage levels recently prescribed for the sector by the government. Minimum wage levels of K700,000 for workers provided with housing and K1,132,000 for those not provided with housing were recently specified in Statutory Instrument No. 46, of 2012 (SI 46). The latter wage level provides enough income to meet the food needs of an average Zambian family, but it is not adequate to meet their non-food needs. According to the JCTR Basic Needs Basket, K3,475,720 was required to meet the monthly cost of essential food and non-food items for an average Zambian family in November 2012 (JCTR, 2012).

Casualization and its adverse impact on rights at work, social security and equality

In addition to suspected low wages, casualization of labour is another alarming factor that has become prevalent in Zambia's formal employment sector. Casual workers are employed on a short-term basis not exceeding six months and are not eligible for paid leave, redundancy packages or union representation. Casual workers also have very limited prospects for upward mobility and are not enrolled in social security schemes or protected from unfair dismissals. Further, any low wages in the agriculture and livestock sector would be compounded for casual workers as they often earn the lowest wages, and their wages are paid more irregularly than those of permanent workers.

The agriculture and livestock sector would seem to be particularly susceptible to casualization because of the seasonal nature of some crop production work. Demand for labour is highest in agriculture during peak periods when land preparation and planting take place as well as during harvesting. These intensive periods are broken by relatively long periods of crop maintenance between planting and harvesting during which the demand for labour is lowest. Hence, the stability and security of work in the agriculture sector should be investigated. More generally, the rate of casualization of labour in Zambia was found to be high among workers in the formal sector at 59.1% in 2008 (ILO, 2012: 35). This implied that almost two-thirds of the nation's workforce was not represented by a union or other organization for effective collective bargaining towards decent wages and rights at work. Casual workers are more susceptible to malnutrition and commission of crimes as they receive the lowest remuneration from formal sector employers and their jobs are unstable and insecure by definition.

Besides earning the lowest remuneration packages in the formal sector, casual workers also face higher health and safety risks because they can lack the training and experience that is gained through lasting employment. The low funding provided for inspection of employers by the Zambian government may also undermine occupational health and safety in the country. For the years 2002-2009, the total number of labour inspectors in Zambia ranged between 31 and 40. During the same period the total number of labour inspections carried out in a given year ranged between approximately 619 and 3,095 for the entire nation (See Table 2). The low inspection rate combined with a high rate of labour casualization may have introduced a moral hazard, as employers could have intentionally exploited workers who were unaware of their rights or powerless to exercise them. For the year 2008, 9.2% of workers reported that they worked for longer than the maximum of 48 hours per week permitted under Zambian law (ILO, 2012: 21). The problem of excessive work was exacerbated by the limited amount of food that workers with families could afford to purchase based on the low wages they earned. However, it should be noted that the resurgence of the mining industry in the mid 2000s may have contributed to higher health and safety risks (See Table 2).

Table 2: Labour Inspections Statistics, Zambia 2002-2009

	2002	2003	2004	2005	2006	2007	2008	2009
Reported occupational injuries (fatal and non-fatal), total number(1)	335	554	1,085	1,364	1,388	876	982	923
Reported occupational injuries (non-fatal), total number	313	500	984	1,271	1,254	805	945	847
Reported occupational injuries (fatal), total number	22	54	101	93	134	71	37	76
Number of Labour Inspectors per 10,000 employed persons	0.51	0.5	0.55	1.5	1.3	1.1	1	0.8
Number of Labour Inspections per 10,000 employed persons	20	11	10	11	21	46	34	26

Source: ILO (2012: 48).

Youths and women were the most likely to be employed on a casual basis making them the most vulnerable employees. Youths can have the least marketable skills in the national labour force, as they can be both inexperienced and unskilled. The proportion of youths who are not employed and not enrolled in educational institutions rose from 9.64% in 2005 to 15.50% in 2008, according to the Labour Force Surveys for those years. This reflects a lack of opportunities faced by many youths, and as mentioned previously marginalized groups such as casual workers, youths and women are thus the most susceptible to the related problems of poverty, malnutrition and crime. The lack of opportunities to earn a living or enrol in education programmes seemed to be most severe for female youths. The 2005 and 2008 Labour Force Surveys showed that the proportion of female youths not employed and not in education rose from 13.74% to 19% for the period 2005-2008. That trend was significantly worse than the trend for male youths not in education or employment, which rose from 5.19% to 11.9% for the same period (ILO, 2012: 11).

The progress of women in the Zambian education system and the workforce has been inhibited by cultural norms and traditions. In traditional Zambian culture the role of women is that of primary care givers for their families on one hand, and co-workers in subsistence agriculture on the other. The burden of attending to family needs and caring for young children, the elderly and the sick is mostly borne by women or in some cases girls. Relatedly, parents or guardians can prioritise the education of males at the expense of females when they are faced with scarce resources. This results in a situation where some women cannot work for as many hours as their male counterparts, and cannot be considered for certain work opportunities due to a lack of educational qualifications. In this context, it was not surprising that women had a lower share of employment than their male counterparts (ILO, 2012). According to the 2008 LFS, Women's share of wage employment was 28% in 2008 and their share of high status occupations such as management or administration was 26.83% for the same year.

This data emphasizes the importance of providing more and equal opportunities for girls and women in education and hiring for them to access opportunities to earn higher incomes, and to reduce the prevalence of poverty. The data may also indicate that providing more flexible and lasting decent employment, perhaps on a part-time basis, would help to address some of the employment problems faced by women who have a lot of family responsibilities.

A final factor aggravating vulnerability in the workforce is the situation faced by workers employed by MSMEs. MSMEs usually provide employment on a casual or informal basis because they tend to employ less people than the 25-worker minimum required for firms to be legally compelled to register under the Industrial and Labour Relations Act. Consequently, employers who are MSMEs do not have to inform their workers about their rights to become members of unions or other organizations that represent workers for collective bargaining. The education and sensitization on rights at work provided by unions or other workers' associations also eludes the affected workers. Employees of MSMEs are thus susceptible to the exploitative working conditions of casual jobs.

Linking the Decent Work Agenda to Investment

To reverse the trends of exploitative employment and jobless growth, a consensus is forming among civil society organizations and international organizations that investment should be tied to decent employment. This may be achieved through a combination of legal reforms to protect casual employees under the Employment Act; and increased funding for enforcement of rights at work by the MLSS, which would protect the interests of workers at MSMEs and compensate for their lack of representation. Closing the legal and enforcement gaps that are contributing to casualization would expedite the achievement of the four pillars of the Decent Work

Agenda promoted by the ILO, which dovetail well with Millennium Development Goals 1 and 3. MDG 1 and MDG 3 relate to poverty reduction, equality and gender equality. Tackling casualization, which exceedingly affects women and youths, would enhance equality in the treatment of women and youths in the workforce and that would assist with the attainment both MDG 1 and MDG 3. Promoting more productive investment opportunities that can reduce working poverty would also help to ensure the achievement of MDG 1 (poverty reduction) (ILO, 2012).

The first pillar of the Decent Work Agenda is full and productive employment, and it corresponds with the goal of achieving full employment set out in the National Long Term Vision 2030 by the Zambian Government and MDG 1. It should be mentioned that, the unemployment rate is relatively low when exploitative forms of employment are considered. This implies that pursuing full employment in isolation is unacceptable because it does not address the problems associated with underemployment on account of casualization or informal employment. The second and third pillars of the Decent Work Agenda, rights at work and social security, have been more elusive for Zambia to attain. Lapses in Zambia's labour laws has been abused by employers who seek to maximise profits at the expense of providing social security coverage and decent rights at work. Employers whose enterprises are unsustainable and too unproductive to provide adequate remuneration for their workers may have been encouraged to enter the market and exploit workers to serve their selfish interests.

The fourth pillar of the Decent Work Agenda is social dialogue. The Industrial and Labour Relations Act (ILRA) established the Tripartite Consultative Labour Council (TCLC), which advises the government on labour issues and manpower development to meet the changing needs of the labour market. The TCLC's membership comprises of employers' representatives, workers' representatives and representatives of the government. TCLC membership does not include representatives of workers employed by MSMEs because the ILRA only provides for mandatory registration of employers with 25 or more employees. Aggregating the interests of workers spread across a huge number of MSMEs may be unrealistic, but the government should take ownership of the task of representing the interests of workers through labour inspections. In the past, workers at MSMEs have benefited from neither effective dialogue nor labour inspections to protect their rights at work. Addressing shortcomings in legislation and enforcement seems to be the most practical option for reversing the problems caused by casualization so that the ease of entry into the market by unscrupulous investors is impeded to protect workers. Laws and investment policy should thus be revised to attract better investors and crowd-out employers who are exploiting workers.

Zambia should appreciate the value of its unique advantages as an investment destination and attract investors that can bear the cost of providing decent work. In the case of the agribusiness sector, the country is one of the few destinations in Africa that is politically stable and still has extensive unexploited potential for agriculture. 43 million hectares or 57.3% of Zambia's total land area is arable, and only 14% or 6 million hectares of that arable land is being used for agriculture (SNDP, 2010).

Two African countries lauded for their agriculture performance, Kenya and South Africa, can provide an informative comparison that demonstrates Zambia's benefits. In stark contrast to Zambia, only 20% of Kenya's land (6 million hectares) is arable and, moreover, the arable areas in the south-west of Kenya have been exploited forcing new agribusinesses into costly projects in arid areas that require intensive irrigation

(Fitzgibbon, 2012). South Africa also offers good prospects for farming, but the risk of nationalization of farmland in that country has alarmed prospective investors and dampened their interest in investing there. Additionally, only 12% (14.3 million hectares) of South Africa's total land area is arable and its potential has already been tapped by a host of well-organized commercial farmers (The Economist, 2011; FAO, 2012).

Key factors for promoting investment in agriculture

Uniquely attractive investment opportunities in the agriculture sector, among others such as tourism, can expedite Zambia's achievement of its goals for full employment and economic diversification while observing the Decent Work Agenda. Provided that key factors for promoting foreign and domestic investment are appropriately provided for, the labour market reforms suggested previously would enhance rather than obstruct Zambia's development strategy.

Attracting foreign investment has been a central theme of Zambia's investment promotion efforts. This is based on historical factors, namely, the weakening of Zambia's commodity-dependent economy in the period from the 1970 to the 1990s, and the subsequent devastation of Zambian industry during the economic liberalization of the 1990s. With an under-developed capital market, Zambia primarily sought private foreign investment, mainly foreign direct investment, as the solution to redevelop its productive capacity. According to the OECD Benchmark Definition, foreign direct investment (FDI) can be defined as the lasting investment of foreign assets into domestic structures, equipment and organizations. For the agriculture sector, the majority of investment would be in agricultural production and agro-processing, which fall in the primary and secondary sector of the economy.

The key determinants of FDI for investments in the primary and secondary sectors are typically the following:

i. the quality and extent of natural resources;

ii. weak currencies that increase the buying power of foreign investors;

iii. growing markets supported by strong GDP growth;

iv. financial depth;

v. clustering with other firms for business linkages and access to infrastructure;

vi. adequate infrastructure; and

vii. low labour costs (Walsh and Yu, 2010).

Zambia's priority sectors for investment meet the requirements mentioned in this list of important determinants for foreign investment. The country has an exceptionally good endowment of resources including the aforementioned arable land as well as ample water resources, high proven and estimated reserves of copper, cobalt and other industrial minerals as well as abundant wildlife, waterfalls and bodies of water for tourism.

Investors have also benefited from a weak currency as the Zambian Kwacha underwent extended periods of depreciation against the US dollar during the downturn in copper prices that preceded the resources boom of the mid-2000s. During the years 2005 and 2006, copper prices more than doubled which resulted in an appreciation of almost 100% in the exchange value of the Kwacha against the US dollar (SNDP, 2010).

To illustrate the importance of a weak currency for investors, the abovementioned currency appreciation led to a difficult period in Zambia's export-oriented floriculture segment, and the entire horticulture subsector. The problems of lower earnings from exports for the subsector were exasperated by high energy costs on account of the expensive power from diesel generators that enterprises were forced to use following the advent of the electrical power outages in 2006. Power outages became commonplace once the energy-intensive mining sector was revitalised due to the higher prices for industrial commodities that have obtained since the mid-2000s. The lower revenues and higher costs of doing business that faced the floriculture sector, and the export-oriented horticulture sector more generally, led to a high number of business closures and consolidations. Since then, the Kwacha has weakened to a level at or below what prevailed before the boom in the prices of industrial resources as the currency's appreciation was largely driven by speculators. An inflation rate that has been significantly higher than those obtaining in the developed countries or regions that the popular hard currencies such as the US dollar, pound sterling and Euro emanate from has underpinned the Kwacha's historical weakness (BOZ, 2012a; Bell and Newitt, 2010).

Aside from a historically weak currency, the internal market has been growing vigorously at a rate above 5% in real terms since 2003, as was mentioned before. This expansion has been driven by high growth in the mining, construction and transport and communications sectors. There has also been significant growth in the agriculture sector, but the growth has been inconsistent as a result of the unreliable production of smallholder farmers who have faced a number of problems. Smallholder farmers have difficulty in obtaining farming inputs due to low incomes or distribution problems for the government sponsored FISP programme. They also lack irrigation infrastructure to mitigate the impact of any extended periods of low rainfall, and rural farmers are faced with a poor road infrastructure that constrains them from getting their products to market in a timely manner. Finally, the informal, smallholder farming sector makes use of basic production technology that doesn't facilitate large-scale farming (MCAZ, 2010).

However, consumer demand for food and vegetables has been strong and growing, and larger investors would not be constrained by the problems that have affected the informal agriculture sector. Over the past few years, the government has made a concerted effort to develop the infrastructure that supports farming blocks earmarked for development in Serenje and Mkushi. Lusaka's farm blocks were already well served by infrastructure. Large-scale farmers also often cluster their properties close to each other in order to share the costs of developing some of the basic infrastructure they require such as dams and gravel roads. The problem of inadequate electrical power generation is thus the primary infrastructure problem facing Zambian farmers, but there are projects underway to significantly increase the power generation capacity of the national electricity utility (Budget Addresses, 2009-2012).

Labour costs have been extremely low in Zambia, the 2008 LFS reported a working poverty rate of 66.4%. Hence, there is scope to raise wages to levels that are both globally competitive and decent without jeopardising the viability of the country as an investment destination. Higher minimum wages would also spur consumer demand, and act as an appropriate barrier for exploitative investors who would seek to profit from low productivity investments by exploiting Zambian labour. At K330,000 the collectively bargained minimum wage for the agriculture and livestock sector is well below the minimum wage levels prescribed for the sector of K700,000 to K1,132,400 under SI 46.

Even if wages rise to the higher of the two minimum wages specified for the sector, labour costs would be around 1 Euro per hour[6], which is well below the lowest minimum wages for OECD countries that have minimum wages. Moreover, the proposed wages were below the minimum wages in prominent developing economies that have a minimum such as Botswana, Brazil, Indonesia, Malaysia, and Thailand. South Africa and Kenya had lower minimum wages than what the Zambian government has specified, but their wages should not be emulated because they have been exploitatively low and Zambia offers greater benefits to investors in the form of untapped resources as mentioned previously in this section (Walsh and Yu, 2012).

Turning to financial depth, the Zambian currency is fully convertible owing to a flexible exchange rate system that was adopted in 1993. Furthermore, there are no exchange controls in place to prohibit the movement of currency between Zambia and other countries. Hence, importers and exporters have not been constrained by a low supply of foreign exchange. However, local entrepreneurs face a shortage of capital as financial institutions and securities exchanged are both highly risk averse. The requirements for listing shares on a financial securities exchange in Zambia are geared towards large corporations, and only 20 corporations are listed. The formal bond markets mostly serve large banks and large enterprises in the extractive industries that have proven reserves or highly stable income streams. The securities exchanges have not created a specific tier for MSMEs to access equity capital to finance their firms' long-term capital requirements. As a result, most local entrepreneurs have to finance their businesses using internally generated funds, or funds from family and friends. The financing on offer to MSMEs from financial institutions is mostly secured by residential mortgages or contractual salary deductions from well-established institutions such as the government, government-related entities and certain long-established businesses. Thus, lending by financial institutions is almost exclusively offered to the small proportion of the workforce that is either wealthy or employed in the formal sector (BOZ, 2012a).

However, the agriculture and livestock sector is relatively well served by sources of finance. There are out-grower schemes in place, funded by large producers, that offer funding to MSMEs raising poultry and livestock or growing cotton. There are also small grants are available from international organizations such as the International Fund for Agricultural Development (IFAD) or the World Bank. It should be noted that accessing the grants usually requires a matching financial commitment from the entrepreneur, and that some producers negotiate for exploitative prices by using their out-grower schemes to control the prices of their inputs. Agricultural products are also commoditised for easy marketing on global exchanges, which facilitates the provision of funding to well-organized, large-scale farming operations where the value of output can be predicted with a great deal of accuracy. Among others, the Zambia National Commercial Bank has a financing scheme in place for farmers. Yet, even when financing facilities are available

[6] This finding is based on a BOZ mid-rate of K6,831 for purchasing €1 obtained in December 2012. Assuming a 40-hour workweek, a worker earning K6,831 per hour would earn a monthly wage of approximately K1,092,960.

Zambian enterprises are plagued by high interest rates. The weighted average minimum lending rate was around 16.6% in December 2011 (Likulunga, 2005; BOZ, 2012a).

Additional factors for promoting investment

In addition to the factors listed by Walsh and Yu (2010), nations that have benefited the most from FDI are those where human capital development was above a critical level. These nations had a high percentage of their populations that had completed secondary education or some form of tertiary education. Well-educated workers were better placed to engage in the sometimes complex, value-adding activities in the secondary and tertiary sectors that generated high incomes and provided more decent employment than activities in the primary sector. The marginalization of women and girls from education and employment opportunities also caused social problems due to the poverty arising from an absence of dual income households, low levels of entrepreneurship and youth unrest or political instability. Therefore, to create decent employment, economic growth must be driven by the attraction and development of substantial physical and human capital in a manner that is equitable to women and youths (ECA, 2010).

Importantly, trust in national leadership was more important than the rule of law obtaining in a nation or its record on corruption. Hence, it is important that governments negotiate with investors through constructive dialogues that are not confrontational and make only carefully reasoned and equitable adjustments to standing agreements and past assurances (Walsh and Yu, 2010). Nonetheless, the impacts of corruption should not be overlooked. For instance, the combination of fraud and cronyism pose a substantial risk to financial institutions, including government pension schemes. If corrupt public officers issue funding for projects for selfish or political rather than business reasons, for example, then it is plausible that institutions such as national social security schemes can become insolvent by investing in unproductive opportunities.

Another aspect relevant to investment promotion efforts in Zambia, is the generous tax treatment that has been offered to certain large investors. As was mentioned before, intensive investment promotion efforts were required to attract FDI after a long period of low commodity prices that lasted from the 1970s through the 1990s weakened Zambia's economy and depleted the national savings pool. Zambia's economy was further weakened during the period of extensive liberalization under the structural adjustment programmes (SAPS) that commenced in 1991 and lasted throughout the 1990s, devastating the manufacturing sector. As a result, gross capital formation, a measure of investment, fell from a high of 41% of GDP in 1975 to a low of 11% of GDP in the late 1980s as there was a dearth of national savings to finance enterprises (World Bank, 2012).

Consequently, tax breaks have been one of the primary incentives used to attract FDI from the mid-1990s to date. Large investors in Zambian agribusinesses, and other firms in priority sectors, can benefit from a 5-year tax holiday followed by a graduated increase to the normal tax rate over the subsequent 5 years. This is a special incentive offered through the ZDA, which also offers investors in priority sectors duty-free imports of capital equipment and initial consignments of stocks or other goods required to start-up a large-scale agribusiness. Secondly, the corporate tax rate for the agriculture and forestry sector was reduced to a concessionary 10% as of April 2012 as stated in the 2013 Budget Address. Previously the corporate tax rate was 15%, which was already substantially lower than the normal corporate tax rate of 35%. Supported by rapid economic growth that has been underpinned by the high commodity prices obtaining since the mid-2000s, Zambia's gross capital formation has ranged between 21% and 24% over the past several years: these rates compare well with both regional and developed economies (World Bank, 2012; Fashoyin 2002; Fundanga and Mwaba, 1997).

Taking private enterprises' profit motives into account, there is a concern that FDI has resulted in excessive externalization of the benefits generated from Zambia's resources in recent years to foreign domiciles. These concerns are supported by the fact that many foreign investors have enjoyed high return on their investments, ranging from 25% to 63% per annum on average (BOZ, 2012b: 34-35), but Zambian workers have enjoyed only meagre benefits from these firms for the most part. Hence, FDI must be adequately governed and taxed to ensure that it does not result in unreasonable levels of revenue externalization, environmental degradation, weakened public finances and exploitative employment. Furthermore, the revenues generated by enterprises using FDI should benefit the local economy sufficiently through taxes or wages to contribute meaningfully towards the costs of the education, healthcare and infrastructure needs of the nation (CTPD, 2012; Blomström, 2002).

To summarize, the labour market data covering the agriculture sector, among others, is out-dated because a Labour Force Survey has not been published since the 2008 LFS. However, this out-dated information can be supplemented from more current sources to establish the context of employment opportunities in the country. The available data shows that the agriculture and livestock sector is an important source of employment in Zambia, particularly for women. Secondly, the low collectively bargained minimum wage for the sector is a cause for concern, and the sector seems particularly susceptible to casualization of work or informal work due to the high number of MSMEs and households participating in the sector. These precarious forms of employment have been closely related to an erosion of rights at work, low enrolment in social security schemes and low shares of permanent employment for women and youths in the country. Therefore, the Decent Work Agenda should be observed and linked to investment promotion in future through Zambia's labour laws and adequate enforcement efforts. The nation satisfies the key factors for attracting investment and, hence, the additional costs of paying higher but internationally competitive minimum wages are unlikely to threaten the country's attractiveness for investment. Additionally, the benefits of providing tax incentives to large foreign investors should be carefully reconsidered. Tax incentives were not an important factor for attracting investment according to the Walsh and Yu (2010). Moreover, the nation has enjoyed only meagre benefits in the form of low wages from foreign-owned enterprises benefitting from tax incentives.

3. Methodology

3.1 Objectives

This study's primary objective was to examine the costs and benefits of the employment, income and productivity of agribusiness stimulated by government incentives to determine the viability of agribusiness as a target for inclusive economic growth. The specific objectives of the study were to:

- Determine whether or not agribusinesses stimulated by special government incentives have created decent work opportunities and improved the welfare of their surrounding communities or the nation.

- Contrast the employment and welfare impacts generated by agribusinesses stimulated using government incentives with those of agribusinesses that have not benefited from government incentives.

- Establish how income generation, labour productivity, profitability and the ease of doing business compare for agribusinesses based on their size, specialization, labour-intensity and the presence or absence of stimulation through government incentives.

3.2 Methodology and Methods of Data Collection

Financial analysis, inductive methodology and a monetary valuation approach were combined to determine the direct or indirect costs and benefits for this study. Financial analysis was used to conduct detailed examinations of the financial affairs of the firms sampled using data on wages and revenues, costs of sales, administration expenses and assets. Towards this end, financial modelling was used to build income statements based on the data obtained so that profitability or economic value added could be determined and used to measure productivity. The specific productivity measure used was earnings before interest, tax, depreciation and amortization. This allowed for an estimate of an enterprise's value addition to be obtained, before the value generated was reinvested in the business or distributed to pay for tax obligations, debt service charges or rewards to shareholders. This was posited to be a more reasonable measure of productivity than yields per hectare, for instance, owing to the different specializations of the agribusinesses sampled.

Intangible aspects of decent work were analysed using inductive methodology whereby specific observations were analysed and related to determine general patterns (Moonilal, 1998: 11). The decent work indicators analysed were based on the National Monitoring System developed by the ILO for the Zambia Decent Work Country Programme. For indirect costs, such as the welfare lost through work related illness, a monetary valuation approach was used to estimate the currency values that workers implicitly placed on reductions in their welfare that resulted from work related illnesses, injuries or distress. Through this approach, the monetary value of a decrease in an individual's welfare is assumed to be equal to the value of a payment, such as a wage differential, that she is prepared to accept as compensation for the unfavourable impact on her welfare. Similarly, the amount an individual is willing to pay for something that enhances her welfare is assumed to be equal to the monetary value of the welfare enhancement.

Data was mainly collected through structured interviews. The principal structured interviews were conducted with general workers, managers and directors at the sampled firms. This was supplemented or corroborated using information from the published annual reports of the sampled firms that are listed on a securities exchange. Where data was unavailable, supplementary interviews were conducted to obtain estimates from well-informed stakeholders such as producers' associations or suppliers. The specific sources for the data analysed here included individuals' recollections of recent wages, payrolls, management accounts and price quotations. Publicly available annual reports, financial statements and statements from company officers on production capacity and other factors were examined directly. Data on tax receipts and government spending was obtained from the Minister of Finance and National Planning's Budget Addresses for the period 2009-2013. Data on living expenses was obtained from the JCTR Basic Needs Basket for November 2012.

Special incentives were defined as the tax breaks, and exemptions from customs and excise duties, provided by the Zambia Development Agency (ZDA) and the Zambia Revenue Authority (ZRA) for businesses in priority sectors under the ZDA Act of 2006. Other incentives considered comprised of the differential between the corporate tax rate for agriculture sector and the normal corporate tax rate charged for companies registered in Zambia. Expenditures or provision under the Farmer Input Support Programme (FISP) for small-scale farmers were also considered as incentives.

For specializations and organization sizes, this study's definitions were based on the official Zambian definitions for agricultural and livestock specializations and enterprise sizes as used in the Crop Forecasting Surveys or as defined in the Micro, Small and Medium Enterprise Development Policy produced by Ministry of Commerce, Trade and Industry in 2008. Agricultural specializations were thus defined as crop production, raising livestock and raising poultry. The latter specialization included egg production. Due to the differentiation implied by its capital-intensive nature and export-orientation, floriculture was defined as a separate specialization. Agro-processing was added as catchall category for firms engaged in the production of cooking oil, soya cake, maize-meal and stock-feed. Organizations were categorized as follows:

- Small-scale agribusiness: micro enterprises with incomes less than or equal to K150 million, and small enterprises with incomes from K151 million to K300 million;

- Medium-scale agribusinesses: enterprises with incomes from K301 million to K800 million; and

- Large-scale agribusinesses: enterprises with incomes greater than K800 million

Fifty agribusinesses were sampled to obtain a minimum representative sample size. The sampled firms were selected by stratifying Lusaka into its constituent farming blocks and numbering them. A random number generator on a scientific calculator was used to determine the areas to be surveyed, after assigning numbers to quadrants in farming areas using a map of Lusaka and its surrounding areas. Hence, all of the sampled agribusinesses were located in farming blocks in or around Lusaka and specifically in Chongwe, Makeni and Chamba Valley as well as an area in Chipembi where smallholders were conducting forestry operations. Stratifications were conducted to ensure that adequate numbers of large-scale firms including beneficiaries of ZDA incentives, medium-scale firms and small-scale firms were assessed

3.3 Limitations of the Study

The area of study was limited to Lusaka, which may have resulted in an upward or downward bias in the data and findings on agriculture and livestock productivity, wage levels and the costs of basic needs if compared to other parts of the country. According to the ZNFU, farming conditions are not uniform across Zambia. For example, parts of Lusaka have medium-to-high potential for farming whereas parts of the Copperbelt have very high potential for farming. Hence, variations in climate, rainfall and soil conditions may complicate the extrapolation of the results obtained in this study to areas with lower or higher potential for agricultural activities. Secondly, a minimum representative sample size was used for this study due to a resource constraint. In other words, the sample was designed to provide a reasonably fair representation of the Zambian farming sector, but it may not provide as accurate a representation as substantially larger samples would. Third, benefits relating directly to the firms assessed were measured, but other benefits such as the value addition generated by suppliers as a result of sales to the firms sampled were not be considered as they would have dramatically enlarged the data collection requirements for the study. Fourth, the impact of debt financing on financial performance was not considered as most large-scale and medium-scale firms were unwilling to reveal the sources and extent of their funding on account of their competitors. In spite of these limitations, the study provides a timely firm-level study of the Zambian agribusiness sector that may be used to inform advocacy for change in policy and practices concerning agriculture and livestock, labour and investment.

4. Results and Analysis

High potential to create productive employment opportunities was found for most of the large-scale and medium-scale agribusinesses sampled, but despite this the wages they paid to workers were low. Productivity was related to firm size and specialization; tax incentives provided only a marginal benefit to the large-scale firms that benefited from them. Small-scale firms were the least productive, but a firm specialized in poultry would have been productive enough to meet all of the basic needs for a family of 5 if it was owner-operated. However, wages were uniformly low for almost all of the firms sampled regardless of their size. The agribusinesses sampled all paid wages that were not adequate to meet the food needs of an average-sized Zambian family, according to the JCTR Basic Needs Basket for November 2012. The implication is that extreme poverty was prevalent among the workers sampled. The wages paid were negatively related to firm size as large-scale agribusiness paid wages close to the collectively bargained minimum wage for the agriculture sector, while the smaller firms paid slightly higher wages.

Social security and rights at work were closely related to permanent employment at large firms. For the most part, casual workers and informal workers employed by MSMEs were not enrolled in social security schemes and were vulnerable to abuses of their rights at work. Only permanent employees of large-scale firms benefited from social dialogue and association with the union representing agricultural and allied workers; they were the only workers provided with stable and secure employment.

4.1 CBA of Agribusinesses Benefiting from Special Incentives

Employment opportunities

Agribusinesses that have benefited from special incentives provided by the government such as tax breaks, created 4,524 employment opportunities in total. This figure included 2,551 permanent jobs (56%) and 1,970 casual jobs (44%). All of the firms in this category were large-scale firms. This feature resulted from the requirement that firms applying for special incentives under the ZDA Act should invest minimum capital of 500,000 US dollars, approximately K2.6 billion. The specialization that created the most employment was floriculture, which created 1,588 jobs using just 64 hectares of land. Floriculture was highly labour intensive as all of the jobs created were non-seasonal in nature. Nonetheless, 635 (40%) of the jobs created by floriculture firms were casual. Crop production firms in this category created 1,184 jobs, 620 (52%) of which were permanent and cultivated 3,815 hectares. Poultry firms created 1,154 jobs and 681 (59%) of the jobs they created were permanent. Poultry firms utilised 1,950 hectares, but their poultry houses were concentrated on a much smaller area. Large-scale poultry firms used large parcels of land to ensure the isolation of their poultry houses from neighbouring farms and roads for biosecurity purposes, to reduce risks of disease.

Social security, rights at work and equality

Illegally, casual employees were not enrolled in social security schemes as their employers simply ignored the statutory requirement to provide for social security under the NAPSA Act. These employers' violations of the NAPSA Act will ultimately create an unfunded burden on Zambian society to provide for their workers during retirement. Workers at crop production firms did not work decent hours during peak season, as they were asked to work on Sundays and to shorten their lunch breaks to 30 minutes. This resulted in 60-hour workweeks during peak season. Additionally, maternity leave, paid leave, terminal benefits and protection from unfair dismissals were not provided to casual workers because they were not entitled to those benefits under the Employment Act. Aside from the costs conserved by withholding benefits to casual workers, the seasonal nature of crop production was an important motivating factor for employing workers on a temporary basis. Seasonality also applied to the stock-feed business as the periods when grain was purchased and handled were related to the crop production cycle.

Women's share of employment ranged from 15% in the crop production segment and approximately 20% in the poultry as well as the stock-feed segments to 40% in floriculture. Women's low share of employment was explained by the fact that many of them were employed on a temporary, casual basis in all segments except for floriculture. Further, women employed on a casual basis in crop production were retrenched after the prescribed minimum wage for the agriculture sector was raised under SI 46. In the floriculture segment, flowers were harvested year-round because cultivation was conducted in climate-controlled greenhouses; hence, high labour intensity was maintained year round. Youth's share of employment ranged between 20% and 25% for all of the segments. Many employers criticised youths for being either inexperienced or unstable, because they were more likely to change jobs and enter other sectors such as construction if they could earn slightly better wages there.

A final implication of casualization was the seasonal movement of some casual workers from working poverty when they were employed to abject poverty when their labour was no longer required and their employment was terminated. The Zambian Government does not provide welfare payments for the unemployed. Hence, the only social assistance available to the unemployed comes in the form of free health care at government health facilities and free education at government schools. As a result, some unemployed casual workers from the agriculture sector would face a situation where they would have to become dependent on others, who might also be struggling in the ranks of the working poor, or turn to crime for their survival.

Social dialogue

Most casual workers at agribusinesses benefiting from special incentives were not members of organizations that represented workers. However, workers' representation may not have offered them tangible benefits, because the EA does not protect the rights of casual workers. This shortcoming in labour law facilitates the exploitation of casual workers. The only benefit that workers' representation would provide to casual workers is a voice to highlight their exploitative treatment. The fact that most of them are voiceless may explain why the exploitative working conditions they face are allowed to persist. Moreover, even the permanent employees who were represented by NUPAAW complained about the inadequate wages they received. The minimum wage level negotiated for during collective bargaining between NUPAAW and the ZFEA was K330,000 per month, which is well below the amount required to meet the food needs of a family of five. Hence, the collective bargaining process for the agriculture and livestock sector may protect permanent workers' rights to enrolment in social security schemes as well as paid leave, terminal benefits, and maternity leave but it is failing to provide them with adequate wages.

Adequacy of wages

The average wage paid by firms benefitting from special incentives ranged from K300,000 for those in crop production, and K331,000 for floriculture firms, to K450,000 for firms in the poultry and stock-feed segments. All of these wages were below the K850,320 required to meet the food needs of an average-sized Zambian family in Lusaka (JCTR, 2012). Based on an alternative measure of food poverty in the 2010 LCMS, the wages paid by firms in the poultry and stock-feed segments were just sufficient to meet the food requirements for an average-sized family.

Despite the low wage levels, workers employed by firms benefiting from special incentives were highly productive. After accounting for their current wages, they generated profits before tax, interest, depreciation and amortization of loans that were adequate to pay wages that could meet the cost of providing for the food needs of an average-sized family. Value-added per worker ranged from K32.5 million for floriculture, and K42.1 million for crop production to K51.5 million for poultry production, and K60 million for stock-feed producers. Profit margins, sales volumes and the number of staff on payrolls all played an important role in explaining the value-added per worker. The productivity figures mentioned previously corresponded to net profit margins of 38% on revenues of K136 billion for floriculture; 68% on revenues of K73.7 billion for crop production; 47% on revenues of K127.7 billion for the poultry segment; and 18% on revenues of K202.8 billion for the stock-feed segment.

A sensitivity analysis indicated that profitability would not be substantially impacted if a wage adequate to meet an average-sized family's food needs was paid by the firms benefiting from special incentives. When a wage adequate to meet the food needs was applied to the financial model, profits margins fell from: 68% to 61% for the crop production segment; 38% to 33% for floriculture; 47% to 44% for raising poultry; and 18% to 17% for the stock feed segment. However, profit margins fell substantially when a wage of K3,475,720 required to meet all of the basic needs for a family of 5 in Lusaka was applied to the financial model (JCTR, 2012). The most severe impact was in the floriculture sector where the net profit margin fell from 38% to 7%, implying that the increased labour costs would probably eliminate any income distributable to shareholders if there was an adverse currency fluctuation or if reinvestment was required to maintain production. The floriculture segment is susceptible to unfavourable currency fluctuations because it is export-oriented. For the other specializations, profitability was almost halved or worse: the profit margin for crop production fell from 68% to 28%; for poultry it fell from 47% to 24%; and for stock-feed the margin fell from 18% to 11%.

These findings imply that raising wages to meet food needs would be viable at current productivity levels, but raising wages to a level that would be adequate to meet all of the basic needs of an average-sized family would have a devastating impact on the profitability of agribusinesses benefiting from special incentives. Firms in the floriculture sector would most likely be bankrupted by increases in wages to meet all basic needs. The value of shareholdings in firms with other specializations benefiting from special incentives would probably be halved or worse, in line with the diminished prospects for dividends payable to shareholders. Therefore, the higher labour costs in this scenario would have a destructive impact on investor perceptions regarding Zambian agriculture.

The greatest monthly cost items in the BNB are the K1,750,000 reported for renting housing, K372,000 for electricity, K235,000 for charcoal and K210,000 for water and sanitation. Thus, workers would require a wage of K1,143,720 to meet the basic needs of their families if they were provided with decent free housing, electricity and water by their employers. At this wage level, a sensitivity analysis shows that the profitability of agribusinesses benefiting from special incentives would not be substantially reduced. Crop production would generate a 57% profit margin, floriculture would generate a 30% profit margin, poultry would generate a 41% profit margin and the stock-feed segment would generate a 16% margin. This would appear to be a reasonable scenario to advocate for if firms can provide decent housing for workers, perhaps with government support.

Costs and Benefits to Workers

Exploitative treatment of workers on wages and social security enrolment, which are both critical conditions of employment, can lead to social costs such as malnutrition, theft, and dependency during working age or retirement for individuals who are not provided with social security. These costs arise from the shortfall between the wages earned by workers and the funds required to meet their basic needs. Hence, the minimum social costs arising from agribusinesses benefiting from special incentives amount to the difference between the annual wages they are currently paying and the annual wages they would pay if they provided workers with decent housing and the K1,143,720 required to meet all of the basic needs for an average-sized family.

The shortfall, or social cost, amounts to K28.3 billion according to the financial model for this study. It should be emphasized that, by definition, this shortfall was calculated after considering the benefit workers received through the wages they were earning at the time data was collected for this study.

Costs and Benefits to the Nation

If it is assumed that the profits earned by Zambian owned firms benefiting from special incentives are reinvested in Zambia or eventually repatriated to Zambia after reinvestment elsewhere, then the minimum social benefit to the nation is the value addition generated by the Zambian-owned firms sampled. Zambians owned only 2 of the 7 firms sampled that have benefited from special incentives, and they were both in the crop production sector. The value addition, or social benefit, generated by Zambian-owned firms benefiting from special incentives amounted to K49.8 billion.

Foreign investors owned 5 of the 7 firms benefiting from special incentives. Only one of the foreign-owned firms, a poultry producer, paid corporate taxes at a rate of 6% of profits that amounted to K1.6 billion, because its tax breaks are elapsing and its treatment is being normalised. Conglomerates that were listed on stock exchanges in South Africa and the UK owned 4 of the foreign-owned firms, which implied that there was a very strong motivation for those firms to repatriate their profits outside Zambia for the benefit of their foreign shareholders.

Hence, the overall benefit of the agribusiness investment stimulated through special incentives that was sampled for this study amounted to K23.1 billion. This comprised of the K49.8 billion in net profits generated by the Zambian-owned firms and the K1.6 billion tax payment by one foreign-owned firm, less the K28.3 billion in social costs created by exploitative employment.

4.2 Comparative Analysis of Beneficiaries and Non-beneficiaries of Incentives

Comparative analysis for large-scale firms

The Large-scale agribusinesses sampled that did not benefit from special incentives, non-beneficiaries, created 778 jobs and 328 (42%) of the jobs were permanent. There were only 3 large-scale agribusiness without special incentives sampled, hence, it is not surprising that these firms created less employment opportunities. Further, 3 large employment-intensive floriculture firms dominated the employment created by the firms benefiting from special incentives that were sampled. In the large-scale non-beneficiary category, only one floriculture enterprise was sampled and it employed just 50 people as it cultivated only 2 hectares.

The incidence of precarious work was significantly higher for firms that did not benefit from special incentives as casual employment accounted for 60.4% of total employment created. This may be explained by the monitoring of employment levels by the ZDA during the first few years after the provision of special incentives to beneficiary firms. Similarly to casual workers at the large-scale firms that benefited from special incentives, casual workers in this category faced exploitative conditions.

Wages were slightly higher for the large-scale firms that did not benefit from special incentives, but the wage level did not provide any consolation for the high rate of labour casualization as it was still substantially below what was required to provide for the food needs of a family of five in Lusaka. The 2 crop production firms sampled in this category paid an average wage of K450,000 and the floriculture firm paid an average wage of K331,000. The latter wage was in line with the collectively bargained wage for the agriculture sector. Despite these shortcomings, large-scale firms in this category had the potential to pay significantly higher wages as the level of value added per worker was high and comparable to that of firms in the beneficiary category. The productivity level per worker was K71.4 million for the crop production segment, and K30.9 million for the floriculture segment. Value addition at the crop production firms was higher in this category because one of the 2 firms sampled produced seed maize, which was sold at prices more than 10 times higher than the price of normal maize. Value addition was slightly lower for the floriculture firm in this category because its sales were not as brisk as its larger counterparts that could service supply contracts for major European retailers.

Large-scale non-beneficiaries of special incentives were significantly more profitable than their counterparts in the beneficiary category. The crop production firms earned a net profit margin of 83% on revenues of K62.7 billion, while the floriculture firm earned a net margin of 36% on revenues of K4.3 billion. The high profitability was driven by the specialization of one of the 2 crop production firms sampled in seed maize, and the lower production costs of the non-beneficiary floriculture firm whose facilities did not have to meet the high standards for certifications in the cut flower industry. The implication was that all large-scale firms can afford to pay their workers higher wages.

Based on a sensitivity analysis, it was found that profit margins would fall to 80% for the crop production segment and 31% for the floriculture segment if wages were increased to K850,320 to match the requirement to feed a family of five in Lusaka, according to the JCTR BNB. When the K3,475,720 requirement for all basic needs was applied, the net profit margin for crop production fell to 60% while the net profit margin for the floriculture segment fell to 5%. The latter finding for crop production indicated that the large-scale seed production firm created the most productive employment opportunities of all large-scale firms sampled, and could uniquely afford to pay an adequate wage to meet all of the basic needs for a family of 5. Similarly to the floriculture firms benefiting from special incentives, an increase in wages to meet all of the basic needs of workers, including decent off-site housing for a family of 5, would probably bankrupt the floriculture firm in this category.

Once more, an arrangement where the employer provides decent housing, electricity and water seems to be the most viable. Under such an arrangement, workers would require a total of K1,143,720 per month to meet their basic non-housing needs. When a scenario with a wage of K1,143,720 was applied to the financial model, the profit margin for crop production was 78% and the margin for floriculture was 28%.

Similarly to the previous category, the cost benefit analysis for this category was conducted by deducting the social costs from the value addition, or net profits, of the agribusinesses. It was found that large-scale non-beneficiary firms generated an overall benefit to Zambia of K46.4 billion. This was substantially higher than the result for firms benefiting from special incentives because investors based in Zambia owned all of the firms in this category, implying that net profits were retained in the local economy.

Comparative analysis for medium-scale firms

Medium-scale firms created just 74 employment opportunities but the employment they created was stable and lasting, as workers were not employed on a temporary basis. Only 6 (8.1%) of their employees were women and only 2 (2.7%) were youths. Nine of the firms assessed raised poultry, one raised pigs, and one firm produced soya-based stock-feed and cooking oil in the agro-processing segment. The shortcomings of the employment created by the 11 medium-scale agribusinesses sampled were their failures to pay adequate wages, to enrol employees in social security schemes and to provide terminal benefits. Further, workers were not protected from unfair dismissals. The medium-scale firms surveyed employed less than 25 people, employment figures ranged from 2 to 20 workers per firm and the average number of workers employed was 7. Hence, all of the employers were exempt from the requirement to register under the Industrial and Labour Relations Act and enter into a collective bargaining agreement with a union. Most of the workers in this segment were not aware of their rights at work.

Employers in the medium-scale category treated their employees like domestic workers. As a result, many of their workers worked for long hours with many reporting that 60-hour workweeks were a common occurrence. This was explained by the fact that 10 of the 11 medium-scale firms sampled raised poultry or livestock, and the animals raised required round-the-clock attention every day due to intensive feeding programmes. The advantage of their treatment as domestic workers was that their wages were higher than those earned by their counterparts at larger firms. The average wage paid in the poultry and livestock segments was K529,000 and the average wage paid by the agro-processing firm was K400,000. Additionally, one third of the workers in the poultry and livestock segments were provided with housing to facilitate feeding and temperature control at odd hours, and thus they benefited from the use of electricity and water. All of the medium-scale agribusinesses surveyed were based at their owners' households.

Productivity levels per worker for the firms in this category were K60.7 million for the poultry and livestock segments, and K41.2 million for the agro-processing segment. These productivity levels were comparable to those found for large-scale firms, indicating that medium-scale firms could afford to pay higher wages.

The firms raising poultry and livestock earned a net profit margin of 37% on revenues of K10.4 billion, while the agro-processing firm earned a 19% profit margin on revenue of K1.3 billion. A sensitivity analysis revealed that if wages were raised to a level that would meet the food needs for a family of 5, profit margins would fall slightly to 35% for the poultry and livestock segments and 17% for the agro-processing firm. If the wage was raised to the level required to meet all basic needs including non-food needs, the profit margin for the poultry and livestock segments would fall considerably to 16%, while the margin for the agro-processing sector would fall to just 2%. Similarly to the large-scale categories discussed previously, the implication was that profitability would deteriorate substantially or be completely eliminated if workers were paid enough to meet all of their basic needs. The agro-processing firm would face an extremely high risk of bankruptcy if it operated on such a thin margin.

If it was assumed that decent free housing was provided, as was the case for some workers in this category, then meeting the K1,143,720 requirement to address workers' basic needs resulted in a moderate and more acceptable decline in profit margins to 33% for the poultry and livestock segments and 15% for the agro-processing segment.

The cost-benefit analysis for this sector yielded an overall benefit of K3.8 billion. All of the firms in this category were Zambian-owned, so it was assumed that their economic value added, or net income, was reinvested in Zambia.

Comparative analysis for small-scale firms

Small-scale enterprises accounted for 29 of the firms sampled and created employment opportunities for 93 individuals. All of the enterprises were informal and, consequently, none of the work opportunities created provided for social security or rights at work. Employees were not aware of their rights at work and they were not provided with terminal benefits or protection from unfair dismissals. A substantial amount of the work opportunities created, 46%, were especially insecure because they were temporary positions. The prevalence of temporary employment resulted from the seasonal nature of work at 11 crop production firms and 6 stock-feed firms that were sampled. 10 of the other firms sampled operated in the forestry segment, and 2 were in the poultry segment. Women's share of employment ranged from 0% in the poultry and forestry segments to 24% and 67% in the crop production and stock-feed segments, respectively.

The crop production and poultry enterprises were based at households, which explained why most of their workers were treated like domestic workers. The 2 employees in the poultry segment complained that they were overworked because they worked for several weeks at a time without taking a day off. For the forestry and stock-feed segments, operations were not carried out on any specific sites. The forestry entrepreneurs interviewed sought out heavily wooded areas such as an area near Chipembi, felled trees, produced charcoal and then transported it to densely populated lower middle-income areas of Lusaka for sale. They employed temporary workers as woodcutters to help them with the felling of trees. The stock-feed entrepreneurs purchased maize-meal in Chipata and transported it to areas along the Great East Road in the farm block between Lusaka and Chongwe for marketing. They employed temporary workers, usually family members, to assist them with marketing.

The average monthly wages paid were K479,000 for crop production, K1.4 million[7] and K700,000 for poultry, K400,000 for temporary workers in the stock-feed segment and K260,000 for temporary workers in the forestry segment. The entrepreneurs operating in the forestry sector earned approximately K1.7 million per month from their profits, which was more than adequate to meet their families' food needs. However, these entrepreneurs may still have been susceptible to moderate poverty if they were unable to provide decent housing, electricity and water for their families. The entrepreneurs in the stock-feed segment earned K684,000 per month on average, which was inadequate to meet their families' food needs. The crop production firms earned profits of K1.9 million per month on average, which was adequate to meet food needs. In the poultry segment, the firms earned monthly profits of K2.6 million and K1.9 million, respectively, which were adequate to meet the food needs of a family of 5.

Value added, or productivity, per worker was low for most of the small-scale firms sampled, but reasonable productivity levels were found for the poultry enterprises. Value added per worker ranged from K2.7 million for grain marketing, K5.6 million for crop

[7] The worker at one of the firms raising poultry was employed by the Zambian Army, as a domestic worker for one of their senior officers.

production, and K7.3 million for forestry to K22.8 million and K31.2 million for poultry. It should be noted that the higher of the two labour productivity levels for the poultry firms resulted from the army subsidizing the wage costs for one of the firms.

The low productivity of crop production firms was explained by the low yields obtained by small-scale farmers who misapplied farming inputs due to a lack of resources or skills. For the forestry and stock-feed segments, sales were simply too low to generate adequate incomes. The low sales were explained by failures to reinvest profits to grow the enterprises on account of the more pressing requirement for the entrepreneurs to attempt to meet their families' basic needs.

The crop production firms earned 43% profit margins on sales of K585.8 million. For the poultry segment, a 71% profit margin and a 52% margin, respectively, were earned on revenues of K87 million. Importantly, the subsidized wage was responsible for the higher profitability of one of the poultry firms. In the stock-feed segment, a 23% margin was earned on sales of K212.1 million. The firms in the forestry segment generated 65% profit margins on sales of K315 million.

If the wage level was raised to meet the cost of the food needs for a family of 5, profit margins would fall to 16% for crop production, 16% for grain marketing and 45% for forestry. The profit margin for the poultry and livestock segments fell to 40%. With the lower profits in this scenario, the monthly earnings for the entrepreneurs in the stock-feed and forestry segments would fall to K459,000 and K1.2 million, respectively. The crop production firms' profits would be more than halved under this scenario, resulting in earnings of K723,000 per month for the entrepreneurs. In summary, small-scale firms could not afford to pay wages adequate to meet workers' food needs on account of low productivity in some cases and low sales in others. Based on the productivity levels found, these small-scale agribusinesses best served their owners as sources of supplementary income or food for personal consumption unless the more profitable poultry firms were going to be operated by their owners without using hired labour.

The cost benefit analysis for this segment yielded an overall social cost of K31.5 million. Most of the workers interviewed were vulnerable to malnutrition or indecent living conditions and would probably require assistance from the government, or other sources of support, to meet their families' basic needs for food and other essentials. Further, there was a risk to Zambian society that the affected workers may turn to theft to provide for their families' basic needs for food, shelter and other requirements. This latter concern was especially applicable to temporary workers who faced unemployment on account of the seasonality of some agricultural work.

4.3 Social Assistance Costs

With the support of donors, the government provides support to Zambians living in poverty by the providing free healthcare and education. Most of the workers interviewed for this study were among the working poor and required some government support to meet the health and education needs of their families. The cost of this government support was assessed based on estimated expenditures per beneficiary for health and education in 2012, the number of workers interviewed, and the number of their dependents. The government spent an estimated K1.2 billion to treat work related illnesses for workers at the firms sampled, and a further K1.8 billion to provide the basic healthcare package to workers and their families. The estimated cost of educating children and youths dependant on the workers interviewed was K6.8 billion. Therefore, the total cost of providing social assistance for the workers was K9.8 billion.

4.4 Cost-benefit Assessment for all Firms

Taken together, the various firms evaluated for this study generated an overall benefit for Zambian society amounting to K63.5 billion. However, the payment of inadequate wages generated a substantial social cost that must be addressed for Zambia to maximise the benefits it enjoys from agriculture. This is especially true for foreign-owned, large-scale firms that repatriate their excess profits to their countries of origin, diverting the lion's share of the benefits they generate away from the Zambian economy. Most of the firms with foreign ownership were beneficiaries of special incentives, which were provided by the ZDA in the form of tax breaks. Locally-owned large-scale firms made the greatest contribution to the overall benefit reported here, because their excess profits were reinvested locally in spite of the low wages they paid to their workers. A locally owned large-scale seed production firm made the greatest individual contribution to the benefits reported here. Medium-scale firms also made a significant contribution to the benefits reported. On the whole, small-scale firms did not generate a meaningful benefit and marginally diminished the overall benefit recorded for the firms assessed. This resulted from the low profits these firms earned based on low productivity. The low productivity levels were explained by a lack of technical skill, and failures to reinvest profits for growth due to a lack of resources or business management skills.

5. Conclusion and Recommendations

5.1 Conclusion

To summarise, this cost-benefit analysis found that large-scale and medium-scale agribusinesses have generated significant benefits for Zambia. However, investments in the sector are unsustainable, as they have not provided meaningful benefits to workers. The principal problem was a substantial social cost resulting from the exploitative wages paid to workers. Low wages were paid to almost all of the workers in spite of the fact that many of them were productive enough to earn significantly more without having a substantial adverse impact on their employers' profits. Furthermore, if housing was provided, most firms could pay adequate wages to meet all of their workers' basic needs without a substantial decline in their profits. The inadequate wages paid positioned most of the workers interviewed below the poverty line, as they did not earn enough income to meet the basic food needs of an average-sized Zambian family.

Importantly, a substantial proportion of the work opportunities created were provided on a casual or temporary basis. The affected workers were not provided with social security and their rights at work were not observed. These abuses were enabled by exemptions from provisions of the Employment Act for casual employment, and an exemption from provisions of the Industrial and Labour Relations Act for firms employing less than 25 people. The latter exemption applied to all of the medium-scale and small-scale agribusinesses assessed for this study. Unsurprisingly, most workers at medium-scale and small-scale firms were unaware of their rights at work as they did not associate with organizations that represented workers' interests. The MLSS has also been too under-funded to adequately inspect agribusinesses, especially the numerous medium or small-scale agribusiness firms in the country.

Workers at large-scale as well as medium-scale firms were the most productive, and the greatest benefits to Zambia were the profits earned by locally owned firms. These profits were reinvested locally to benefit the domestic economy. In contrast, most foreign-owned firms repatriated their profits to foreign investors outside the country. Therefore, the only benefits Zambia could gain from many foreign-owned firms were the low wages they paid to local workers and any income tax they paid at concessionary rates. Very few of the foreign-owned firms assessed paid income tax, as most of them were beneficiaries of tax holidays provided by the government. The firm that generated the greatest value addition was a Zambian owned seed maize producer. Poultry producers also generated a very high level of value addition. However, low productivity levels were found at most small-scale firms on account a lack of technical skill, and failures to reinvest profits for growth due to a lack of resources or business management skills.

5.2 Recommendations

(1) CSOs should advocate for adherence to the recently prescribed minimum wage

This CBA found that large-scale and medium-scale agribusinesses could afford to pay the minimum wage levels of K1,132,000, and K700,000 for workers provided with housing, that were prescribed for the farming sector under Stautory Instrument NO. 46 of 2012. Therefore, the first recommendation of this study is that Civil Society should advocate for all large and medium-scale firms in the sector to recognize that the collectively bargained minimum wage is unacceptable and adopt the minimum wage levels prescribed by the government. This will help to alleviate poverty in Zambia by enabling workers to earn adequate wages to provide for their families' food requirements.

(2) The wage negotiation capabilities of NUPAAW should be investigated

Research should be conducted to determine the reasons behind NUPAAW's failure to negotiate for decent minimum wage levels during collective bargaining sessions with the ZFEA. The minimum wage levels negotiated for under the latest collective bargaining agreement have resulted in workers earning approximately K330,000 per month, which is too low to provide for the food requirements of an average-sized Zambian family.

(3) CSOs should advocate for affordable housing solutions for farm workers

One of the findings of this study indicated that large and medium-scale agribusinesses can afford to pay workers decent wages if the high costs of renting decent housing in Lusaka are eliminated for workers. CSOs can advocate for government leadership and funding for a programme to build decent low-cost housing for farmworkers that can then be leased by agribusinesses at concessionary rates on behalf of their permanent workers. Under a long-term lease agreement, the government expenditure to construct the low-cost houses can be repaid by the farmers over a 20 to 30 year period. Significant parcels of land on larger farms are not suitable for farming due to rock formations or steep inclines, for example. The government can negotiate with farmers for the latter to provide land that is not suited for farming for government-funded housing units. An initiative to provide housing for workers would be most effective in provincial capitals, where rental rates for residential properties are highest.

(4) Small-scale agribusinesses should be provided with technical training

Small-scale agribusinesses should be provided with training to improve their productivity and create decent employment. Low productivity levels were found for most small-scale firms, and as a result many of them did not have the capacity to pay adequate incomes to their workers or earn meaningful profits. To reverse their contribution to working poverty, training should be provided to address the weaknesses that were identified among small-scale firms in forecasting business cash-flows, farming techniques and financial management. Many small-scale entrepreneurs in the sector invested haphazardly in enterprises without fully accounting for their business expenses or ensuring that they maximised their productivity by using sound farming techniques. Furthermore, many enterprises were spending all of their profits. This reflected failures to practice prudent financial management by re-investing profits to grow businesses, and a lack of funding sources for small-scale agribusinesses.

(5) *Government should intensify its efforts to recruit domestic investors*

In addition to decent wages, surplus profits generated by agribusinesses can be of great benefit to Zambia if they are reinvested in the local economy. Hence, the MCTI and the ZDA should intensify their efforts to stimulate agribusiness investments by Zambians and foreign nationals who are permanent residents of Zambia. This can be achieved by lowering the threshold for special tax incentives from the ZDA from the current level of 500,000 US dollars. The government should also provide leadership and support for the creation of a vibrant tier on a securities exchange where new ventures and MSMEs can raise capital by recruiting idle or surplus funds held by the public. There has been little action on previous private sector initiatives towards this goal. Agricultural investment opportunities should also be promoted through government owned media. For instance, Zambia is well placed to act as a hub for lucrative seed maize exports to other countries in the SADC, EAC or COMESA regions. Further, CSOs can promote agribusiness opportunities at grassroots level especially for poultry, which had relatively high productivity even on a small-scale and could serve as a source of both income and protein for small-scale farmers. Perhaps the World Bank and AfDB would be willing to support CSO initiatives towards this goal.

(6) ***Labour laws and their enforcement should be enhanced***

Temporary employment must be provided for, but the exemption in the EA that propagates casual employment should be addressed. Industrial demand for labour has peaks and troughs due to seasonality and the nature of short-term projects such as construction. Hence, there decent temporary work must be accommodated. However, casual employment results in abusive and exploitative working conditions that should be eliminated by providing temporary workers with regular wages, enrolment in social security schemes, protection from unfair dismissals and paid leave. The EA currently exempts employers from providing casual workers with these provisions. Furthermore, funding for the MLSS should be increased to help ensure adherence to provisions in Zambian labour laws that protect workers rights. Higher inspections rates would help to protect the voiceless workers without union representation who are employed by MSMEs, or employed on a temporary basis, from abuse or exploitation.

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