



# **The developmental implications of Sino-African economic and political relations**

A preliminary assessment for the case of Zambia

George Schoneveld

Laura German

Davison Gumbo



# **The developmental implications of Sino-African economic and political relations**

A preliminary assessment for the case of Zambia

**George Schoneveld**  
Center for International Forestry Research (CIFOR)

**Laura German**  
CIFOR

**Davison Gumbo**  
CIFOR

Working Paper 133

© 2014 Center for International Forestry Research

Content in this publication is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License <http://creativecommons.org/licenses/by-nc-nd/3.0/>

Schoneveld G, German L and Gumbo D. 2014. *The developmental implications of Sino-African economic and political relations: A preliminary assessment for the case of Zambia*. Working Paper 133. Bogor, Indonesia: CIFOR.

Photo by George Schoneveld/CIFOR  
Typical street scene in the Zambian Copperbelt

CIFOR  
Jl. CIFOR, Situ Gede  
Bogor Barat 16115  
Indonesia

T +62 (251) 8622-622  
F +62 (251) 8622-100  
E [cifor@cgiar.org](mailto:cifor@cgiar.org)

**[cifor.org](http://cifor.org)**

We would like to thank all donors who supported this research through their contributions to the CGIAR Fund. For a list of Fund donors please see: <https://www.cgiarfund.org/FundDonors>

Any views expressed in this book are those of the authors. They do not necessarily represent the views of CIFOR, the editors, the authors' institutions, the financial sponsors or the reviewers.

# Table of contents

Abbreviations	v
Executive summary	vi
<b>1 Introduction</b>	<b>1</b>
<b>2 Background</b>	<b>3</b>
2.1 From economic success story to heavily indebted poor country	3
2.2 Economic development priorities	4
2.3 Governance of FDI and corporate practice	5
<b>3 Sino-Zambian relations</b>	<b>9</b>
3.1 Official development assistance	9
3.2 Investment overview	11
3.3 Trade overview	12
<b>4 Chinese involvement in priority sectors</b>	<b>15</b>
4.1 Chinese involvement in the mining sector	15
4.2 Chinese involvement in the agricultural sector	25
4.3 Chinese involvement in the forestry sector	28
<b>5 Conclusion</b>	<b>32</b>
<b>6 References</b>	<b>34</b>

# List of figures and tables

## Figures

1	Map of Zambia	3
2	Evolution of Chinese ODA to Zambia, 1986–2006 (USD millions)	10
3	Aggregated FDI (in USD) pledged in 2000–2009	11
4	Zambian export earnings (in USD) by major export partners	13
5	Total copper production (in MT) 1995–2010	16
6	Copper product exports to China (in USD'000)	17
7	Copper ore exports to China (in USD'000)	18
8	Tobacco exports to China (in USD'000)	26
9	Cotton exports to China (in USD'000)	27
10	Value of 'wood and articles of wood' exports from Zambia	29

## Tables

1	Selected development indicators for Zambia	4
2	Incentives established in the Zambia Development Agency Act to attract investors	6
3	Implementation rates vis-à-vis investment pledges in sectors of interest	7
4	Activities requiring EIAs and project briefs in Zambia	8
5	Key environmental challenges for sectors of interest	8
6	Large projects financed by Chinese ODA in Zambia over the 2000s	9
7	Chinese investment > USD 1 million in 2005–2009	12
8	Zambian exports to China	13
9	Major copper mining operations in Zambia	16
10	Active large-scale mining licenses allocated to Chinese companies	17
11	Active large-scale exploration licenses allocated to Chinese companies	24
12	Selection of major farmland acquisitions in Zambia, 2005–2012	28
13	Distribution of commercial timber species by province	29
14	Differences between logging license conditions in Zambia	30
15	Logging operations in North-Western and Western Provinces (2010)	30

# Abbreviations

AFRODAD	African Forum and Network on Debt and Development
CCS	Chambishi Copper Smelter
CNMC	China Nonferrous Metal Mining Company
CSFAC	China State Farm Agribusiness Corporation
ECZ	Environmental Council of Zambia
EIA	environmental impact assessment
FDI	foreign direct investment
FOCAC	Forum on China–Africa Cooperation
FNDP	Fifth National Development Plan
GDP	gross domestic product
HDI	Human Development Index
HIPC	heavily indebted poor country
ILO	International Labour Organization
MDRI	Multilateral Debt Relief Initiative
MFEZ	Multi-Facility Economic Zone
MSD	Mines Safety Department
NFCA	Non-Ferrous Company Africa
ODA	official development assistance
SADC	Southern African Development Community
TAZARA	Tanzania–Zambia Railway
ZFFICO	Zambia Forestry and Forest Industries Corporation
ZCCM	Zambia Consolidated Copper Mines
ZCCZ	Zambia–China Economic and Trade Cooperation Zone
ZDA	Zambia Development Agency
ZEMA	Zambia Environment Management Agency

# Executive summary

While diplomatic relations between China and Zambia date back to the liberation struggle of the 1960s, and China has been supporting numerous development projects in the country since, their economic and political relationship gained a new intensity over the 2000s. This coincided with China's 'Going Out' policy and the initiation of the Forum on China–Africa Cooperation (FOCAC), which seeks to stimulate Chinese investments in Africa. This cooperation has focused primarily on the mining sector; with Chinese companies, most of which are state owned, investing heavily in mineral prospecting, copper mining and smelting, and industries auxiliary to mining. To further encourage value addition and Chinese participation along the mining value chain, the Chinese and Zambian governments are in the process of developing China's first economic processing zone in the Zambian Copperbelt, centered around the operations of the state-owned China Nonferrous Metal Mining Company (CNMC). With most investment activities targeting the mining sector, contrary to popular perception, China's direct participation in other primary sectors, such as forestry and agriculture, is limited.

With Zambia's economy long struggling under external debts, Chinese investments have made a valuable contribution to Zambia's economic recovery. Most significantly, capital injections in the mining sector have led to a rehabilitation of dilapidated mining infrastructure, while enhancing the country's production capacity through the construction of new processing facilities and the development of greenfield mines. Moreover, Chinese investors have proven to be more reliable than their Western counterparts. For example, while most other mining companies laid off much of their workforce during the financial crisis and the copper price slump of 2009–2010, the majority of Chinese companies maintained their investment intensity. Chinese firms evidently have a greater capacity to sustain their commitments and operations when faced with unfavorable economic conditions, presumably as a result of extensive state support and greater security of access to comparatively cheap financial capital.

While Chinese aid, trade and investment have made important contributions to Zambia's development, some observers warn of China-specific risks. For example, a number of high-profile conflicts between Chinese companies and their employees have caused many Zambians, and also government opposition parties, to be highly suspicious of Chinese intentions in Zambia. However, while Chinese mines do pay their employees less on average than other major mines, there is little concrete evidence to suggest that Chinese companies are more negligent of labor conditions and rights than companies from other countries. This also applies to the environmental performance of Chinese operations. What is clear, though, is that Chinese mining companies have significant political leverage (largely due to the close involvement of the Chinese government) and have long been able to exploit close ties with Zambia's main ruling parties. This has had implications for the government's capacity to generate fiscal revenues from Chinese operations and to impose conditions on Chinese economic participation. However, following the 2011 presidential election victory of the 'anti-China' Patriotic Front this leverage is looking to weaken.

Another unique feature of Chinese investment in Zambia is their comparatively high tendency to agglomerate (e.g. in tax-free zones), which is increasingly leading to the formation of isolated Chinese economic enclaves — to the exclusion of Zambian businesses and detriment of domestic revenue generation. Moreover, as Chinese mineral prospecting activities tend to focus on densely forested and remote outpost areas in Zambia, there are also concerns that environmental authorities may not be adequately equipped or may be disinclined to effectively regulate environmentally detrimental land-use changes. However, with such developments still in their infancy and with established Chinese mines not appearing to be more neglectful than their Western counterparts, any such effects will likely be inherent to the expansion of mining activities in Zambia and not specific to Chinese investment.

# 1 Introduction

When Zambia gained independence from the United Kingdom in 1964, the new government quickly nationalized the private and foreign-owned mines in an attempt to better capture the developmental potential of the sector. Unfortunately, in the mid-1970s, the copper sector collapsed as global copper prices fell to historic lows, where they would remain for the next two decades. From being the primary source of government revenue, the country's mines became a drain on the government's fiscal resources. Further exacerbated by periods of high oil prices, the government's external borrowings grew beyond the capacity to repay. Having previously ranked as a middle-income country and one of the richest in Africa, by the 1990s Zambia was classified as a heavily indebted poor country, with a per capita income 50% lower than in the 1970s (Fraser and Lungu 2007).

As part of structural adjustment reforms, the mining sector was privatized in the late 1990s (Lungu 2009). Buoyed by recovering copper prices and new sources of foreign investment capital, Zambia's mining output has, in recent years, recovered to levels achieved in the early 1970s, making the mining sector once again one of the largest formal employers in the country. However, to reduce its dependence on the sector, the government has been actively seeking other forms of income by promoting, among others, international and domestic investments in the manufacturing and agricultural sectors.

With China's adoption of its 'Going Out' policy in 1999, which sought to enhance Chinese foreign direct investment (FDI), and the subsequent launch of the Forum on China–Africa Cooperation (FOCAC) in 2000, Zambia has become the object of considerable Chinese investments — becoming China's third largest FDI destination in Africa by the late 2000s (Bastholm and Kragelund 2009). Most of these investments have targeted the mining sector, with Chinese investment focused largely on mineral prospecting, copper mining and refining, and the manufacture of copper-based products. Over the 2000s, the value of pledged Chinese investments in the Zambian manufacturing and mining sectors exceeded the value of pledged investments of all other countries combined (ZDA 2010a). Largely as a result

of these investments, trade between the two countries grew 25-fold between 2003 and 2009, with China now being Zambia's second largest export partner, surpassed only by Switzerland.

With Zambia's abundant mineral reserves, China's economic interest in the country is self-evident, as it seeks to gain access to inputs for its expanding industrial sector. Whether this relationship is of mutual benefit is debatable however. On the one hand, Zambia's close involvement with China could provide it with much-needed resources to reconstruct one of its most important economic sectors. With Chinese investments in value-added mining activities, the Zambian government could leverage greater domestic benefits from the sector. Additionally, Chinese investments will enable the Zambian government to diversify its export base by investing in and creating new market outlets for nontraditional export products, for instance from the forestry and agricultural sector.

On the other hand, some commentators, both domestic and international, contest the developmental potential of Chinese trade and investment. Chinese investors are often alleged to exhibit less concern than their Western counterparts over health and safety standards, labor conditions and rights, environmental practices and local socioeconomic complexities (see Alden 2007; Taylor 2008; Brautigam 2009; Michel and Beuret 2009). Additionally, considering the high levels of corruption within Zambia's institutional structures, the increasing Chinese participation in Zambia's economy arguably carries with it a number of risks should Chinese companies indeed be more inclined to exploit clientelist regimes. The media has also tended to portray Chinese investors as a major driving force behind the land rush for forestry and agricultural purposes in the region (see AFP 2011; Economist 2011; New Scientist 2011; Reuters 2011).

This scoping study seeks to shed light on this debate by assessing the developmental implications of China's increasingly prominent economic and political role in Zambia. It begins with a contextual overview, which provides background information on the Zambian economy since independence, the

legal and institutional context, and the nature of Sino-Zambian relations. It subsequently analyzes in greater detail the extent and potential impact of China's participation in Zambia's primary economy (mining, agriculture and forestry). Based on key informant interviews (with government, private

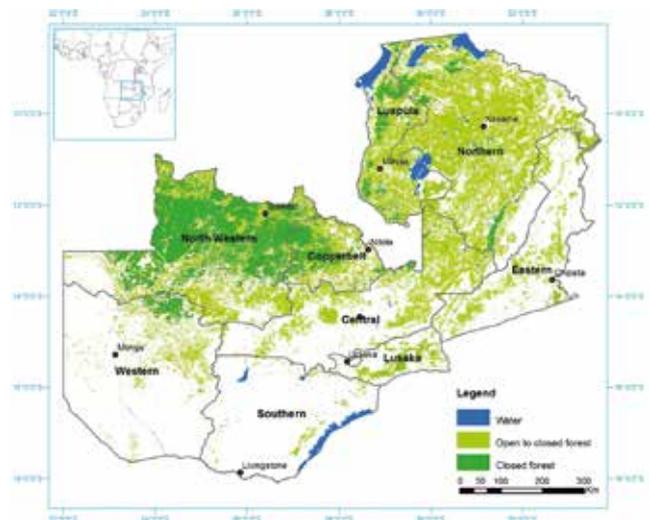
sector and civil society stakeholders) and field visits, this research identifies some of the most relevant environmental, social and economic impacts that may be attributable to Chinese investments. These insights help to identify some of the key areas warranting further enquiry.

## 2 Background

### 2.1 From economic success story to heavily indebted poor country

The first commercial mines opened in 1928 and were operated by two private companies, Roan Selection Trust and Anglo American Corporation, in the copper-rich area of what is now known as the Copperbelt. Under British colonial rule, and especially the ill-fated Federation of Rhodesia and Nyasaland, the area served as a source of mineral wealth that drove the social and economic development of Southern Rhodesia (now Zimbabwe). After political independence in 1964, the two privately owned mining companies were nationalized and, in 1982, were combined to form the Zambia Consolidated Copper Mines (ZCCM) (Fraser and Lungu 2007). Under state ownership, the contribution of the mines to social and economic development in the Copperbelt was expanded. The central role of copper in the economy and favorable copper prices through the late 1960s and early 1970s gave Zambia one of the highest levels of gross domestic product (GDP) in Africa and saw it classified as a middle-income country in 1969 (Fraser and Lungu 2007), with mining revenues then responsible for 58% of government income (Mupimpila and Grijp 1999). Widely viewed as a reflection of President Kaunda's philosophy of 'Zambian humanism', the mines offered numerous services to their employees (e.g. free education and subsidized housing, food, utilities and transport) and support to surrounding communities (e.g. health care, road maintenance and youth development schemes) (Fraser and Lungu 2007).

This positive outlook changed drastically in the mid-1970s. The oil crisis in 1974 led to the collapse of international copper prices, forcing the country to borrow to maintain spending levels (Sharife 2009). A second oil crisis in 1979 led to a rapid increase in interest rates, which resulted in a debt crisis and, consequently, increasing dependence on external assistance, most notably from the World Bank and International Monetary Fund (IMF) (Fraser and Lungu 2007; JCTR 2008). Over the next 20 years, the Zambian economy collapsed at an unprecedented rate as copper prices fell relative to the price of



**Figure 1. Map of Zambia.**

Source: Authors; forest cover derived from European Space Agency (2009)

imports, effectively reducing per capita incomes by almost 50%. Throughout this period, no new investments were made in ZCCM and production levels rapidly declined (Fraser and Lungu 2007). In 1996, the World Bank and IMF launched the Heavily Indebted Poor Countries (HIPC) Initiative to reduce debt to sustainable levels for the world's poorest and most indebted countries (IMF 2010). With debt service payments fluctuating between 16% and 120% of exports and 24% to 230% of government revenue in the 1990s, Zambia readily qualified for debt relief (JCTR 2008). This involved the implementation of a Medium-Term Expenditure Framework to improve public expenditure management, and the sale of majority interests in several state-owned companies (JCTR 2008). Between 1997 and 2000, ZCCM was split into seven different units and sold through a competitive bidding process to seven different multinational consortiums (Fraser and Lungu 2007). Although it was planned that government ownership in the mines would be phased out completely, the government, through ZCCM Investment Holdings, continues to hold minority shares in most of the companies to this day.

In 2005, the Multilateral Debt Relief Initiative (MDRI) was launched by the G8 to accelerate progress toward the Millennium Development Goals. Under this initiative, the IMF, International Development Association of the World Bank and African Development Fund cancelled 100% of debt claims for those countries that had met the conditions set out under the enhanced HIPC Initiative, which included Zambia (IMF 2006). The HIPC Initiative and MDRI jointly reduced Zambia's debt by USD 6.25 billion, or 77% of the country's total debt stock (JCTR 2008).

In part due to the many structural reforms of the late 1990s and high copper prices, Zambia's macroeconomic performance has gradually improved. Over the 2000s, GDP growth averaged 5.6% per annum, the value of exports almost doubled and average annual FDI flows tripled (World Bank 2011). The improved macroeconomic indices, however, have not translated to significantly improved poverty indices, with almost 60% of the population continuing to live below the national poverty line, and adjusted GDP per capita over the 2000s still less than two-thirds the level of the 1970s (see Table 1 for selected indicators). One of the key barriers to equitable economic development remains Zambia's excessive reliance on the mineral economy (e.g. more than 80% of foreign exchange earnings stems from the mining sector). The direct domestic benefits of the mining sector tend to accrue in very select areas (e.g. the Copperbelt) and

the profits go mostly to foreign entities. Due to a particularly lax tax regime and numerous ad hoc incentives, mining has also failed to make substantial contributions to the government coffers — a point of particular political contention and major topic of debate during Zambia's 2011 presidential elections. With the majority of the population continuing to rely largely on low-input subsistence farming, Zambia is increasingly recognizing the importance of investing in other economic sectors, particularly within the rural economy, in order to meet poverty reduction objectives.

## 2.2 Economic development priorities

Zambia's development aspirations, goals and targets are laid out in a few key documents, which together make up 'Vision 2030'. The intermediate pathways for achieving this vision are charted in the 5-year medium-term planning instruments or 'national development plans'. Zambia's collective vision is to become a prosperous middle-income nation by 2030. The Fifth National Development Plan (FNDP) recognizes that improved performance of national economic indices has not had a significant effect on poverty reduction; this underlies a commitment to diversify the economy away from mining, wholesale and retail trade, and construction. It recognizes these activities as largely urban based and capital intensive with weak linkages with the rest of the economy, and thus not suitable for driving broad-based

**Table 1. Selected development indicators for Zambia.**

Variable	Value
Population (2009)	12,935,368
Population density (people per square km) (2009)	17.4
Urban population (% total population) (2009)	35.6
Rural population (% total population) (2009)	64.4
Agricultural employment (% total population) (2000)	71.6
GDP per capita (current USD) (2009)	989.9
Poverty headcount ratio (% of population) (2006)	59.3
Human Development Index (HDI) (2008)	0.453
External debt stock (% GDP) (2009)	26.8
Contribution of manufacturing sector (% GDP) (2009)	9.6
Contribution of industrial sector (% GDP) (2009)	34.1
Contribution of services sector (% GDP) (2009)	44.3
Contribution of agricultural sector (% GDP) (2009)	21.6
Exports of goods and services (% of GDP) (2009)	35.6

Source: UNDP (2011); World Bank (2011)

development and employment generation. Thus, while recognizing the significant role that these sectors continue to play in contributing to economic growth, the FNDP emphasizes two pillars of broad-based growth: (i) the development of pro-poor growth-oriented sectors, including agriculture, manufacturing and rural development for their ability to generate employment and income opportunities for the poor; and (ii) the creation of strong linkages between the capital-intensive sectors and the rest of the economy so as to enhance broad-based growth. The former includes the promotion of large-scale commercial farming and agro-manufacturing as well as increased smallholder participation in global value chains and productivity, both of which are seen as having a strong rural bias.

The opening of new farm blocks to stimulate investments in commercial agriculture is a key strategy for promoting large-scale farming, whereas smallholder participation is to be achieved through improved microfinance, market information and extension, irrigation and livestock development, development of cooperatives, and targeted support to outlying and underprivileged areas. While specific budget allocations are made for these strategic priorities, growth in the historically strong sectors of tourism, manufacturing and mining is to be achieved by enhancing the regulatory, business and investment climate, to increase private sector investment. This includes efforts to streamline the land delivery system, and the removal of administrative barriers to business entry and operation. Efforts to link these sectors to the rest of the economy focus on support to small- and medium-scale enterprises and citizens' business development support, as well as value addition.

The FNDP also envisions, as critical ingredients, several macroeconomic policy interventions, including transparent debt contraction and management, effective public expenditure and revenue management, and sound economic governance and transparency. It also establishes the aims of reducing public debt to below 10% of GDP; revising the extent and scope of special or ad hoc tax incentives, particularly in the mining sector; and maximizing the impact of aid by aligning grant and loan contracting with the country's development priorities. Private sector investment, by both foreign and domestic firms, is seen as key to the development of most sectors.

## 2.3 Governance of FDI and corporate practice

### 2.3.1 Mechanisms for attracting and governing domestic and foreign investment

Since its structural adjustment reforms, Zambia has developed an ambitious set of initiatives for attracting foreign investors into various sectors. The main legislation governing investment in Zambia is the Zambia Development Agency Act of 2006, which sets out the framework for government initiatives to promote economic development through trade, investment and growth in the private sector. The act establishes the Zambia Development Agency (ZDA) as a one-stop facility for a host of functions related to enhancing foreign investment. These include the formulation and implementation of investment promotion strategies,<sup>1</sup> coordination of government policies on investment,<sup>2</sup> and ensuring that the industry develops in a way that is ecologically sustainable and contributes to concrete benefits for Zambians (e.g. generates employment and protects the interests of consumers and communities) (GRZ 2006).

In addition to establishing and specifying the functions of the ZDA, the act establishes a wide range of incentives for investors, based on levels of investment (Table 2). These incentives are conditional on the investment being in priority sectors or products, which include most areas of agriculture, select mining activities and wood processing. It also provides for free repatriation of profits and dividends, and entitlement to employment permits for up to five expatriate employees for those companies investing more than USD 250,000 and employing more than 200 Zambians (GRZ 2006; ZDA 2009).

Mechanisms also exist to protect national interests and enhance benefit capture from foreign investment. The first are a set of criteria the ZDA board should consider when reviewing applications for investment

1 This includes developing measures to create a predictable and secure investment climate; undertaking studies to identify investment opportunities; promoting strategic alliances and joint ventures between foreign investors and Zambian businesses; and providing assistance to investors in securing relevant licenses, exemptions and land.

2 For example, the promotion and regulation of Multi-Facility Economic Zones, the conclusion of investment promotion and protection agreements with investors, and the provision of advice to the Minister for Industry Development.

**Table 2. Incentives established in the Zambia Development Agency Act to attract investors.**

Incentive category	Agriculture (priority sector)	Forestry (general)	Wood and wood processing (priority sector)	Mining (priority sector)
Company income tax	15% tax rate Exempt (years 0–5); 50% profits taxed (years 6–8); 75% profits taxed (years 9–10) when operating in a priority sector	35% tax rate	35% tax rate For investments > USD 500,000: Exempt (years 0–5); 50% profits taxed (years 6–8); 75% profits taxed (years 9–10) when operating in a priority sector	30% tax rate Exempt (years 0–5); 50% profits taxed (years 6–8); 75% profits taxed (years 9–10) when operating in a priority sector
Import duties	0% for all materials for first 5 years; standard rates thereafter	Standard rates apply: 0% (capital, basic raw materials); 5% (other raw materials, equipment); 15% (intermediate goods); 25% (finished goods)	0% on machinery for first 5 years; standard rates thereafter	0% for all materials for first 5 years; standard rates thereafter
Other	Dividends exempt for first 5 years VAT deferment on machinery 50% depreciation allowance on machinery (years 1–2) 20% capital expenditure allowance on farm improvements (years 1–5) 100% farm work allowance for land expenditures		Dividends tax exempt for first 5 years 100% capital expenditure allowance on infrastructure upgrading or other improvements Unrestricted repatriation of after-tax income	Preproduction expenses deducted in first year of production; other capital expenditures deducted in year incurred 10-year carry forward of losses Exemption from customs duty on machinery

Source: GRZ (2006); ZDA (2009)

licenses. These include the extent to which the investment will promote economic development and growth in Zambia; the extent to which the proposed investment will lead to employment opportunities and human resource development; the degree to which the project is export oriented; the impact the proposed investment is likely to have on the environment and measures proposed to deal with adverse environmental effects; and the possibility of technology transfer. While investment licenses are not a requirement to do business in Zambia, they are a precondition for incentives — thus encouraging investors to register with the ZDA. However, other than employment generation, there is nothing in the monitoring framework employed by the ZDA to assess the extent to which anticipated outcomes detailed in the investment license are in fact achieved.

The ZDA reserves the right to retain the land title until developments on the ground have been seen,

and to revoke an investment license if the investor fails to implement the investment described in the license (without reasonable justification) or fails to comply with any terms or conditions of the license. However, the only mechanism currently used to monitor compliance is the submission of an Enterprise Performance Form, 12 months after securing a ZDA license. While the form requires investors to report on production, sales, capital investments, employment and financial performance, there is no effort to monitor any wider set of variables to assess impacts (e.g. employment quality, economic and technological spillovers). If early performance of investors relative to this limited set of variables is any indication, investor performance relative to their pledges is generally low (Table 3).

This instrument is also limited by the lack of independent reporting, and by the limited compliance of investors with this requirement.

**Table 3. Implementation rates vis-à-vis investment pledges in sectors of interest.**

Monitoring variable and sector	Implementation rate (actual as a % of pledge)		
	2007	2008	2009
<b>Investment levels:</b>			
Agriculture	36	20	N/A
Mining	57	4 <sup>a</sup>	N/A
<b>Employment levels:</b>			
Agriculture	21	11	10
Mining	92	3	31

a According to the ZDA, this figure is artificially low due to Zhonghui Mining Group, which accounts for 90% of the total pledge.

Source: ZDA (2010a)

Most investors do not submit these forms, requiring the ZDA to conduct monitoring visits to gather information. As their capacity to monitor investments is limited, they start with the earliest investments (from 2007 onward) and those nearest Lusaka (interview 1).

Finally, even the monitoring of performance according to this limited scope of indicators has no real teeth as the actions of the ZDA lack any legal instrument to support license revocation, and the government makes every effort to provide a supportive regulatory environment (interview 1). Yet despite these limitations, three investments have been recommended for revocation and are expected to be acted upon. Justifications vary, and include the implementation of activities contrary to plan, complaints raised by local communities (against a tourism investment targeting an animal sanctuary) and the absence of finance to actualize investment plans.

### 2.3.2 Mechanisms for social and environmental protection

The Environment Management Act (No. 12 of 2011) established the legal basis for environmental controls on various economic sectors. Central to the act is the establishment of the Zambia Environment Management Agency (ZEMA), formerly known as the Environmental Council of Zambia (ECZ), which is responsible for environmental protection in the country.

Environmental impact assessments (EIAs) are one of the principal mechanisms through which ZEMA regulates the environmental and socioeconomic

impacts of large-scale investments, established through the Environmental Protection and Pollution Control Regulations of 1997. These regulations require certain types of project to be subjected to an impact assessment to aid ZEMA in deciding whether to grant an environmental permit to an investment. Depending on the nature of the project and the scale of the anticipated impacts, either a project brief or fully fledged EIA may be required (Table 4).

While the topical focus of these two instruments is similar, the EIA provides a more comprehensive analysis in several crucial respects (see German and Schoneveld 2012). The data required to substantiate anticipated impacts in the project brief are less comprehensive, often based exclusively on the analysis of secondary data. In addition to requiring the collection of primary data, several provisions within the EIA ensure greater independence. For example, prior to initiating the EIA process, the investor must prepare terms of reference (TOR) in consultation with ZEMA. In determining the scope of the TOR a public consultation is required involving different government agencies, civil society organizations, and interested and affected parties. ZEMA must also authorize individuals to carry out the EIA so as to ensure quality and independence, which is not required for a project brief. The EIA also goes further in ensuring that potentially affected parties are duly notified. For example, the regulations require the investor to publicize in the mass media, in a language understandable by affected parties, the purpose of the intended project and the potential effects and benefits, as well as to hold meetings with affected communities in order to present information on the project and obtain their views.

Following approval, an environmental audit must also be carried out by those who conducted the EIA within 12–36 months of the completion of the project or the commencement of its operations, whichever is the earlier. The audit evaluates implementation relative to conditions specified in a ‘decision letter’ from ZEMA when issuing an environmental permit, and on the effectiveness of measures taken in achieving the expected results. Inspectors may also enter the premises to undertake their own investigations. The fundamental differences between these two instruments, and the wide scope and scale of projects that require the less stringent project brief, suggest the presence of significant loopholes in the legislation governing environmental impacts of large-scale commercial operations in Zambia.

**Table 4. Activities requiring EIAs and project briefs in Zambia.**

Sector	Activities requiring EIA	Activities requiring project brief
<b>Agriculture</b>	Land consolidation schemes Bulk grain processing plants	Land clearance for large-scale agriculture Introduction/use of agrochemicals new to Zambia, new crops and animals Irrigation schemes > 50 ha Industrial-scale spraying
<b>Forestry</b>	Timber harvesting and processing	Clearance of forestry in sensitive areas (watershed areas) for industrial uses > 50 ha Reforestation and afforestation Wood processing plants > 1000 tons
<b>Mining</b>	Mining and mineral processing Smelting and refining Manufacture of coal briquettes	Copper mining, coal site Limestone, sand, dolomite, phosphate and clay extraction > 2 ha Precious metals (silver, zinc, cobalt, nickel) Industrial metals Gemstones Radioactive metals
<b>General</b>	Resettlement schemes Projects located in or near environmentally sensitive areas <sup>a</sup>	Processing/manufacturing: cement, lime, fertilizer, > 1000 tons/year; meat processing plants > 20,000 carcasses/month; pulp and paper mills > 50 air-dried tons/day; food processing > 400 tons/year Commercial exploitation of natural fauna and flora

a Including indigenous forests; areas of high biodiversity; water catchments containing major sources for public, industrial or agricultural uses; areas of cultural or religious significance; human settlements ("particularly those with schools and hospitals").  
Source: ECZ (1997)

**Table 5. Key environmental challenges for sectors of interest.**

Sector	Key environmental challenges
<b>Agriculture</b>	Soil erosion and siltation, pesticide use, fertilizer use, disturbance of intact forest, encroachment, outreach to small-scale farmers
<b>Forestry</b>	Charcoal burning, illegal logging (much of this by concessionaires who fail to abide by established conditions)
<b>Mining</b>	Air pollution (lead contamination and intoxication of children through food and inhalation); water pollution (die-offs of fish and aquatic plants)

Source: ECZ (interview 2)

According to ZEMA officials, deficiencies in environmental controls relate to both gaps in the law and, importantly, capacity to implement (interview 2). In addition to the gaps identified above, some environmental obligations remain conditions of environmental licensing rather than legislated requirements, giving them fewer teeth.

The capacity constraint is largely due to insufficient numbers of regulators. With only about 40 ZEMA inspectors across the country, any given issue may only be covered by 1–3 inspectors — including EIA review and monitoring. Key challenges for the sectors of interest are summarized in Table 5.

## 3 Sino-Zambian relations

### 3.1 Official development assistance

Diplomatic relations between China and Zambia have evolved alongside wider Sino-African cooperation, from China's ideologically driven support for liberation struggles across the continent to its 'Going Out' policy, which placed economic development at the center of cooperation. China's presence in Zambia goes back to the pre-independence period, when China provided economic and material assistance to one of the opposition parties in Zambia's struggle for independence (AFRODAD 2008). Close diplomatic relations were forged soon after independence, monumentalized by China's support for the construction of the 1860 km Tanzania–Zambia Railway (TAZARA), stretching from Dar-es-Salaam to Kapiri Mposhi. The railway, largely aimed at facilitating copper exports from land-locked Zambia, was completed in 1975. At the time, the project was the largest ever Chinese construction project in Africa, funded by a USD 500 million interest-free loan from the Chinese government.<sup>3</sup> With both Zambia and Tanzania in arrears on that loan, China cancelled 50% of the remaining USD 150 million debt in early 2011 (MOFCOM 2011).

While China's participation in Zambia's economy was negligible during the early independence era, over the 2000s China and Zambia developed what has been called a 'win–win' relationship, typically consisting of preferential loans and grants often linked to Chinese commercial interests. The main focus of Chinese official development assistance (ODA) to Zambia has been in the areas of agriculture, mining, manufacturing, construction, communications, transport and health (AFRODAD 2008). The list in Table 6 of large projects financed over the 2000s by Chinese ODA to Zambia suggests that loans, both interest free and concessional, are the preferred form of cooperation.<sup>4</sup>

<sup>3</sup> The loan was to be repaid over a period of 30 years. It was a 'tied' loan, with Chinese firms responsible for most construction work.

<sup>4</sup> In addition to these projects, Chinese firms have won tenders for the Football House, the Lumwana Power Project (power supply to the Lumwana mine), the Lafarge Cement Plant, construction of the Lundazi–Chama road and construction of the Kariba North Bank extension and the hydroelectric plant at Kafue Gorge (Muneku and Koyi 2007; Bloomberg 2011).

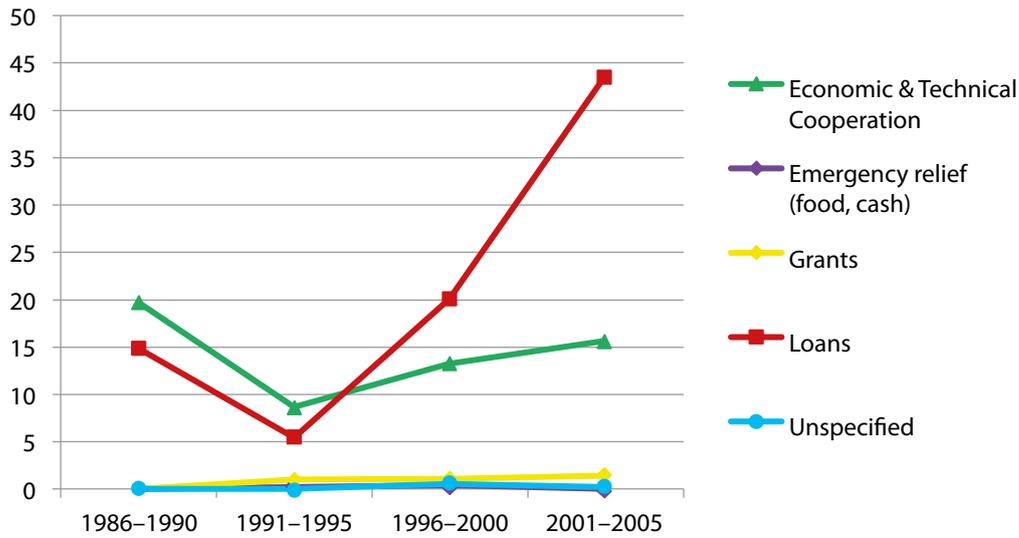
Table 6. Large projects financed by Chinese ODA in Zambia over the 2000s.

Project description	Type of assistance	Value
New locomotives and copper wagons for TAZARA	Interest-free loan	USD 39 million
Construction of the Ndola stadium	Interest-free loan	USD 25 million
Construction of a new Lusaka stadium, and repairs to the old stadium	Concessional loan	USD 94 million
Construction of conference facilities in the Government Complex	Concessional loan	USD 29 million
Construction of grain storage system for maize	Concessional loan	USD 13 million
China–Zambia Friendship Farm	Unclear	Unclear

Source: Chinese Embassy in Lusaka (interview 3); Lusaka Times (2009); Lusaka Times (2010a)

When considering how these patterns have evolved over time, it is clear that loans have grown much more rapidly than other forms of development cooperation (Figure 2). According to one source, the growing operations of Chinese official banks present a challenge to Zambia in ensuring that borrowing policies do not undermine efforts to promote better governance and debt sustainability (AFRODAD 2008).

These patterns support the observation that Chinese development policies are moving away from aid and toward 'win–win' economic cooperation of a largely commercial character (AFRODAD 2008). In addition to the preference for loans, several sources suggest that project-based financing is the preferred mode of Chinese support (interviews 3, 4). This runs counter to international norms for aid delivery, which emphasize general budget support, as well as to China's official commitment to better integrate aid in the national budgeting process. According to one authority at the Ministry of Finance and National Planning, "project loans are where conditions kick in"



**Figure 2. Evolution of Chinese ODA to Zambia, 1986–2006 (USD millions).**  
 Source: AFRODAD (2008); Muneku and Koyi (2007)

(interview 4). One of the key conditions of this tied aid seems to be the need to contract Chinese firms, as the work on Chinese-financed projects is largely carried out by Chinese companies (interview 3). This provides further benefits to Chinese firms. According to the Chinese Embassy in Lusaka, “through aid, Chinese companies get to know better the business environment of Zambia. Some people seize opportunity and come back to Zambia as investors” (interview 3).

At times it is not clear to what extent project financing by the Chinese government technically constitutes aid, especially when loan repayments are on commercial terms. For example, one of the largest loans made for a development project in Zambia is the USD 315 million financing facility provided by the Chinese EXIM Bank for the extension of the Kariba hydroelectric dam in 2008 (Bloomberg 2011). Despite being a government-to-government agreement, it is unclear whether the loan can be classified as commercial or as ODA, with the terms of agreement remaining undisclosed. The Chinese firm Sinohydro is responsible for the engineering and construction of the project, and presumably their involvement was ‘tied’ to the loan (Bloomberg 2011). In another hydropower project, the government was approached by the China–Africa Development Fund and Sinohydro with an offer to ‘fast-track’ the development of the long-awaited Kafue Gorge Lower Hydro Power project. As a condition, the Chinese stakeholders would hold a 65% equity share in the project, with the remaining shares allocated

to the Zambian Electricity Supply Company. With an expected total investment of USD 1.5 billion, the China Development Bank would provide USD 1 billion in financing and the equity partners the remaining USD 500 million (FOCAC 2010). An agreement was eventually signed in August 2010, with Sinohydro becoming the sole contractor for the project’s construction (FOCAC 2010). Since the terms of agreement remain undisclosed, it is again unclear whether the project financing constitutes ODA.

The tendency of the Chinese government to prefer project-based support undermines the



**Billboard at the Sinohydro construction area, Kariba, Zambia**

Source: George Schoneveld

government's efforts to align aid with Zambia's national development priorities and to better track donor investments. Chinese ODA to Zambia does not fully conform to the Paris Declaration on Aid Effectiveness, to which China is a signatory (AFRODAD 2008), and the Chinese embassy is not active in the donor coordination mechanism, which they view as an OECD Development Assistance Committee initiative (interview 3; AFRODAD 2008). Chinese companies, for example, often out-compete Zambian companies in the case of competitive public tenders due to support in the form of export credits from China — particularly in the road sector. With both grants and loans tending to be conditional and limited public disclosure of the terms of agreement, the ability to ensure alignment of Chinese aid with official policies and development priorities is compromised (AFRODAD 2008). Yet, for government agencies, working with the Chinese government is more attractive than working with Western donors simply for the ease of getting things done. According to a key actor in the Ministry of Finance and National Planning (4):

“The question for government is, ‘here is what we want to help empower our people.’ Western governments want a 4-year feasibility study ... and China says, ‘this can be done next year.’ ...

The government perspective is, ‘things that take too long cannot work.’ It might be more costly, but it is faster... [In the case of China, questions about] freedom of press will not delay power projects.”

### 3.2 Investment overview

Over the 2000s, Zambia became China's third largest FDI destination in Africa and its largest non-oil FDI destination (Bastholm and Kragelund 2009). China's direct economic participation, as demonstrated by FDI pledged, has varied from USD 8.8 million in 2001 to USD 5.47 billion in 2008 (ZDA 2010a). However, the 2008 data provide a slightly skewed picture, as they are strongly influenced by a single Chinese mining company (Zhonghui Mining Group) that committed to investing USD 5.3 billion in Zambia (which will be discussed in more detail in Section 3.3). Nevertheless, an upward trend is clearly discernable, with annual Chinese FDI pledges of about USD 10–20 million in the first half of the decade, and USD 100–250 million during the second half. Of the USD 13.99 billion pledged over the 2000s, USD 6.19 billion (44%) was committed by China (Figure 3). Total realized Chinese FDI stock in Zambia amounted to USD 844 million

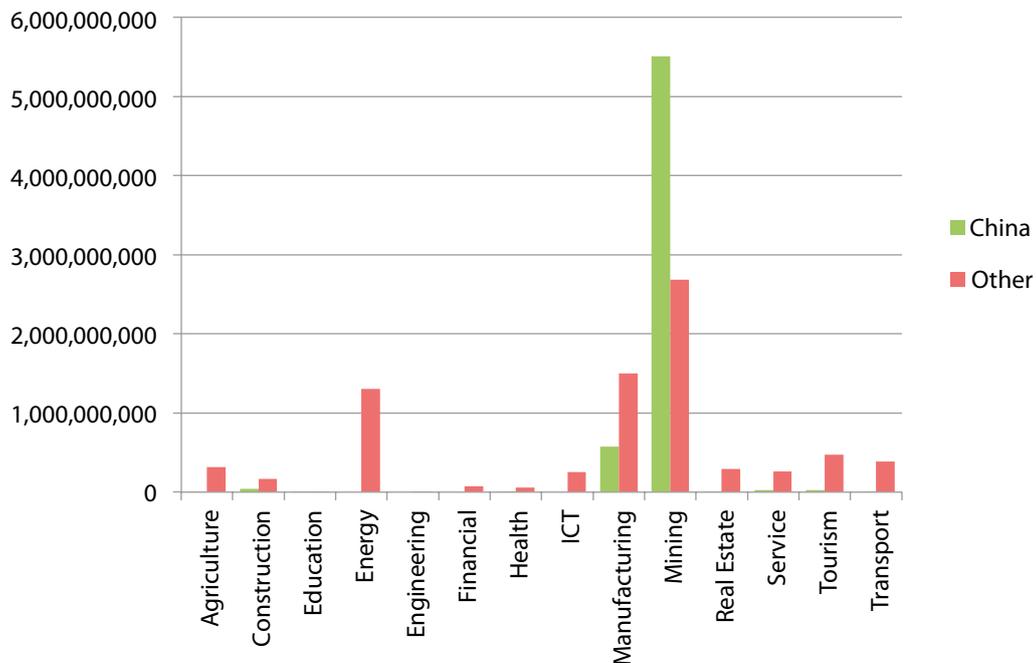


Figure 3. Aggregated FDI (in USD) pledged in 2000–2009.

Source: ZDA (2010b), unpublished

**Table 7. Chinese investment > USD 1 million in 2005–2009.**

Company	Year	Sector	Investment pledge (in USD)
Central African Mining	2008	Mining	16,000,000
Chambishi Copper Smelter	2006	Manufacturing	198,776,800
Chiman Manufacturing	2005	Manufacturing	8,368,690
Chipata Cotton	2005	Manufacturing	1,776,880
Chisteel (Z)	2005	Manufacturing	3,000,000
Dahua Enterprises	2009	Manufacturing	5,000,000
Golden Bridge Hotel	2007	Tourism	16,936,300
Golden Honesty Africa Development	2007	Service	10,000,000
Jinchuan Group Mining Corporation Zambia	2007	Manufacturing	220,000,000
Maosheng Mineral Resources Zambia	2009	Manufacturing	23,300,000
Multi-Industry	2008	Manufacturing	4,000,000
NFC Africa Mining	2007	Mining	400,000,000
San He Mining (Z)	2007	Manufacturing	3,000,000
Sichuan Huasuo Zambia Mining	2008	Mining	5,000,000
Sikale Wood Manufacturers	2007	Manufacturing	1,250,000
Sincere Zambia	2008	Manufacturing	2,000,000
Sino-Kasempa Minerals	2009	Mining	16,500,000
Sino-Metals Leach (Z)	2005	Manufacturing	20,000,000
Tianjian Zambia	2008	Manufacturing	2,000,000
Tycoon Mining Industry	2008	Mining	75,144,000
Wu Company	2008	Agriculture	1,100,000
Xing Xing Mineral Resources (Z)	2009	Mining	16,000,000
Zambian Non-Ferrous Metals Exploration & Construction	2008	Agriculture	1,000,000
Zambia Zhenguan Mining	2009	Mining	16,000,000
Zanmeng Investments	2008	Mining	25,000,000
Zhonghui Mining Industry Zambia	2008	Mining	2,000,000,000
Zhonghui Mining Group	2008	Mining	3,300,000,000

Source: ZDA Investment Database (2010b), unpublished

by 2009 (MOFCOM 2010), slightly more than 9% of the USD 9.50 billion total FDI stock in Zambia (UNCTAD n.d.). As illustrated in Figure 3, Chinese investments are highly concentrated, with 98% of Chinese investments in 2000–2009 targeting the mining and manufacturing sectors. However, when discounting the USD 5.3 billion Zhonghui mining investment, the proportion of total Chinese FDI targeting these sectors drops to 87%, comprising 63% in manufacturing and 24% in mining. However, as can be observed in Table 7, all of the major investments classified by the ZDA as being in manufacturing pertain more to mining (e.g. the processing of minerals); thus, the vast majority of Chinese investments ultimately serve the mining industry.

### 3.3 Trade overview

As with Chinese investments, Zambian exports to China increased sharply during the 2000s, from just USD 47.8 million in 2003 to USD 1.27 billion in 2009.<sup>5</sup> In 2009, China overtook South Africa as Zambia's second largest export partner (Figure 4).

<sup>5</sup> This is based on Chinese trade statistics. Zambia, however, reports only USD 482.6 million of exports to China, as can be seen in Figure 4. The major discrepancy between the two figures lies in the total reported value of copper product exports. In terms of weight (particularly unrefined copper), the relative discrepancy between the two sources remains the same; thus it appears not to be an issue of misreporting the copper export/import unit values, but rather its aggregate quantity. This could be due to illegal exportation or administrative (capacity) issues in Zambia.

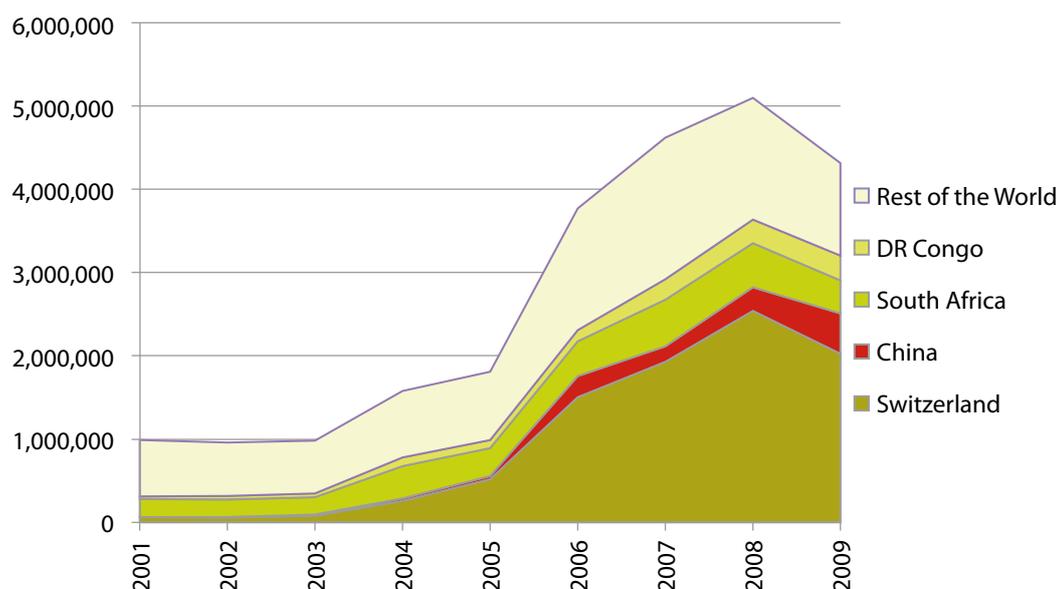


Figure 4. Zambian export earnings (in USD) by major export partners.

Source: Derived from COMTRADE, with Zambia reporting

Table 8. Zambian exports to China.

Rank	Product (by 6-digit harmonized system category)	2009 (in USD'000)	% of total exports to China	Average (2001–2009) (in USD'000)	% of total exports to China
1	Copper cathodes and sections of cathodes unwrought	590,953	46.4%	114,811	48.7%
2	Copper unrefined, copper anodes for electrolytic refining	446,520	35.1%	60,451	25.6%
3	Copper ores and concentrates	99,823	7.8%	21,414	9.1%
4	Tobacco, unmanufactured, partly or wholly stemmed	34,153	2.7%	16,148	6.8%
5	Cobalt mattes and other intermediate products of cobalt	32,951	2.6%	16,725	7.1%
6	Copper mattes; cement copper (precipitated copper)	7,400	0.6%	7,622	3.2%
7	Manganese ores and concentrates, etc.	7,343	0.6%	2,005	0.8%
8	Nickel ores and concentrates	7,133	0.6%	7,044	3.0%
9	Cotton, not carded or combed	6,917	0.5%	6,801	2.9%
10	Tobacco, unmanufactured, not stemmed or stripped	1,518	0.1%	237	0.1%
11	Lead plates, sheet, strip and foil not elsewhere specified	1,500	0.1%	627	0.3%
12	Cobalt ores and concentrates	1,143	0.1%	683	0.3%
13	Full grains, unsplit and grain splits, in the wet state	893	0.1%	226	0.1%
14	Lumber, non-coniferous not elsewhere specified	478	0.0%	103	0.0%
15	Silver ores and concentrates	309	0.0%	30	0.0%
<b>All products</b>		<b>1,272,464</b>		<b>235,938</b>	

Source: Derived from COMTRADE, with China reporting

Switzerland consistently remains Zambia's most important export partner, accounting for almost half of Zambia's total export earnings. This can be attributed mostly to the activities of the world's largest, Switzerland-based, commodity trader Glencore, which also operates Mopani Copper Mines. For decades, Zambia has depended mostly on a single commodity, copper, for its foreign exchange earnings. Between 2006 and 2011, copper constituted about 75%–80% of total merchandise export earnings, followed by the associated mineral, cobalt, which typically accounts for 4%–6% of merchandise export earnings (derived from COMTRADE) — collectively considered Zambia's 'traditional export products'. The remaining balance is comprised of copper wire, cane sugar, tobacco and cotton lint (in order of value contribution).

China's trade relations with Zambia are defined by mineral exports. About 90% of Zambia's export

earnings from China are derived from copper products, particularly copper cathodes and anodes, and to a lesser extent copper of lower purity in the form of ores and concentrates (Table 8). Although of lesser significance in terms of export value, other major products exported to China are tobacco (2.7%) and cobalt (2.6%).

In sum, trade and investment data show that China's economic participation in Zambia is centered largely on the mining sector. The following sections will explore in more depth the nature and impact of this relationship. While the emphasis will be placed on mining, China's participation in the agriculture and forestry sectors will also be explored in more depth due to the potential of comparatively small investments in these sectors to nevertheless have far-reaching local impacts.

## 4 Chinese involvement in priority sectors

### 4.1 Chinese involvement in the mining sector

#### 4.1.1 Sectoral overview

Since privatization of ZCCM, the copper sector has been dominated by seven foreign copper mining operations (Table 9). The bulk of copper produced in recent years has been attributable to three mining operations in particular, the Konkola Copper Mines, Kansanshi Copper Mining and Mopani Copper Mines.

With new capital injections, the commissioning of new mines and recovering copper prices from 2004 onwards (bar a slump in 2008–2009), copper production slowly returned to the levels of the early 1970s, which averaged about 750,000 tons of contained copper per annum (Figure 5). In 2010, Zambia recorded its highest ever annual copper production of 819,159 tons (Mukwita 2011). According to the International Labour Organization (ILO) (2010), more than 63,000 people were employed at the major mines in Zambia in mid-2008, up from a low of 20,000 during the 1990s (Dymond et al. 2007). However, within the span of a year more than 19,000 mine employees lost their jobs as a result of the financial crisis and low commodity prices, which saw some major mines (e.g. Albidon and Luanshya) put their operations under ‘care and maintenance’ (ILO 2010). Despite the retrenchment, Zambia’s copper production output increased over that period.

The most significant Chinese investment in the Zambian mining sector is by the state-owned company CNMC through one of its subsidiaries Non-Ferrous Company Africa (NFCA). In 1998, through a competitive bidding process, NFCA acquired an 85% share in the Chambishi Copper Mine, which had been inactive for 13 years at that time. After an initial financial investment of USD 132 million in refurbishing the mine and the concentrator, mining operations began in 2003 (Fraser and Lungu 2007; Hairong and Sautman 2009). Considered a comparatively depleted mine, the mine produced only 23,500 tons of contained copper in 2009 (equivalent to 3.3% of Zambia’s total mined copper output) (Table 8). In 2010,

NFCA opened a new mine and is currently working on a third, with an intention to invest at least USD 500 million in its development (Dow Jones 2010). In May 2009, NFCA acquired an 85% interest in the Luanshya Copper Mines, after being chosen over two other bidders (Reuters 2009). The mines, previously owned by Switzerland’s Enya Holdings, was put under ‘care and maintenance’ in late 2008, as a result of low copper prices and the global economic malaise. As part of the agreement, NFCA committed to investing USD 400 million in, among others, developing a greenfield mine, constructing a leaching plant, and upgrading existing mining facilities (Thole 2009). The mine eventually reopened in late 2009, hence, output for that year was negligible.

Since acquisition, NFCA had rapidly expanded its investments into the copper sector, beyond mining. For example, in 2006, NFCA began construction of the Chambishi Copper Smelter (CCS), which (with an investment of USD 310 million) became operational in late 2008. It currently has an annual production capacity of 150,000 tons of blister copper (near pure copper that has not yet been electrowon), which NFCA plans to expand to 300,000 tons (CNMC 2009). CCS is the second largest smelting operation in Zambia — Mopani Copper Mines has an annual capacity to produce in excess of 500,000 tons of copper cathodes (Mobbs 2010). It is unclear how much copper CCS is currently processing. NFCA also constructed a smaller USD 15 million copper smelter, under the name Sino-Metals Leach, which has a capacity to produce 8,000 tons of copper cathodes per year. Sino-Metals Leach mostly processes tailing wastes from the Chambishi Copper Mine (Mobbs 2009). Although only one other, much smaller, Chinese copper smelter is officially operating in the Copperbelt,<sup>6</sup> various government stakeholders asserted that much larger numbers of Chinese-owned copper smelters were operating informally in the area (interviews 5,6,7).

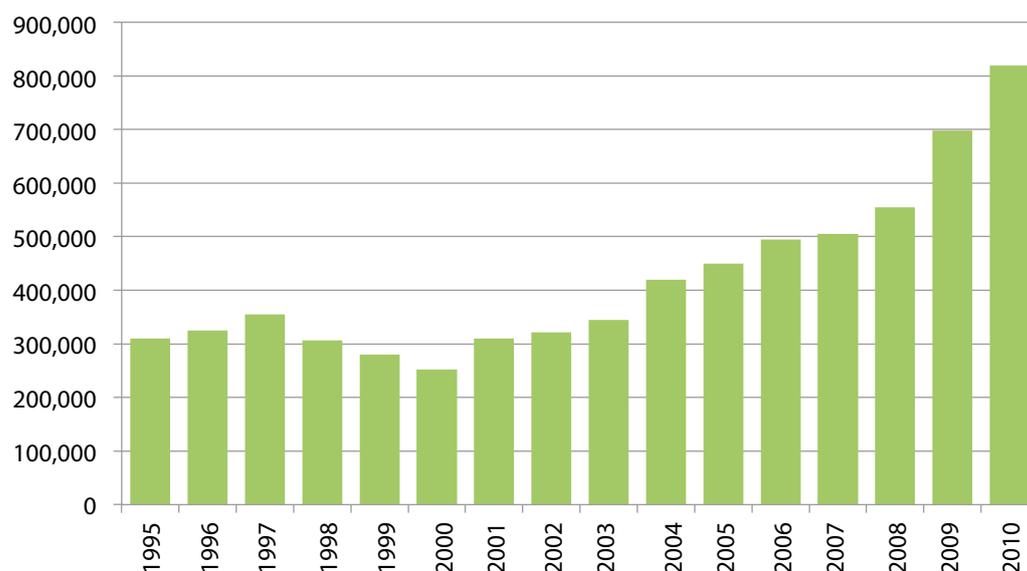
<sup>6</sup> The smelter is a small-scale private Chinese investment, Liang Yun, with an annual production capacity of 200 tons of blister copper according to its 2009 EIA.

**Table 9. Major copper mining operations in Zambia.**

Company	Major shareholders	Copper production in 2009 (in MT)	Aggregate copper output 2004–2009 (in MT)
Kansanshi Copper Mining	First Quantum (Canada), ZCCM	250,439	839,364
Konkola Copper Mines	Vedanta Resources (India/UK), ZCCM	135,027	914,412
Lumwana Mining	Equinox Minerals (Australia/Canada)	108,985	108,985
Mopani Copper Mines	Glencore (Switzerland), First Quantum (Canada), ZCCM	98,218	829,519
Non-Ferrous Company Africa (NFCA)	China Nonferrous Metals, ZCCM	23,489	135,499
Chibuluma Mines	Metorex (South Africa), ZCCM	16,460	172,229
Luanshya Copper Mines	China Nonferrous Metals, ZCCM	508	89,035
Bwana Mkubwa Mining	First Quantum (Canada)	0	65,264
<b>Total</b>		<b>633,126</b>	<b>3,154,307</b>

ZCCM = Zambia Consolidated Copper Mines

Source: Ministry of Mines and Minerals (2010a)

**Figure 5. Total copper production (in MT) 1995–2010.**

Source: Mobbs (1999, 2009, 2010; Mukwita (2011)

In nickel mining, the Chinese state-owned Jinchuan Group (Asia's largest nickel mining company), increased its shareholdings in Albidon's Munali Nickel Mine (the sole nickel mine in the country) from 18.0% to 50.4% in August 2009, which included a 'life-of-mine' off-take agreement. Albidon had suspended its mining operations in early 2009 as a result of low nickel prices and issues with creditors (Mobbs 2011). The other notable Chinese-owned mining operation in Zambia is the Collum Coal Mine, which, with the closing of the country's largest coal mine, Maamba Collieries, is now Zambia's only major coal producer. While a number of other

mining licenses have been allocated to Chinese companies (Table 10), few of these are currently operational.

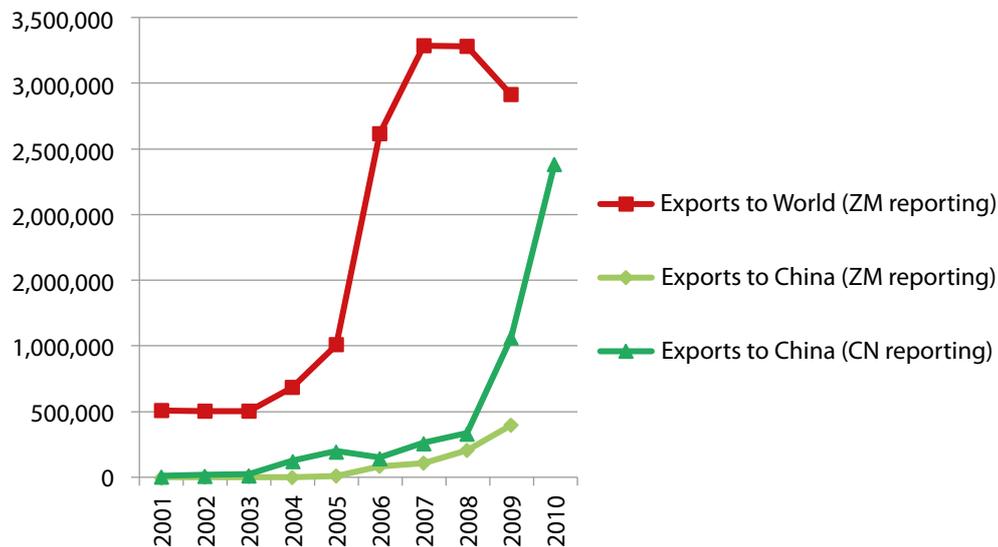
It is only since 2003 that China has been importing copper (products) from Zambia (Figures 6 and 7). After Switzerland, China is the largest importer of Zambian copper. Based on Chinese customs data, it accounted for approximately 35% of the total value of Zambian copper product exports in 2009. While Zambian export data for 2010 were not available at the time of writing, China has reported that it imported USD 2.38 billion of copper products from

**Table 10. Active large-scale mining licenses allocated to Chinese companies.**

Company	Location(s)	Mineral	Area (in ha)
Albidon Zambia	Copperbelt, Luanshya	Cu, Co	24,806.3
Albidon Zambia	Copperbelt, Kalulushi, Kitwe	Not specified	24,056.6
Chambishi Copper Smelter	Copperbelt, Luanshya	Cu, Co	6.7
Jin Ding Mining	Copperbelt, Kitwe	Cu, Co	2,870.4
Luanshya Copper Mines	Copperbelt, Kitwe	Cu, Co, U, Au	6,020.7
Luanshya Copper Mines	Copperbelt, Kalulushi, Kitwe	Cu, Co	4,294.6
Luanshya Copper Mines	Copperbelt, Chingola, Kalulushi, Kitwe, Mufulira	Sb, Mo	163.3
Luanshya Copper Mines	Southern, Sinazongwe	Co	116.6
Luanshya Copper Mines	Southern, Siavonga	U	86.6
Luanshya Copper Mines	Copperbelt, Chingola	Not specified	60.0
Luanshya Copper Mines	Copperbelt, Luanshya	Cu, Co	53.3
NFC Africa Mining	Not specified	Mn, Cu, Fe, Co, Ni	10,703.4
NFC Africa Mining	Central, Mumbwa	Not specified	5,193.8
NFC Africa Mining		Mn, Cu, Fe, Co, Ni	96.8
Sino-Metals Leach Zambia	North-Western, Solwezi	Te, Se, Cu, Co, S, Ag, Au	23.4
Zhonghui Mining Industry Zambia	Central, Mumbwa, Matala	Au	53.4

Note: Collum Coal Mine (with 2248 ha) is classified as a small-scale mining operation by the Ministry of Mines and Minerals and is, therefore, omitted from the table. Ag = silver, Au = gold, Co = cobalt, Cu = copper, Fe = iron, Mn = manganese, Mo = molybdenum, Ni = nickel, S = sulfur, Sb = antimony, Se = selenium, Te = tellurium, U = uranium.

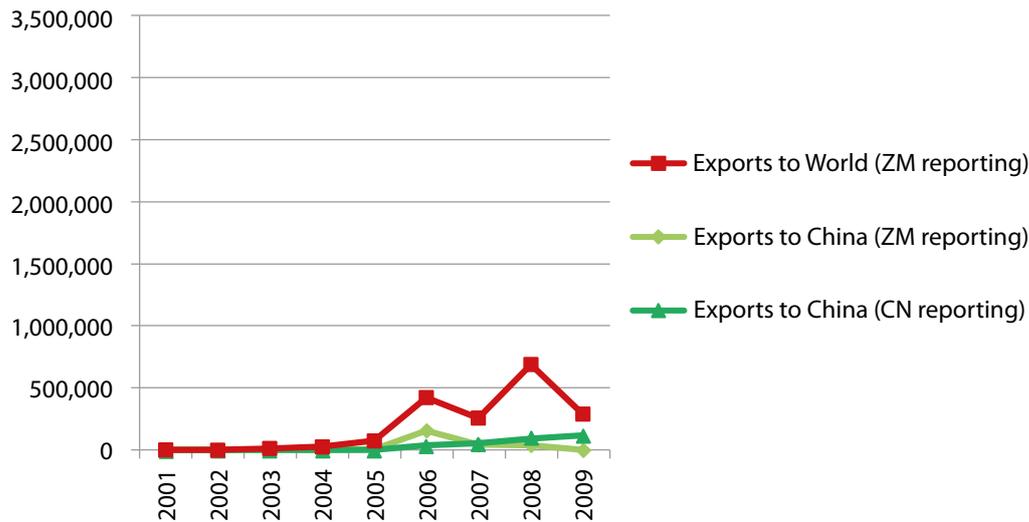
Source: Ministry of Mines and Minerals (2010b)

**Figure 6. Copper product exports to China (in USD'000).**

Source: Derived from COMTRADE

Zambia for the year (Interfax 2011). China imported 322,000 tons of copper cathodes and anodes from Zambia in 2010, equivalent to 39% of copper production for the year (Interfax 2011). Considering

increasing Chinese investments in the sector and ongoing capacity expansions in both mining and smelting, the significance of this trade relationship is bound to expand rapidly over the coming years.



**Figure 7. Copper ore exports to China (in USD'000).**

Source: Derived from COMTRADE

#### 4.1.2 Employment

One of the key areas of critique surrounding Chinese mining investments in Zambia relates to their purportedly poor labor relations. A number of high-profile incidents have helped shape the negative perceptions many Zambians hold of China. In 2005, for example, the Beijing General Research Institute of Mining and Metallurgy (BGRIMM) Explosives factory, part owned by NFCA, exploded in Chambishi, killing more than 50 of its employees (all of whom were Zambian) (BBC 2005). In the following year, the Chambishi Mine was party to another incident, where five employees were shot by the police following a worker protest over NFCA's failure to increase salaries (AFP 2006). In 2008, the CCS dismissed more than 500 unionized employees following a strike over labor conditions (ZNBC 2008). More recently, in October 2010, Chinese managers at the Collum Coal Mine shot and injured 11 employees during a protest over poor pay and safety conditions (Bower 2010). The Zambian government has been strongly criticized, particularly by civil society and opposition parties, over its failure to condemn and act against indiscretions by Chinese companies. It is argued that government inaction is born out of fear of damaging diplomatic relations (Mundy 2010). While these could be construed as isolated incidents, they do illustrate the comparatively strained working relations between Chinese management and local employees.

Moreover, Muneku (2009) argues that due to Zambia's strict labor laws and strong mine workers' unions, Chinese companies have been increasingly

casualizing their workforce. For example, in 2007, only 52 Zambians out of 2100 employees were on permanent contracts at the Chambishi Mine (in contrast to 180 Chinese employees) and another 687 employees were on fixed-term contracts, varying in duration from 1 to 5 years. However, 1093 'casual' workers were employed through two Chinese subcontracting companies, Golden Honest Africa Development and Beijing China Mine Group, and 100 directly by the mine (Fraser and Lungu 2007; Li 2010). Despite the large number of casual laborers, the proportion of workers employed on a casual basis at Chambishi Mine does not differ from the two other major mines, Konkola Copper Mines and Mopani Copper Mines. In 2008, for example, 51% of Chambishi employees were classified as casual, compared to 51% at Konkola and 52% at Mopani (derived from MSD data cited in ILO 2010).

Casual employees are not covered by the collective agreement that is negotiated annually between NFCA and the two trade unions (the Mineworkers' Union of Zambia and the National Union of Miners and Allied Workers), and are therefore generally paid lower wages, receive fewer benefits, and enjoy less job security than unionized employees (as is also the case in other mines).

Where NFCA differs from its counterparts is that its unionized employees are said to be the lowest paid in the industry. For example, in 2007–2008, at Konkola Copper Mines the wages for nonmanagerial employees ranged from USD 539 per month to

USD 932 per month, while at NFCA they ranged from USD 348 to USD 666 (Muneku 2009). The minimum wage offered to casual workers at NFCA is about USD 150 per month (Li 2010). However, this is almost 50% higher than the statutory minimum wage. While NFCA is accused of not consistently adhering to Zambia's occupational health and safety regulations, standards at NFCA have reportedly come on par with the industry in recent years (Li 2010; interview 8). During personal communications, the Mines Safety Department (MSD) also indicated that the company is increasingly offering wages commensurate with the industry average, in order to minimize the number of employees that shift to other companies in search of better wages and working conditions. This was also confirmed to researchers by NFCA employees.

With regard to accident rates, in 2008, Chambishi Mine did not vary much from the industry average, having the same accident rate (e.g. accidents per number of employees) as, for instance, the Swiss–Canadian Mopani Copper Mines (derived from MSD data cited in ILO 2010).

While a number of reports argue that NFCA violates basic international labor rights (see Lungu and Mulenga 2005; Fraser and Lungu 2007; Muneku 2009), little empirical evidence is presented of profound differences in employment conditions between Chinese and non-Chinese firms (excluding wages); although that does not necessarily prove the contrary, considering especially the comparative frequency of clashes with employees in the form of strikes and protests. Numerous NFCA employees cited communication barriers with Chinese management as an underlying cause of conflict escalation (interview 20).

While the hypothesis that Chinese firms are inclined to be less attuned to employment conditions does not hold up to scrutiny, investments from NFCA and Jinchuan in Zambia do appear to have contributed positively to employment generation and employment stability. For example, when most mines laid off employees due to low copper prices in 2008–2009, Chinese companies were actually generating employment. Konkola Copper Mines dismissed almost 6300 workers (26% of its total workforce) and Mopani Copper Mines almost 7400 workers (36% of its total workforce), while Chambishi Mines increased its workforce by 80 employees (3% of its total workforce) (derived from MSD data cited in ILO 2010). Furthermore, when NFCA

acquired Luanshya Mines in 2009 (in the midst of the financial crisis), it hired almost 2500 employees, whereas almost all of Luanshya's employees had been dismissed when Enya Holdings put the company into care and maintenance the previous year (Thole 2010). Jinchuan's investment in the Munali Nickel Mine allowed 345 employees that had been made redundant when Albidon closed the mine in 2009 to return to their jobs (Lusaka Times 2010b).

The fact that the Chinese investors upheld their commitments during the financial crisis while most other mines downscaled has given these firms considerable political mileage, as is clearly evident from the proceedings of the Parliamentary debates. It could thus be argued that Chinese firms have a greater capacity to sustain their commitments and operations when faced with more unfavorable economic conditions than most other companies. As Haglund (2009) comments, Chinese firms can provide better long-term stability due to their greater security of access to comparatively cheap financial capital. Chinese banks are, for instance, typically less exposed to the performance of high-risk derivative products and have greater access to the Chinese government's capital reserves (Kaplinsky et al. 2006; Haglund 2009).

#### 4.1.3 Government revenue generation

When the ZCCM mines were privatized, the Government of Zambia signed 'development agreements' with investors. These agreements covered the conditions of sale and the obligations of the investor and the government, and are valid for 15–20 years. The development agreements negotiated contained more favorable terms than those specified by the Mines and Minerals Act of 1995. For example, the development agreements required companies to pay 0.6% of mining revenue to the government as royalties (as opposed to 3% required by the Mines and Minerals Act). The agreements also stipulated 25% corporate income tax, various deductibles on capital expenditure and exemptions from import duties and levies (Lungu 2009). It is widely argued that, at the time of negotiations, the government did not have a favorable negotiating position, considering its high fiscal deficits, political backlash from high unemployment in the Copperbelt, the burden of sustaining ZCCM (which at the time was making a loss of approximately USD 1 million a day), and pressure from donors to reform (Dymond et al. 2007; interview 9). However, soon after privatization, global economic conditions improved and copper prices reached heights not experienced in decades.

Opposition parties and civil society increasingly started protesting that the government was not capturing sufficient revenues from Zambia's most value resources, while investors were making record profits. The issue became increasingly politicized and the ruling party lost all the urban seats in the Copperbelt in 2006. Against this backdrop, the government entered into fresh negotiations to alter the prevailing development agreements (Lungu 2009). Faced with considerable resistance from the mining companies, the government unilaterally rescinded the agreements in 2008 and imposed a more stringent mining tax regime with the passing of a new mining law, the Mines and Minerals Act of 2008. Royalties were increased to 3%, income tax increased to 30%, capital allowance was reduced to 25%, a variable income tax of 15% was introduced, an export levy of 15% on unrefined copper and copper ores/concentrates was imposed, and a windfall tax was implemented (Zambian Parliament 2009).

While the mining industry conceded to most of the amendments, it opposed payment of the windfall tax. NFCA was one of only three companies that paid the windfall tax that year (PriceWaterHouseCoopers 2011). For fear of disinvestment, the government eventually relinquished its demand for the windfall tax, as most companies had refused to pay (interview 10). Although NFCA had not publically opposed these unilateral amendments, in 2010 Canada's First Quantum sought a USD 221 million reimbursement (First Quantum Minerals 2010). The company argued that the amendments were in contravention of the 'tax stability guarantee' in the development agreement.

Of real concern for government revenue generation, is the discrepancy between copper imports reported by China and copper exports reported by Zambia (both in terms of value and quantity) (as discussed in Section 4.2). While significant discrepancies are evident over the years, they were never as pronounced as in 2009, when China reported almost USD 570 million more copper trade than Zambia. The major discrepancy lies in the reported value of trade in unrefined copper, with Zambia reporting zero exports to China and China reporting USD 463.6 million in imports from Zambia. Coincidentally, Zambia had imposed an export levy of 15% on unrefined copper and copper concentrate exports in the previous year (Customs and Excise Amendment Act No. 2 of 2008). With the CCS producing only blister copper,<sup>7</sup> this could imply a

significant loss in revenue for NFCA. It is not clear whether NFCA was required to pay the levy, with the government reportedly waiving the levy (temporarily) for some companies as a result of the financial crisis. Nevertheless, if the unrefined copper bypassed customs, then that would imply a revenue loss to Zambia in the order of USD 70 million. Additional research would need to be conducted to determine the precise cause of these discrepancies; they could be the result of illegal export, corruption, or merely administrative shortcomings of Zambian customs.

Although there is no evidence of NFCA negotiating special incentives with the government, the firm is reported to harbor strong ties to central government, both as a result of its investment commitments and the strategic relevance of Sino-Zambian diplomatic relations. For example, in 2010 NFCA refused to pay 8.4 billion kwacha (about USD 1.75 million) in property taxes to the Kalulushi District Council (the district in which it operates), despite having a legal obligation to do so. According to a district councilor, NFCA claimed that they were still not making any profits so could not afford to pay the tax. When the district council sought support from the Ministry of Commerce, it was told to leave the Chinese alone "as it is against government policy to quarrel with them" (interview 7). Although this example does illustrate some degree of abuse of political influence by Chinese companies, the widespread refusal to pay windfall taxes by Western companies and their resistance to the mining reforms illustrates that misuse of bargaining power is certainly not unique to Chinese companies.

#### 4.1.4 Multi-facility economic zones

As part of the Zambia Development Agency Act of 2006, the government promoted the development of Multi-Facility Economic Zones (MFEZs). The objective of MFEZs is to promote exports, manufacturing and technology transfers. In 2008, the Chinese and Zambian governments signed an agreement to develop Zambia's first MFEZ (and China's first economic processing zone in Africa), the ZCCZ, on 1158 ha of land within the Chambishi Mine area. The ZCCZ, developed and operated under the control of NFCA, will house six different mining subindustries: mining and smelting, wire and cable processing, processing of derivate products, manufacture of building materials, mining support services, and employee social infrastructure (ZCCZ 2011). The zone is expected to generate annual revenues in excess of USD 15 billion, provide 6000 jobs, and generate about USD 1 billion in capital investments (ZCCZ 2011). The zone was

<sup>7</sup> Blister copper is unrefined, since it has not been electrowon.

planned to house more than 50 companies by 2013, and 20 companies had begun operations in the zone by the end of 2010 (ZDA 2010c). Although the zone is open to companies from all nationalities, all companies that had been approved to operate in the zone by late 2010 were Chinese (interview 11); the ZCCZ website is also only in Chinese.

In 2010, ZCCZ began development of another MFEZ located on 570 ha of land adjacent to the Lusaka International Airport, to complement activities at the Chambishi MFEZ (ZJTIS 2010). Four other MFEZs are currently under development, including one at Lumwana Mines.

The big draw of these zones is the myriad of special incentives that operators are eligible for, both from the Zambian and Chinese side. In Zambia, companies established in an MFEZ are effectively considered to be operating in a 'priority sector' when investing in excess of USD 500,000, as detailed in Section 2.3.1 (see Table 2).<sup>8</sup> In the case of NFCA, these incentives apply to most of their operations in Chambishi (e.g. CCS, Sino-Metals Leach, Sino-Acid). There has been much criticism within the government over the approval of the smelter in the ZCCZ, since it is not considered to be a 'pioneering industry' that would bring new capabilities and opportunities to Zambia. As one parliamentarian remarked, it is a form of "tax apartheid," where one smelter receives various tax incentives while competing smelters outside the zone are not eligible for the same (Zambian Parliament 2009). Although, technically, the Chambishi Mine is located within the MFEZ, with the NFCA considering it an integral part of the ZCCZ, and could therefore be eligible for incentives, it is unclear what has been negotiated around this. Presumably, with the much disputed mining tax reforms, it could create significant friction with other copper mining companies should the Chambishi Mine be exempt from these measures by virtue of being located in an MFEZ. On the other hand, NFCA has taken on the financial responsibility of constructing ZCCZ infrastructure (e.g. roads, warehouses, waste-management systems and a power substation), while the government has shouldered most of these costs in some of the other MFEZs, including the Lumwana MFEZ and the Lusaka South MFEZ. As such, it is conceivable that NFCA has gained a superior negotiating position

and was thus able to bargain comparatively favorable conditions. Perhaps this may also have enabled NFCA to dictate which firms qualify for ZCCZ investment – partially explaining why only Chinese firms are established in the zone, though this is entirely speculative.

Giving Chinese firms an even greater comparative advantage is the support the Chinese government affords Chinese companies to establish themselves in the ZCCZ. According to the ZCCZ (2011), these include the following incentives:

- loans on concessionary terms from the Chinese Development Bank
- preferential access to foreign exchange
- concessionary value-added tax rates and reduced tariffs on machinery and equipment, building materials, and components, etc. purchased in China
- personal income tax reductions for Chinese citizens.

The ZCCZ will contribute to employment generation, value addition and foreign exchange earnings, and generate much-needed investments in technologically intensive tertiary industries. However, the intensity of domestic industry linkages (both vertical and horizontal) will likely not be significant, despite it being the underlying economic philosophy of the MFEZ (and of agglomeration economies more generally). Considering that the zone is comprised exclusively of Chinese enterprises, most of which are auxiliary to and supportive of existing NFCA mining and smelting operations, the development runs the risk of becoming a virtual economic enclave. Consequently, the zone could become an isolated 'spatial fix' of foreign capital (and perhaps even cultural) accumulation, integrated more into the global than into the regional economy.<sup>9</sup> Furthermore, in addition to the risk of transfer pricing, as NFCA becomes increasingly vertically integrated, the government's capacity to generate revenues is undermined by the various economic incentives on offer.<sup>10</sup> However, this is not unique to Chinese MFEZs, although it is a serious issue all the same.

#### 4.1.5 Social and environmental impacts

As discussed previously, large-scale Chinese mining investments have led to net employment generation,

<sup>8</sup> Although these incentives were not provided for in the Zambia Development Agency Act of 2006, they were announced as part of the Zambia Revenue Authority 2007 budget presentation.

<sup>9</sup> For more detailed discussions on the topic, see Brenner (1999), Harvey (2001) and Ross (2007).

<sup>10</sup> Haglund (2010) notes that NFCA was the only one of five mining companies he studied that did not provide the Zambia Revenue Authority with audited accounts.

and provided security during times when other companies retrenched large parts of their workforce. When the mining industry collapsed during the 1980s and 1990s, most unemployed mine workers were forced to turn to alternative livelihood activities. Many began small-scale farming in the region, which led to extensive environmental degradation and deforestation within the Copperbelt, and massive encroachment onto ZCCM land, reserved for mining activities (interviews 5, 12). While many ex-ZCCM employees-turned-farmers have now been rehired at the mines, many people continue to reside and farm on land within the mining concessions. Although precise numbers are unavailable, researchers found most of the land not used by NFCA to be actively farmed. As further expansion of NFCA operations in the area was expected for 2011, most farmers were requested to vacate the land on which they were farming, without any form of redress (interviews 7, 13). One entire village within the Chambishi mining area was to be displaced. According to the District Council of Kalulushi, NFCA was not prepared to engage in resettlement and rehabilitation of displaced farmers. As a result, the council is now charged with their resettlement (planned within the degazetted Luano forest reserve), and will bear the expenses. In addition, NFCA recently purchased a large-scale commercial farm, the Mukulumpe Estates, which adjoins its concession area. With the estates having been inoperative since the 1990s, large numbers of people have encroached onto the farm, who are also set to be displaced. This also involves an entire

community, the resettlement and rehabilitation burden of which NFCA refuses to bear.

On the basis of this failure on the part of NFCA to accommodate surrounding communities, one can question the comprehensiveness of the company's corporate social responsibility policies. Furthermore, the Kalulushi District Council expressed its dismay at the lack of support from the company, as the largest employer in the district, towards social infrastructure in the area. ZCCM, on the other hand, used to have an important social and economic role in the region. It played an integral role in the provision of medical care and education, preventative services (e.g. HIV and malaria), housing and housing amenities, supported local economic and social activities, and provided extensive training for local youths (Fraser and Lungu 2007; interview 9). However, since privatization these functions were shifted to the district council, with additional (voluntary) support coming from the mining companies. NFCA has not taken up this role, failing even to adopt an HIV policy (interviews 9, 10). Some of the other major mines, however, do actively seek to replicate the ZCCM model. For example, Konkola operates a local economic development program and healthcare facilities also accessible to non-employees, provides various preventative care services, and has adopted a detailed environmental sustainability policy (Muneku and Koyi 2007). Haglund (2009) argues that since Chinese mining companies in Zambia are mostly state owned and their activities shaped by geopolitical



Zambia–China Economic and Trade Cooperation Zone (ZCCZ) expansion area, Chambishi, Zambia

Source: George Schoneveld

considerations, they prefer to seek close links with the state bureaucracy rather than with local stakeholders in their pursuit of a stable operating environment (in contrast to many other mining companies). Thus they expect the state to “broker their social contract.” NFCA’s refusal to pay their property taxes to the district council is certainly illustrative of their lackadaisical attitude toward corporate social responsibility, and the influence that close ties to the central government has brought them.

The negative environmental impacts of mining are well documented. Copper mining, for instance, can lead to water pollution, as acids and rock residues from the concentration process enter the water courses, causing sedimentation and siltation and posing various health-related risks. The copper-smelting process releases sulfur dioxide, which can cause respiratory illnesses, worsen cardiovascular diseases, change the soil chemistry and cause acid rain. Open-pit mining in particular can lead to extensive and permanent environmental degradation, especially when not properly decommissioned, as vegetation is cleared and top soil is removed. In the case of NFCA, it acquired existing mining operations in an area that has already suffered extensive environmental degradation after decades of intensive mining, high levels of urbanization and high farming intensity. As NFCA is commissioning three new mines (two in Chambishi and one in Luanshya), at least one being open-pit, additional environmental pressures can be anticipated. However, there is no indication that NFCA’s environmental practices differ in any substantial way from other mines, as its mines are frequently inspected by ZEMA personnel (interview 5). Furthermore, its smelter is fitted with sulfur dioxide capture technologies and runs entirely on electricity.

The impact of NFCA’s activities is perhaps more indirect. The Copperbelt has many large tailing dumps (which look like mountains) that have not been processed for safe disposal. When ZCCM privatized its mines, most of these dumps were not acquired by the companies and were left under the control of ZCCM. As these dumps continue to hold traces of copper that could not be extracted by ZCCM for lack of technological capacity, they were considered to be of negligible commercial value. However, with more sophisticated technologies, Sino-Leach Metals has now started reprocessing these dumps and a new market for tailings has emerged in the Copperbelt. Although illegal, many small-scale local miners are now mining these dumps. The police

between houses. Although NFCA cannot legally buy tailings from unregistered miners, according to local officials, it reportedly acquires most materials from small-scale Chinese traders. For example, according to a group of illegal miners near a dump in the town of Chingola, the vast majority of illegally mined tailings are purchased by Chinese merchants, who in turn sell to NFCA. The group went as far as to say that the police would not pursue them into any of the Chinese compounds. Numerous small-scale Chinese copper smelters were also said to be purchasing the tailings. According to ZEMA records, only one of these Chinese smelters had obtained an environmental permit. Although rumors abound of a large number of illegal smelters in Kitwe and Chingola, researchers were only able to locate one Chinese smelter that was operating without a permit.

#### 4.1.6 Mineral prospecting

Although the number of large-scale Chinese mining operations is limited to those operated by NFCA and Jinchuan, a rapid expansion in Chinese mining investments is expected in the years to come, considering the number of Chinese companies prospecting for minerals in Zambia. The most extensive prospecting is being conducted by Zhonghui, which has obtained prospecting licenses for a total of 656,050 ha in Luapula, Copperbelt, Central, and North-Western Provinces (see Table 11). The company has pledged to invest USD 5.3 billion in its mining activities over the next 10 years, focusing its investment efforts initially in the area of Mwinilunga in North-Western Province (interview 14). The deal, reportedly involving the Chinese EXIM Bank, is said to include a copper smelter and a hydropower station, and will generate up to 34,000 jobs (Mulenga 2009). However, according to the Mines and Minerals Act of 2008, one company cannot hold prospecting licenses for a total area exceeding 500,000 ha. With Zhonghui operating through three different company names, including Wang Wang Mining and Golden Lion Mining, it has evidently been able to circumvent these restrictions. Although the Ministry of Commerce is aware of this, it is unlikely to apply the law strictly considering the magnitude of the pledged investment. Furthermore, there appears to be some wrangling surrounding the allocation of prospecting licenses to the firm. For example, one of its licenses in North-Western Province overlapped with a number of active small-scale prospecting licenses (Silwamba 2010). While technically illegal, according to the ZDA, preferential treatment should be given to these types of companies since they are



### Copper tailing dumps, Chingola, Zambia

Source: George Schoneveld

**Table 11. Active large-scale exploration licenses allocated to Chinese companies.**

Company	Area	Mineral	Total area (in ha)
Zhonghui Mining Industry Zambia <sup>a</sup>	Copperbelt, Luapula, Central, North-Western	Cu, Au	656,050
Hua Yuan Mining	Central, North-Western, Luapula	Cu, Ag, Au	204,162
Albidon Zambia	Central, Southern	Ni	202,430
China Mining Group	North-Western, Western	Cu, Co, U, Au, Ni	197,252
Tycoon Mining Industry	Luapula, Northern	Mn	194,907
Zambian Goldcommon Resources Holdings	Central, Eastern, North-Western	Cu, Fe, Bi, Au, Ni, U	166,770
Jinchuan Group Mining Corporation Zambia	Northern	Cu, Co, Ta	156,872
Jin Ding Mining	Copperbelt, North-Western	Cu, Co, Ag, Au	133,281
Long Jiang Non-Ferrous Mining Zambia	Copperbelt, North-Western	Mn, Cu, Fe, Co, U, Au, Ni	97,341
Hanyang Mining Zambia	Northern	Cu, Co, Au	93,686
Qiuzhang Investment Company	North-Western	Cu, Co, Ag, Au	82,284
Sino-Kasempa Minerals	-	U	56,437
Jilin Nonferrous Mining Zambia	Eastern, North-Western	Mn, Cu, Co, Ag, U, Au, Ni	40,567

a Includes company subsidiaries operating under different names (e.g. Wang Wang Mining and Golden Lion Mining). Note: This list may not be comprehensive. The database from the Ministry of Mines and Minerals does not specify country of origin of license holders, thus only those companies were included that researchers were confident were Chinese. Ag = silver, Au = gold, Bi = bismuth, Co = cobalt, Cu = copper, Fe = iron, Mn = manganese, Ni = nickel, Ta = tantalum, U = uranium.

Source: Ministry of Mines and Minerals (2010b)

in the Copperbelt have been trying to crack down on this practice, with many illegal miners having already lost their lives as a result of collapsing dumps. Furthermore, since some of the dumps

reportedly have traces of uranium, there could be a tremendous public health risk from exposure to radiation (interview 10). In some of the townships in the Copperbelt, tailings can be found lying openly

able to bring in considerably more investment than companies operating with a small-scale prospecting license (interview 14).

Other major Chinese prospecting operations include those by Hua Yan Mining, Albidon, China Mining Group, Tycoon Mining and Zambia Goldcommon Resources Holdings. Although the focus has been on copper, some of these companies are exploring for other minerals. For example, Tycoon Mining is targeting manganese, while Goldcommon Resources is targeting gold and uranium. According to the corporate website of Goldcommon Resources, the company has 40 exploration licenses for an area exceeding 2 million ha. These figures were confirmed by the company's public relations officer in Lusaka (interview 15). However, according to data from the Ministry of Mines and Minerals, as of mid-November 2010, the company had only obtained five exploration licenses for an area of 166,770 ha. It is impossible to assess whether these are exaggerations on the side of Goldcommon Resources or whether the company, like Zhonghui, might be operating under a number of different names.

Although researchers did not travel to North-Western and Luapula Provinces (where most of these exploration licenses are held) to appraise the potential impacts of exploration activities, there are a number of long-term risks associated with these investments. Most of the exploration licenses allocated to Chinese firms are located in heavily forested outpost provinces. Although exploration activities (e.g. trenching) may have limited impact on the environment due to their small scale, should these companies decide to begin large-scale mining activities in these areas it could have far-reaching environmental impacts, both direct and indirect. For example, should Zhonghui hire 34,000 people in North-Western Province as projected, the impact of indirect land-use change, as employees seek housing and engage in supplementary farming activities, should not be underestimated. Furthermore, improved access to these regions and new economic opportunities could engender various demographic shifts, and make these areas more attractive for logging. Some of the areas allocated for exploration also have a high concentration of illegal mining activities, for gemstones in particular. With the coming of large-scale exploration activities (and eventually mining), these artisanal miners will need to seek alternative livelihoods. Goldcommon Resources indicated, for example, that large numbers of illegal miners were operating

within their concession areas. It was attempting to remove these, with the full support of local law enforcement authorities but with significant local resistance. The company also indicated this to be a major challenge for Zhonghui (interview 15). Large-scale investments in such poorly accessible and remote areas could also overwhelm local authorities and their capacity to regulate such investments.

## 4.2 Chinese involvement in the agricultural sector

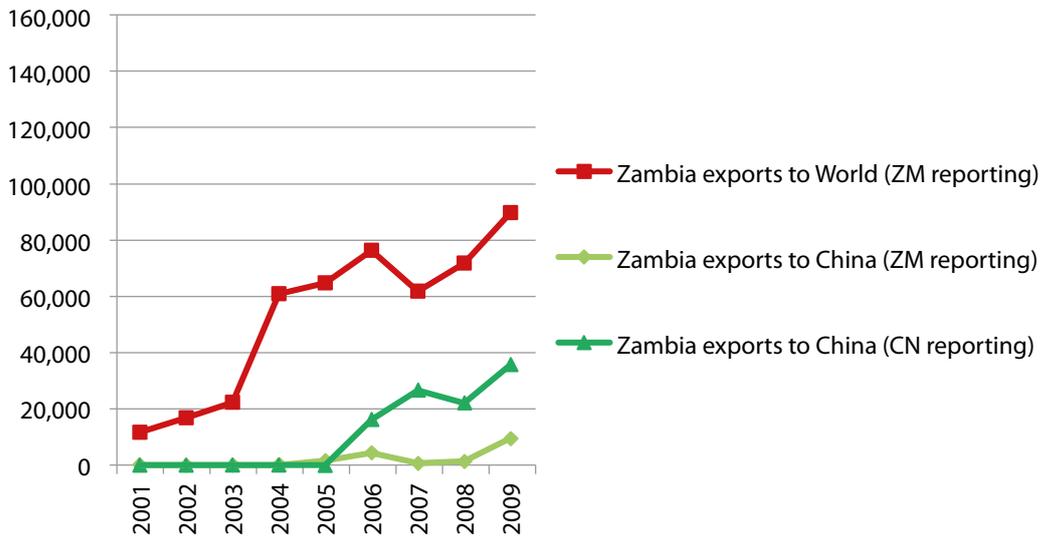
Compared with mining, the agricultural sector in Zambia has not been a major object of Chinese trade and investment, in contrast to popular perception. Although paltry in value compared with copper exports, China has, over recent years, become the largest importer of Zambian tobacco. The sector serves mostly the international markets and China accounted for 40% of the total export value in 2009. However, as with copper, the intensity of this trade relationship depends strongly on who is reporting the statistics (Figure 8). Although, going by Chinese statistics, China is an important trade partner, no evidence could be found of direct Chinese participation in production; either through proprietary farms or contract farming. The rapid rise in tobacco production in the 2000s is not likely to be a function of increasing Chinese demand, but of an influx of white Zimbabwean farmers who were displaced from their land in Zimbabwe as a result of the land reforms of 2000–2003 (interview 16).

In the case of cotton though, China has been involved more directly in production. In 2003, Qindao Textile Holdings Group established the Chipata Cotton Company, which by 2006 was operating two ginneries, supplied by 40,000 contracted cotton farmers, cultivating about 50,000 ha (Chipata Cotton Company 2011). Qindao Textile's forays into Zambia began even earlier, when in 1997 it began operating the Zambia–China Mulungushi Textile Joint Venture in Kabwe, with financial support from the Chinese government. The textile factory was constructed by the Chinese government in 1983, envisaged initially as a turnkey project. Having become the largest textile company in Zambia (supplying mostly school and army uniforms), with almost 1000 employees, the ginnery, ceased operations in 1994 as a result, ironically, of increasing competitive pressures from cheaper Asian textiles (*People's Daily* 2003). In 1997, Qindao Textiles took over operations but, despite significant investments and efforts to develop its complex into



**Zhonghui Mining explorative drilling, Copperbelt, Zambia**

Source: George Schoneveld



**Figure 8. Tobacco exports to China (in USD'000).**

Source: Derived from COMTRADE

an export-oriented industrial park, in 2007 the factory once again closed its doors due to profitability issues (Carmody 2009; Kapekele 2010). In addition

to almost all factory employees losing their jobs, the factory's closure also implied the downfall of the Chipata Cotton Company, which was supplying the

factory with raw materials. Since the Chipata Cotton Company exported all its excess cotton to China, its closure also caused the China–Zambia cotton trade to dry up (as is clearly evident from Figure 9).

While tobacco is the only major agricultural commodity exported to China, a number of Chinese-owned farms are operating throughout the country. The oldest of these farms is the China–Zambia Friendship Farm established in 1988, operated by the state-owned China State Farm Agribusiness Corporation (CSFAC) (Bastholm and Kragelund 2009). Situated near Lusaka, it cultivates barley, maize and soybeans for the domestic market on 667 ha (Freeman et al. 2010). CSFAC now also operates one of China's largest farms in Africa, the 3500 ha Jhonken Friendship Farm, which cultivates vegetables and raises cattle, cows and chickens (Spring 2009). The farm reportedly supplies 10% of the eggs consumed in Lusaka (Spring 2009). According to Chinese reports, in 2008, 15 farms were operating in Zambia, run by six different state-owned enterprises, covering a total area of 10,000 ha (Freeman et al. 2010). With all the farms reportedly supplying the domestic market, “the argument that China is investing in African agriculture in order to secure the food supply does therefore not apply in the short term in the case of Zambia, but it may still be a long-term political objective” (Bastholm and Kragelund 2009). While contributing to Zambian food security, some argue that Chinese investments in areas where Zambians have ample capacity only displace Zambian-owned producers (Hare 2007; McGreal 2007; interview 16).

Although China, through its state-owned enterprises, does invest in commercial agriculture in Zambia, its role in the surge in large-scale commercial agricultural investments by foreign enterprises is marginal. As can be observed in Table 12, only one of the recent large-scale farmland acquisitions can be attributed to Chinese investors, with the largest number of investments originating from South Africa.

In recent years, Kaidi Biomass, a joint venture between China's Wuhan Kaidi and Zambia's Biomass Development, has been actively seeking to acquire large contiguous areas of land along the TAZARA in Northern Province. During a state visit by former President Banda to China in early 2010, the privately owned Kaidi Biomass signed a memorandum of understanding with the Zambian government that would see the company invest USD 3 billion in the cultivation of *Jatropha curcas* Linnaeus for biodiesel production, with a capacity to create 200,000 jobs (*Times of Zambia* 2010). However, prior to this, the company was already found to be actively looking to acquire large areas of land. Initially seeking access to a staggering 2 million ha (predominantly on customary land), the company has ‘only’ managed to obtain commitments from traditional landholding authorities for about 300,000 ha. Of that, 79,300 ha in Nakonde and Isoka Districts had been acquired for the project by the government (interviews 14, 17). Primarily seeking access to more strategically located land along the TAZARA corridor for easy export, the company refused large areas of land it was offered in the more remote Mporokoso District.

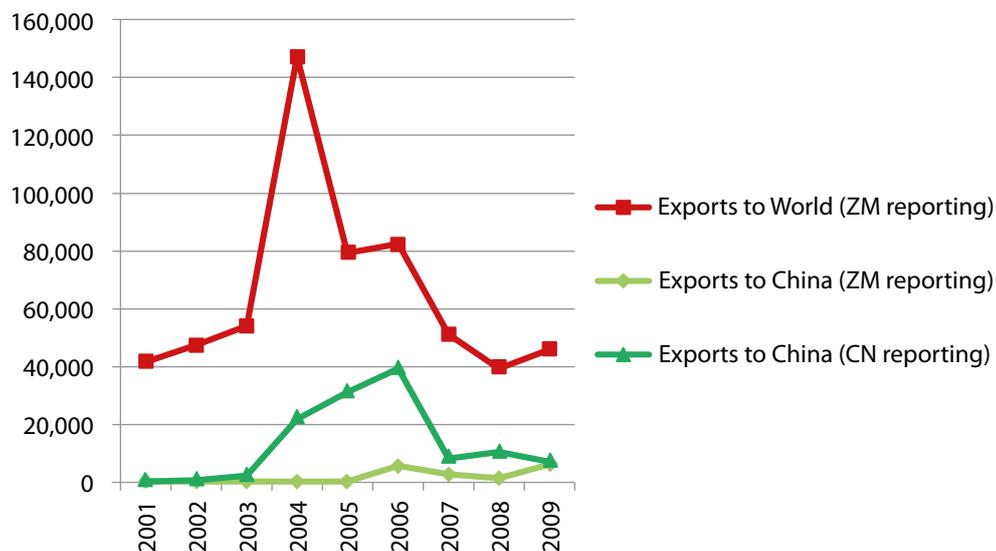


Figure 9. Cotton exports to China (in USD'000).

Source: Derived from COMTRADE

**Table 12. Selection of major farmland acquisitions in Zambia, 2005–2012.**

Company	Country of origin	Sectoral focus	Land area (in ha)	Location
African Crops	Germany	Food	26,954	Southern
Bedford (ceased)	Canada	Biofuel	70,000	Northern
Big Concession	Germany	Food	1,200 (60,000 planned)	Central
Biomax (ceased)	Australia	Biofuel	9,500	Luapula
Cenafarms	UK	Food	5,000	Various
Chayton Capital	UK	Food	16,985	Central
Emvest Livingstone	South Africa	Food	2,513	Southern
Ferrostaal	Germany	Biofuel	510,319	Northern
Kaidi Biomass	China/Zambia	Food and biofuel	79,300	Northern
Kasaya River Sugar	South Africa	Biofuel	15,000	Southern
MGM Farms	South Africa	Food	2,800	Southern
Neha International (planned)	India	Food	(100,000 planned)	Northern
Olam	Singapore	Beverages	5,866	Northern
Puzzolana	India	Biofuel	21,000	Southern
Zambeef	South Africa	Food	46,857	Central
Zambia Sugar/Illovo	South Africa	Food and biofuel	9,800	Southern
Zampalm	South Africa	Food	20,101	Northern

Source: ZDA. Based on data from Schoneveld (forthcoming)

The government, through the Ministry of Trade and Commerce, has played an active role in facilitating these land acquisitions, with Minister Mutati personally touring the region with the investors to convince traditional authorities to relinquish their landholdings for the project (interview 18). Although the project could generate significant employment in one of the poorest regions of the country, leasehold titling would imply that the land would be reclassified from customary to state land, and would, therefore, be removed from government control indefinitely. Moreover, large-scale land-use change would result in displacement of traditional livelihood activities and extensive clearing of environmentally significant *miombo* woodlands; however, this is inherent to the development of greenfield plantations.<sup>11</sup>

<sup>11</sup> After the field research, when Michael Sata was elected president of Zambia in 2011, the land allocation to Kaidi Biomass was reduced to 4000 ha. The remaining area of land would be allocated once those 4000 ha were fully developed (Schumacher, personal communications). Since the company claims it cannot raise enough funds or develop the necessary economies of scale with that land, it pulled out of the project; however, company officials still remain hopeful of acquiring the full extent of land when a more China-friendly president is elected (Brautigam, personal communications).

### 4.3 Chinese involvement in the forestry sector

There is increasing demand for timber from various industries in Zambia, including from the mining sector and the export of semi-processed timber (JAICAF 2008). This has led to a duality in the sector, where in addition to the extraction of hardwoods, softwoods have been produced in a number of plantations across the country; both are utilized in the domestic markets, but are also exported. The country's largest softwood producer is the parastatal company Zambia Forestry and Forest Industries Corporation (ZAFFICO), which has 50,000 ha of industrial plantations (Ng'andwe and Banda 2006; Ng'andwe et al. 2006; CFA 2010). Ndola Pine Plantation also has 1092 ha of softwood plantations and the Copperbelt Forestry Company has 87 ha (JAICAF 2008). Zambia's hardwoods are part of the forests and woodlands that cover about 49.9 million ha (66.4%) of the country's total land area, with a total growing stock of 2.9 billion m<sup>3</sup>, held in four dominant forest types: evergreen, semi-evergreen, deciduous and other forests. Close to 2.1 billion m<sup>3</sup> (72.4%) of the growing stock is held in the semi-evergreen *miombo*-dominated forests. The total volume of commercial timber has

been estimated at 340.1 million m<sup>3</sup>, 256 million m<sup>3</sup> (75.3%) of which is located in the semi-evergreen forests. The distributional spread of indigenous commercial timber availability varies greatly across the country's nine provinces, with the largest quantities available in North-Western Province (113.5 million m<sup>3</sup>) and Western Province (59.8 million m<sup>3</sup>) (Mukosha and Siampale 2008) (Table 13).

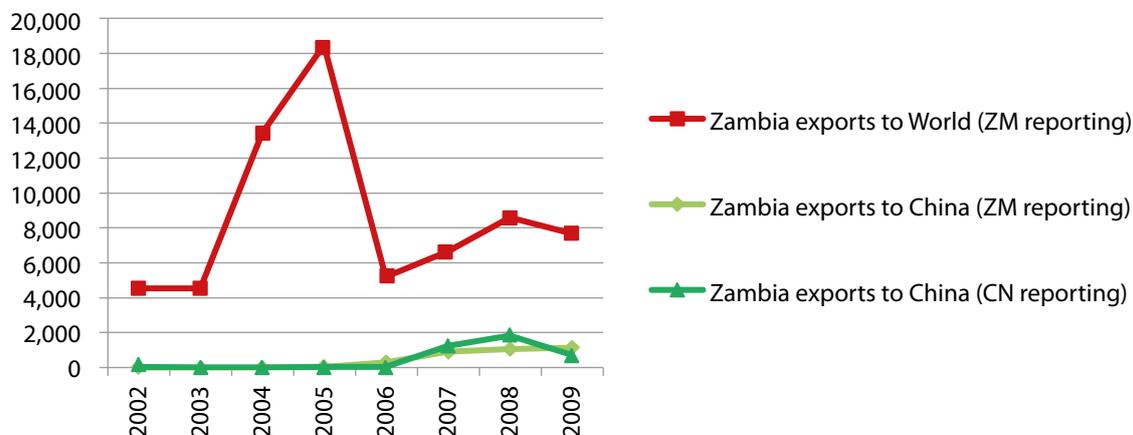
Between 2007 and 2009, the average annual production volume of industrial roundwood in Zambia was estimated to be about 1.3 million m<sup>3</sup> per annum, up from approximately 500,000 m<sup>3</sup> in the early 2000s (Ng'andwe et al. 2006). Timber exports

earn Zambia USD 6–9 million in foreign exchange per year (Figure 10), predominantly through the export of sawn wood and, more recently, furniture. According to Ng'andwe et al. (2006), sources of forest revenue are broken down as follows: indigenous forests (4.7%), plantations (7.3%) and 'other modified indigenous forests' (86%). The 'other modified indigenous forests' include areas providing non-timber forest products. Timber production in Zambia is carried out under the three forest licenses, which include casual, pit sawing and commercial concessions, all provided under the Forest Act No. 39, Cap 199 of 1973 and the Timber Export Policy and regulations. Under this statutory instrument the export of non-finished timber from

**Table 13. Distribution of commercial timber species by province.**

Province	Commercial timber by forest type (million m <sup>3</sup> )				
	Evergreen forest	Semi-evergreen	Deciduous forest	Other forests	Total
Central	0.0	44.5	1.5	0.0	46.0
Copperbelt	0.0	21.6	0.3	0.0	21.9
Eastern	0.0	9.1	18.7	0.0	27.8
Luapula	0.0	16.9	0.0	0.0	16.9
Lusaka	0.0	5.2	0.0	0.0	5.2
North-Western	9.5	99.9	2.9	1.2	113.5
Northern	0.1	21.6	14.2	0.0	35.8
Southern	0.7	2.5	10.1	0.0	13.3
Western	0.0	34.8	25.0	0.0	59.8
<b>Total</b>	<b>10.2 (3.0%)</b>	<b>256.0 (75.3%)</b>	<b>72.6 (21.3%)</b>	<b>1.2 (0.4%)</b>	<b>340.1 (100%)</b>

Source: Mukosha and Siampale (2008)



**Figure 10. Value of 'wood and articles of wood' exports from Zambia.**

Source: Derived from COMTRADE

**Table 14. Differences between logging license conditions in Zambia.**

Requirement(s)	License type	
	Pit sawing	Concession
<b>Letter of consent/recommendation</b>		
Tradition leadership (chief)	√	√
Local authority (district council)	√	√
Zambia Wildlife Authority if area falls into a Game Management Area	√	√
<b>Letter of recommendation (forestry staff)</b>		
District forestry officer	√	
Provincial extension officer		√
<b>Certificate of incorporation</b>		
Certificate of incorporation as a registered company or cooperative in Zambia	√	
Registered company in Zambia		√
Immigration status (if non-Zambian)		√
<b>Saw milling machinery</b>		
Proof of possession of pit sawing equipment	√	
Including value addition machinery		√ <sup>a</sup>
Tax clearance from Zambia Revenue Authority	√ <sup>b</sup>	√
Map of the area of operation drawn to scale 1:50,000, 1:100,000, 1:250,000 with detailed harvesting plan	√	√
Investment and plan of operation	√ <sup>c</sup>	√
<b>Destination of application</b>		
Principal forestry extension officer	√	
Director of forestry		√
<b>Environmental report</b>		
Environment brief	√	
An EIA report as per provision of the Environmental Protection and Pollution Control Act of 1990 <sup>d</sup>		√
Proof of financial viability to run a logging concern		√
Banking pledge –75% of proceeds in Zambia		√

a Value addition machinery an advantage.

b Now required for pit sawyers.

c Pit sawyers do not need an investment plan.

d Timber extraction is a proscribed activity under Zambia's EIA regulations. It has its own regulatory processes and fees.

Source: Forest Department, unpublished

**Table 15. Logging operations in North-Western and Western Provinces (2010).**

Province	Number of operators		Licensed logging(ha)	Logging capacity (m <sup>3</sup> )	
	Open woodland	Forest reserve		Minimum	Maximum
Western – pitsaw	17	5	33,000	3,960	19,800
Western – concession	10	1	55,000	6,600	52,800
North-Western – pitsaw	14	5	28,500	3,420	17,100
North-Western – concession	2	0	10,000	1,200	9,600

Source: Forestry Department (2011a, b)

natural forests and peeler and saw logs of any species is banned (GRZ 1997). The issuance of timber export permits is overseen by the Forest Department, Zambian Revenue Authority, the Ministry of Agriculture's Phyto-sanitary Unit, and the Zambian Bureau of Standards.

According to the Southern African Development Community (SADC 2006a, b), traditionally the major trading partners for Zambia were South Africa and the other SADC countries, the European Union and North American Free Trade and East Asian countries. More recently, however, trade with China has increased significantly. Since 2006, the Chinese market has accounted for 10%–15% of total export earnings from wood products. Based on official figures, however, it appears that it is largely domestic demand that is driving industrial roundwood production.

In 2010, 41 pit sawing licenses and 13 concession licenses were active in North-Western and Western Provinces (Table 15). Although the two different types of license provide the right to log in similar areas, concession license holders have the legal right to log approximately double the amount of those holding pitsaw licenses (Table 14).

Pit sawyers face a number of problems in terms of meeting the conditions of licensing, and pit sawyers in Likulu and Kaoma Districts indicated that they are often helped out by concessionaires. At times, pit sawyers are so constrained that they cannot meet the stipulated cut per month. Support from concessionaires means that these entities can register and provide some employment for local people, in order to meet their monthly quota. While this may be understandable, the failure by concession holders in Western Province to meet the stipulated minimum legal requirement of 6600 m<sup>3</sup> is not easy to explain as they only logged 4101 m<sup>3</sup> in 2010. Discussions with pit sawyers in Kaoma District revealed intricate linkages between pit sawyers and concession holders (both Chinese and non-Chinese). The pit sawyers

allege that while there appeared to be no foreign enterprises holding pitsaw licenses, the Chinese company Flying Dragon Lumber operated with a pit sawing license. In Western and North-Western Provinces, two Chinese companies hold concession licenses — Sikale Wood Manufacturers and AfriZam Timber Trading — all other actors being of Zambian origin.

Both Chinese companies, like most concessions holders, are involved in logging and processing. They are owned by the same family and linked to SuZhou Golden Ocean Timber Products, based in Shanghai. Both companies purchase timber from pit sawyers, with AfriZam also sponsoring pit sawyers in Likulu District. Another Chinese company, Flying Dragon Lumber, has also been purchasing timber from pit sawyers (interview 18). Pit sawyers openly accepted that they often entered into unwritten contracts with both Chinese and non-Chinese companies regarding the purchase of logs, but generally found that while Chinese companies often offered low prices, payments were more reliable.

Although Zambia has a log export ban in place, the Forestry Department claims that Chinese traders often camouflage logs by putting planks on top and on the sides of a container, so as to enable log exports to China. Forestry Department officials admit that the problem lies at the various customs check points, where poorly remunerated officers are easily bribed. Flying Dragon Lumber's license was cancelled in 2011 because the company tried to export unprocessed logs. Although Chinese concessionaires are the only foreign companies harvesting timber in Western and North-Western Provinces, the scale of their operations and the volume of exports to China are comparatively small in relation to the total annual national production volume. More research would need to be conducted on the potential direct impacts of their logging operations, their linkages with pit sawyers and the extent to which their operations support illegal logging and trade. As yet, little evidence is available to arrive at clear conclusions.

## 5 Conclusion

While China and Zambia have had diplomatic ties dating back to the liberation struggle in the 1960s, and China has supported important development projects in the country since, the relationship gained a new intensity over the 2000s. This coincided with China's 'Going Out' policy and the initiation of the FOCAC, which sought to stimulate Chinese investments in Africa. The key areas of interest for Chinese companies, many of which are state owned, have been the mining sector and, to a lesser extent, the agricultural sector. Chinese companies have been investing heavily in mineral prospecting, copper mining and smelting, and industries auxiliary to mining. To further encourage value addition, the Chinese and Zambian governments have agreed on the development of China's first economic processing zone in the Zambian Copperbelt, centered around the operations of China's state-owned CNMC.

Chinese investments in Zambia have made valuable contributions to the country's economic recovery. Most significantly, capital injections in the mining sector have led to a rehabilitation of dilapidated mining infrastructure while enhancing the country's production capacity through the construction of new processing facilities and the development of greenfield mines. The recapitalization of some of the mines has improved Zambia's trade balance and contributed to the government's fiscal earnings. Moreover, in many respects, Chinese investors have proven to be more reliable than their Western counterparts; for example, during the financial crisis and the copper price slump in 2008–2009, Chinese companies continued to invest in Zambia. Where all other major mining operations retrenched large proportions of their workforce, and in some cases ceased mining operations altogether, Chinese companies upheld their commitments. Chinese firms evidently have a greater capacity to sustain their commitments and operations when faced with unfavorable economic conditions than most other companies; presumably, as a result of extensive state support and greater security of access to comparatively cheap financial capital. Chinese banks are typically less exposed to the performance of high-risk derivative products and have greater access to government capital reserves. In addition,

Chinese construction companies, and arguably Chinese development finance, have enabled Zambia to upgrade its physical infrastructure, notably its stadiums, roads and hydropower capacity. The Zambian government is starting to show a preference for Chinese project financing, despite it often being tied to Chinese contractors. It is considered to be a fast, reliable alternative to waiting years for multilateral institutions such as the World Bank and IMF to complete their due diligence.

While Chinese aid, trade and investment are generally consistent with Zambia's development priorities (e.g. modernization, private capital formation and economic diversification), some do warn of the risks. The most publically voiced concern is the supposed poor treatment of workers at Chinese mines. A number of high-profile incidents have caused many Zambians, and also government opposition parties, to be highly suspicious of Chinese intentions in Zambia. Although salaries at Chinese mines have in the past tended to be lower than those of other major mines, there is little concrete evidence to support claims that Chinese companies are more negligent of labor rights and health and safety than other companies. This also applies to the environmental performance of Chinese operations. However, due to the government-to-government nature of large Chinese investments, many Chinese investors have in the past been able to exploit their political leverage. Although the 2011 presidential elections drastically changed the Zambian public rhetoric toward China, the need to harness Chinese diplomatic relations for economic ends continues to strongly shape bilateral (power) relations. In addition to relatively weak capacity to monitor investments in the most general sense, such dependencies have implications for the government's capacity to generate fiscal revenues from Chinese operations and to impose excessively stringent conditions on Chinese economic participation. Moreover, the Chinese companies in Zambia show a clear tendency to agglomerate (e.g. in tax-free zones), more so than their Western counterparts, which is increasingly leading to the formation of isolated Chinese enclaves of capital accumulation — to the exclusion of Zambian businesses and detriment of revenue

generation. As Chinese enterprises increasingly service one another (both horizontally and vertically), few economic linkages with the domestic economy are likely to materialize.

Another concern relates to the large areas of land that have been allocated to Chinese companies for mineral prospecting. This could lead to environmentally detrimental land-use changes (both direct and indirect), given the limited capacity of Zambian environmental and investment authorities to regulate such developments. Moreover, with most new development concentrated in densely forested and remote areas, the government will have considerably less capacity to enforce regulations. This is in contrast to, for example, the Copperbelt where well-functioning institutional structures have been developed through almost a century of experience with the sector. Unprecedented inflows

of capital to these remote regions could also serve to undermine local governance, as new opportunities for rent-seeking arise. Such risks are substantial, considering in particular the magnitude of pledged investments and the reliability of Chinese companies meeting development pledges. However, preliminary findings from this scoping report give no reason to suggest that such investments are likely to be more or less sustainable than investments originating from other countries. The greatest structural barriers to inclusive and sustainable private sector-led development in Zambia lie rather in the capacity of the state to effectively manage and plan investment flows and put in place enforceable social and environmental safeguards. When such mechanisms are in place, preliminary findings here would suggest that Chinese participation in the Zambian economy is integral to realizing its economic development and poverty reduction objectives.

## 6 References

- [AFP] Agence France-Presse. 26 July 2006. Five shot during riots at Chinese-owned mine in Zambia: Report. *Terra Daily*. Accessed 20 November 2013. <http://www.terradaily.com/reports/a060726143357.3bpo8508.html>
- [AFP] Agence France-Presse. 28 July 2011. *Germany blames Chinese land buys for Africa drought*. Accessed 8 September 2011. [http://www.google.com/hostednews/afp/article/ALeqM5hu9\\_tN9w\\_dCvyWeYhfdOJLCn47BA?docId=CNG.f7f7219253feb49f37e24ef89a4ad717.4d1](http://www.google.com/hostednews/afp/article/ALeqM5hu9_tN9w_dCvyWeYhfdOJLCn47BA?docId=CNG.f7f7219253feb49f37e24ef89a4ad717.4d1)
- [AFRODAD] African Forum and Network on Debt and Development. 2008. *Mapping Chinese Development Assistance in Arica: A synthesis of Angola, Mozambique, Zambia, and Zimbabwe*. Harare: AFRODAD.
- Alden C. 2007. *China in Africa: Partner, Competitor or Hegemon?* London: Zed Books.
- Bastholm A and Kragelund P. 2009. State-driven Chinese investments in Zambia: Combining strategic interests and profits. In van Dijk M, ed. *The New Presence of China in Africa*. Amsterdam: Amsterdam University Press.
- [BBC] British Broadcasting Corporation. 21 April 2005. *Dozens killed in Zambia explosion*. Accessed 20 November 2013. <http://news.bbc.co.uk/2/hi/africa/4466321.stm>
- Bloomberg. 15 February 2011. *Zambia to spend \$420 million boosting Kariba output, Mail says*. Accessed 20 November 2013. <http://www.bloomberg.com/news/2011-02-15/zambia-to-spend-420-million-boosting-kariba-electricity-output-mail-says.html>
- Bower E. 4 November 2010. *Zambia mine shootings raise tensions with China*. *CNN*. Accessed 20 November 2013. [http://articles.cnn.com/2010-11-04/world/zambia.mine.shooting\\_1\\_three-chinese-employees-zambian-mining-mining-industry?\\_s=PM:WORLD](http://articles.cnn.com/2010-11-04/world/zambia.mine.shooting_1_three-chinese-employees-zambian-mining-mining-industry?_s=PM:WORLD)
- Brautigam D. 2009. *The Dragon's Gift: The Real Story of China in Africa*. New York: Oxford University Press.
- Brenner N. 1999. Globalisation as reterritorialisation: The re-scaling of urban governance in the European Union. *Urban Studies* 36(3):431–51.
- Carmody PD. 2009. An Asian-driven economic recovery in Africa? The Zambian case. *World Development* 37(7):1197–207.
- [CFA] Commonwealth Forestry Association. 2010. *Commonwealth Forests 2010: An Overview of the Forests and Forestry Sectors of the Countries of the Commonwealth*. London: CFA.
- Chipata Cotton Company. 2011. Accessed 15 February 2011. <http://www.chipatacotton.com/英文/yjianjie.htm>
- [CNMC] China National Mining Corporation. 2009. *Chambishi Copper Smelter*. Accessed 16 February 2011. <http://www.cnmc.com.cn/417-1102-1606.aspx>
- [COMTRADE] *United Nations Commodity Trade Statistics Database*. Accessed 21 November 2013. <http://comtrade.un.org/>
- Dow Jones. 6 September 2010. *Zambia's 10 copper output seen at 740,000 tons – Government*. Accessed 16 February 2011. <http://www.dowjones.de/site/2010/09/zambias-10-copper-output-seen-at-740000-tons-government.html>
- Dymond A, Lambrechts K and Chase S. 2007. *Undermining Development? Copper Mining in Zambia*. Glasgow, UK: Scottish Catholic International Aid Fund (SCIAF).
- Economist. 5 May 2011. *When others are grabbing their land: evidence is piling up against acquisitions of farmland in poor countries*. Accessed 15 August 2011. <http://www.economist.com/node/18648855>
- [ECZ] Environmental Council of Zambia. 1997. *Environmental Protection and Pollution Control (Environmental Impact) Regulations, Statutory Instrument 28*. Lusaka, Zambia: ECZ.
- [ESA] European Space Agency 2009. *Globcover*. Brussels, Belgium: ESA.
- First Quantum Minerals. 2010. *First Quantum Minerals Reports Operational and Financial Results for the Three and Nine Months Ended September 20, 2010*. Vancouver, Canada: First Quantum Minerals.
- [FOCAC] Forum on China–Africa Cooperation. 2010. *Zambia: State, Chinese Team Up to Develop Kafue Gorge*. Accessed 8 February 2011. <http://www.focac.org/eng/zfgx/t725108.htm>
- Forestry Department of Zambia. 2011a. *North Western Province – list of licenses 2010*. Unpublished.
- Forestry Department of Zambia. 2011b. *Western Province – list of licenses 2010*. Unpublished.

- Fraser A and Lungu J. 2007. *For Whom the Windfalls? Winners and Losers in the Privatization of Zambia's Copper Mines*. Lusaka: Civil Society Trade Network of Zambia (CSTNZ).
- Freeman D, Holslag J and Weil S. 2010. China's foreign farming policy: Can land provide security? *BICCS Asia Paper* 3(9):1–27. Brussels: Brussels Institute of Contemporary China Studies.
- German LA and Schoneveld GC. 2012. Biofuel investments in sub-Saharan Africa: A review of the early legal and institutional framework in Zambia. *Review of Policy Research* 29(4):467–91.
- [GRZ] Government of the Republic of Zambia. 1997. *Statutory Instrument No. 7 of 1997, Forest Act, Cap 199*. Lusaka, Zambia: GRZ.
- [GRZ] Government of the Republic of Zambia. 2006. *The Zambia Development Agency Act*. Lusaka, Zambia: GRZ.
- Haglund D. 2009. Regulating diversity: China and the changing composition of Zambia's mining sector. *The China Monitor* 44:8–11.
- Haglund D. 2010. *Policy effectiveness and China's investment in the Zambian mining sector*. SAIIA Policy Briefing No. 19. Johannesburg, South Africa: South African Institute of International Affairs.
- Hairong Y and Sautman B. 2009. Chinese activities in Zambia: More than just mining. *The China Monitor* 44:4–7.
- Hare P. 2007. China and Zambia: The all-weather friendship hits stormy weather. *China Brief* 7(5):7–9.
- Harvey D. 2001. Globalization and the 'spatial fix'. *Geographische Revue* 2:23–30.
- [ILO] International Labour Organization. 2010. *The Impact of the Global Financial and Economic Crisis on Job Losses and Conditions of Work in the Mining Sector in Zambia*. Lusaka, Zambia: ILO.
- [IMF] International Monetary Fund. 2006. Review of low income country debt sustainability framework and the implications of the MDRI. *IMF Staff Paper* 27. Washington, DC: IMF.
- [IMF] International Monetary Fund. 2010. *Debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative*. IMF Factsheet. Washington, DC: IMF. Accessed 20 November 2013. <http://www.imf.org/external/np/exr/facts/hipc.htm>
- Interfax. 25 January 2011. *China's refined copper imports fall in December*. Accessed 19 February 2011. <http://www.interfax.cn/news/16533>
- [JAICAF] Japan Association for International Collaboration of Agriculture and Forestry. 2008. *Agriculture and Forestry in Zambia: Present Situation and Issues for Development*. Tokyo: JAICAF.
- [JCTR] Jesuit Centre for Theological Reflection. 2008. *A Future without the Debt Burden! Is it Feasible for Zambia?* Lusaka, Zambia: JCTR.
- Kapekele M. 29 November 2010. Mulungushi textiles workers in the dark over 're-opening'. *Post Newspapers Zambia*. Accessed 20 November 2013. [http://www.postzambia.com/post-print\\_article.php?articleId=16221](http://www.postzambia.com/post-print_article.php?articleId=16221)
- Kaplinsky R, McCormick D and Morris M. 2006. *The Impact of China on Sub-Saharan Africa*. Beijing: DFID China Office.
- Li P. 2010. *The Myth and Reality of Chinese Investors: A Case Study of Chinese Investment in Zambia's Copper Industry*. SAIIA Occasional Paper No. 62. Johannesburg, South Africa: South African Institute of International Affairs.
- Lungu J. 2009. *The Politics of Reforming Zambia's Mining Tax Regime*. Resource Insight Issue 8. Johannesburg, South Africa: Southern Africa Resource Watch (SARW).
- Lungu J and Mulenga C. 2005. *Corporate Social Responsibility Practices in the Extractive Industry in Zambia*. Lusaka, Zambia: Mission Press.
- Lusaka Times*. 15 January 2009. *China loans Zambia K326.9 bn*. Accessed 20 November 2013. <http://www.lusakatimes.com/?p=7368>
- Lusaka Times*. 12 January 2010a. *China injects \$39m into TAZARA operations*. Accessed 20 November 2013. <http://www.lusakatimes.com/?p=22984>
- Lusaka Times*. 26 March 2010b. *RB re-opens Munali Nickel Mine*. Accessed 20 November 2013. <http://www.lusakatimes.com/2010/03/26/25001/>
- McGreal C. 7 February 2007. Heavy Chinese investment in Zambia revives old colonial fears. *The Guardian*. Accessed 20 November 2013. <http://www.taipetimes.com/News/editorials/archives/2007/02/07/2003348052>
- Michel S and Beuret M. 2009. *China Safari: On the Trail of Beijing's Expansion in Africa*. New York: Nation Books.
- Ministry of Mines and Minerals of Zambia. 2010a. *Copper, Cobalt and Gold Production 2004–2009*. Lusaka, Zambia: Statistics Division, Ministry of Mines and Minerals. Government of the Republic of Zambia.
- Ministry of Mines and Minerals of Zambia. 2010b. *Database of Active Mining and Prospecting Licenses*. Lusaka, Zambia: Cadastral Unit, Ministry of Mines and Minerals, Government of the Republic of Zambia.

- Mobbs PM. 1999. The Mineral Industry of Zambia in 1998. *Minerals Yearbook*. Washington, DC: US Department of the Interior, US Geological Survey.
- Mobbs PM. 2009. The Mineral Industry of Zambia in 2006. *Minerals Yearbook*. Washington, DC: US Department of the Interior, US Geological Survey.
- Mobbs PM. 2010. The Mineral Industry of Zambia in 2009. *Minerals Yearbook*. Washington, DC: US Department of the Interior, US Geological Survey.
- [MOFCOM] Ministry of Commerce of the People's Republic of China. 2010. *2009 Statistical Bulletin of Outward Foreign Direct Investment*. Beijing: MOFCOM.
- [MOFCOM] Ministry of Commerce of the People's Republic of China. 2011. *China Cancels TAZARA Debt by 50 Per Cent*. Beijing: MOFCOM. Accessed 20 November 2013. <http://zm2.mofcom.gov.cn/aarticle/chinanews/201102/20110207399379.html>
- Mukosha J and Siampale A. 2008. *Integrated Land Use Assessment—Zambia, Report*. Lusaka, Zambia: FAO and Forestry Department.
- Mukwita A. 24 January 2011. Zambia's 2010 preliminary copper output beats forecast. *Businessweek*. Accessed 17 February 2011. <http://www.businessweek.com/news/2011-01-24/zambia-s-2010-preliminary-copper-output-beats-forecast.html>
- Mulenga K. 2009. Revisit mining deal. *Daily Mail*. Accessed 18 February 2011. <http://www.daily-mail.co.zm/media/news/viewnews.cgi?category=8&cid=1230974924>
- Mundy S. 19 October 2010. Zambia accused of ignoring mine abuses. *Financial Times*. Accessed 21 November 2013. <http://www.ft.com/cms/s/0/3288f110-db9a-11df-a1df-00144feabdc0.html#axzz1EljEq5hb>
- Muneku A. 2009. Chinese investments in Zambia. In Baah AY and Jauch H, eds. *Chinese Investments in Africa: Labor Perspective*. Accra: Africa Labor Research Network.
- Muneku A and Koyi G. 2007. *The social and economic impact of Asian FDI in Zambia: A Case of Chinese and Indian Investments in Zambia*. Unpublished.
- Mupimpila C and van der Grijp N. 1999. Copper from Zambia. In von Molke K, ed. *Global Product Chains: Northern Consumers, Southern Producers, and Sustainability*. Nairobi: United Nations Environmental Programme.
- New Scientist. 2011. *African land grab could lead to future water conflicts*. Accessed 25 September 2011. <http://www.newscientist.com/article/mg21028144.100-african-land-grab-could-lead-to-future-water-conflicts.html>
- Ng'andwe P and Banda MK. 2006. *Zambia Forest and Forestry Industries Plantation Management Business Plan 2006–2011*. Unpublished.
- Ng'andwe P, Muimba-Kankolongo A, Banda MK, Mwitwa JP and Shakacite O. 2006. *Forest Revenue, Concession Systems and the Contribution of the Forestry Sector to Poverty Reduction and Zambia's National Economy*. Report prepared for FAO (nfp) in conjunction with the Forestry Department in the Ministry of Tourism, Environment and Natural Resources. Lusaka: FAO.
- People's Daily*. 27 November 2003. *Zambia-China Mulungushi Textile Joint Venture Ltd. (ZCMT) is the largest textile company in Zambia*. Accessed 21 November 2013. [http://english.peopledaily.com.cn/200311/27/eng20031127\\_129097.shtml](http://english.peopledaily.com.cn/200311/27/eng20031127_129097.shtml)
- PriceWaterHouseCoopers. 2011. *Zambia Extractive Industries Transparency Initiative: Independent Reconciliation Report for Year End December 2008*. Lusaka, Zambia: PriceWaterHouseCoopers.
- Reuters. 26 July 2011. *African land grab threatens food security: study*. Accessed 27 July 2011. <http://www.reuters.com/article/2011/07/26/us-investment-land-idUSTRE76P77P20110726>
- Reuters. 8 May 2009. *Zambia picks China firm to run Luanshya copper mine*. Accessed 21 November 2013. <http://www.reuters.com/article/2009/05/08/minerals-zambia-luanshya-idUSWEB40020090508>
- Ross ML. 2007. How can mineral rich states reduce inequality? In Humphreys M, Sachs J and Stiglitz J, eds. *Reversing the Resource Curse*. New York: Columbia University Press.
- [SADC] Southern African Development Community. 2006a. *Trade Information Brief: Wood and Wood Products*. Trade and Industrial Policy Strategies (TIPS). Gaborone: SADC.
- [SADC] Southern African Development Community. 2006b. *SADC Trade, Industry and Investment Review*. Gaborone: SADC.
- Sharife K. 4 December 2009. Zambia: Riches to rags. *All Africa*. Accessed 8 February 2011. <http://allafrica.com/stories/200912040686.html>
- Silwamba C. 23 February 2010. Govt awards prospecting licence to Chinese company. *Post Newspapers Zambia*. Accessed 21 November 2013. [http://www.postzambia.com/post-print\\_article.php?articleId=6259](http://www.postzambia.com/post-print_article.php?articleId=6259)
- Spring A. 2009. Chinese development aid and agribusiness entrepreneurs in Africa. In Sigué

- SP, ed. *Repositioning African business and development for the 21st century*. Proceedings of the 10th Annual Conference of the International Academy of African Business and Development (IAABD). Alberta, Canada: IAABD.
- Taylor I. 2008. *China's New Role in Africa*. Boulder, CO: Lynne Rienner Publishers.
- Thole, G. 27 May 2010. Zambia: Luanshya mine to create 1,000 more jobs. *All Africa*. Accessed 8 February 2011. <http://allafrica.com/stories/201005270777.html>
- Thole G. 9 May 2009. Zambia: Luanshya mine stirs back to life. *All Africa*. Accessed 8 February 2011. <http://allafrica.com/stories/200905110716.html>
- Times of Zambia*. 20 March 2010. Zambia: Banda's China visit resulted in seven agreements – Pande. *All Africa*. Accessed 8 February 2011. <http://allafrica.com/stories/201003221116.html>
- [UNCTAD] United Nations Conference on Trade and Development. n.d. *UNCTADstat*. Accessed 31 January 2011. <http://www.unctad.org/Templates/Page.asp?intItemID=1923&lang=1>
- [UNDP]. United National Development Programme 2011. *Human Development Report*. Geneva, Switzerland: UNDP.
- World Bank 2011. *World development indicators*. Accessed 20 April 2011. <http://data.worldbank.org/data-catalog/world-development-indicators>
- Zambian Parliament. 2009. *Daily parliamentary debates for the third session of the tenth assembly*. Accessed 21 November 2013. [http://www.parliament.gov.zm/index.php?option=com\\_content&task=view&id=873&Itemid=86](http://www.parliament.gov.zm/index.php?option=com_content&task=view&id=873&Itemid=86)
- [ZDA] Zambia Development Agency. 2009. *Investors Guide Handbook*. Lusaka, Zambia: ZDA.
- [ZDA] Zambia Development Agency. 2010a. *China's FDI in Zambia*. Lusaka, Zambia: ZDA.
- [ZDA] Zambia Development Agency. 2010b. Data extracted on 5 June 2010. *Database on Foreign Direct Investments*. Lusaka, Zambia: ZDA.
- [ZDA] Zambia Development Agency. 2010c. *ZDA Spotlight*. Issue 13. Lusaka, Zambia: ZDA. Accessed 21 November 2013. <http://www.scribd.com/doc/31034446/ZDA-Spotlight-April-2010>
- [ZCCZ] Zambia-China Cooperation and Trade Zone. 2011. ZCCZ. Accessed 9 February 2010. <http://www.zccz.org.cn/wzsy/index.asp>
- [ZNBC] Zambia National Broadcasting Corporation. 2008. *Chinese plant sacks Zambian workers*. <http://www.znbc.co.zm/media/news/viewnews.cgi?category=2&id=1204746978>
- [ZTJIS] Zhejiang Investment & Trade Symposium. 2010. *Zambia-China Economic & Trade Cooperation Zone*. Accessed 21 November 2013. [http://www.zjits.com/index.php/en/jwtz\\_c\\_detail/72.html](http://www.zjits.com/index.php/en/jwtz_c_detail/72.html)

### List of stakeholder interviews with CIFOR cited

1. 12 November 2010, interview with Zambia Development Agency (ZDA)
2. 15 November 2010, interview with Environmental Council of Zambia (ECZ)
3. 16 November 2010, interview with the Chinese Embassy in Lusaka
4. 8 November 2010, interview with the Ministry of Finance and National Planning
5. 1 December 2010, interview with ECZ in Ndola
6. 2 December 2010, interview with Chingola District Council
7. 2 December 2010, interview with Kalulushi District Council
8. 30 November 2010, interview with the Mines Safety Department (MSD) in Ndola
9. 1 December 2010, interview with Zambia Consolidated Copper Mines Investment Holdings (ZCCM)
10. 10 November 2010, interview with the Ministry of Mines and Minerals
11. 9 November 2010, interview with the Ministry of Commerce, Trade and Industry
12. 30 November 2010, interview with the Forestry Commission in Ndola
13. 1 December 2010, interviews with various farmers in the Chambishi concession area
14. 11 November 2010, interview with ZDA
15. 10 November 2010, interview with Goldcommon Resources
16. 9 November 2010, interview with the Zambian National Farmers Union
17. 5 June 2010, interview with ZDA
18. 23 June 2010, interview with the Department of Lands in Kasama
19. 25 June 2010, interview with StichtingNederlandseVrijwilligers (SNV) in Kasama
20. 20 February 2011, interview with the Forestry Department in Western Province
21. 1 December 2010, interview with NFCA employees



**CIFOR Working Papers contain preliminary or advance research results on tropical forest issues that need to be published in a timely manner to inform and promote discussion. This content has been internally reviewed but has not undergone external peer review.**

This scoping study evaluates the nature, scope, and scale of Chinese trade and investment relations in the primary sector of mineral-rich Zambia. It details how, despite diplomatic ties dating back to the liberation struggle of the 1960s, economic and political relations between the two countries matured only over the 2000s. This has focused primarily on the mining sector, with Chinese companies, many of which are state owned, investing heavily in mineral prospecting, copper mining and smelting, and associated (service) industries. With most investment activities targeting the mining sector, contrary to popular perception, China's direct participation in other primary sectors, such as forestry and agriculture, is negligible.

With Zambia's economy long struggling under external debts, Chinese investments have made a valuable contribution to Zambia's economic recovery. Most significantly, capital injections in the mining sector have led to a rehabilitation of dilapidated mining infrastructure, while enhancing the country's production capacity through the construction of new processing facilities and the development of greenfield mines. These investments have proven to be more stable and less subject to commodity price fluctuations than their Western counterparts. Moreover, while Chinese investors are widely criticized for their poor corporate performance, on most labor-related and environmental dimensions, Chinese mines perform on-par with industry averages. Chinese investors do appear more inclined to rely on close relations with the Zambian government and geographic clustering with other Chinese investors to forge a favorable and stable operating environment, which could adversely impact on their social responsiveness and government revenue generation. However, early evidence appears to contradict many of the long-held assumptions about Chinese economic and political participation in resource-rich countries.



RESEARCH  
PROGRAM ON  
Forests, Trees and  
Agroforestry

This research was carried out by CIFOR as part of the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA). This collaborative program aims to enhance the management and use of forests, agroforestry and tree genetic resources across the landscape from forests to farms. CIFOR leads CRP-FTA in partnership with Bioversity International, CATIE, CIRAD, the International Center for Tropical Agriculture and the World Agroforestry Centre.

[cifor.org](http://cifor.org)

[blog.cifor.org](http://blog.cifor.org)



Bundesministerium für  
wirtschaftliche Zusammenarbeit  
und Entwicklung



**Center for International Forestry Research (CIFOR)**

CIFOR advances human well-being, environmental conservation and equity by conducting research to help shape policies and practices that affect forests in developing countries. CIFOR is a member of the CGIAR Consortium. Our headquarters are in Bogor, Indonesia, with offices in Asia, Africa and Latin America.

