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Diversification and Development, or “White Elephants”?

Transport in Angola’s Lobito Corridor



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1. Introduction

Angola’s poor transport infrastructure remains a major bottleneck to economic growth and social development. The 27-year long war that ended in 2002 damaged the country’s overall infrastructure, and flooding during the rainy season also takes its toll on roads and other transport routes. Nonetheless, Angola is also one of the very few African countries that does not face a significant funding gap. Angola has the financial resources to address structural issues and rebuild the country’s shattered infrastructure to modernise and connect its cities. Angola also has the political will to address these infrastructure needs. The government has placed a clear priority on rehabilitating and expanding the nation’s ports, highways, and railways as a means of transforming Angola into a logistical hub of considerable importance in southern Africa. Assisted by foreign construction companies, credits lines and loans Angola embarked upon a major reconstruction of physical infrastructure. It did not get off to a smooth start in 2002. The challenges faced by humanitarian emergencies – one third of the population was internal refugees – and the need to disarm and reintegrate more than 100 000 rebel soldiers and their dependants provided little space for long-term thinking and planning. From about 2004, however reconstruction began to gain momentum and the achievements over the next five years were remarkable.¹

One of the government’s major efforts in this area has been rehabilitating and further developing transport infrastructure in the Lobito Corridor, which connects the Atlantic port of Lobito with Angola’s interior as well as the neighbouring countries of DR Congo and Zambia. The government has put massive funds into modernising the Lobito harbour and rehabilitating roads and railways along the corridor. A major component of this effort has been the rehabilitation of the Benguela railway that runs between Lobito and the eastern border of DR Congo (Macauhub 2015a). With Chinese assistance, rehabilitation began in 2005 and was officially completed in August 2014. The first regular train from Lobito arrived at Luau on the border with DR Congo in February 2015.

This report analyses Angola’s progress in developing transport infrastructure in the Lobito Corridor. What has been achieved? What are the main remaining challenges? Will this corridor become an engine for economic diversification and social and economic development? Will it become the preferred transport route for mines in DR Congo’s Katanga region and Zambia’s copper belt? Will these investments in transport also lead to development for poor and vulnerable people living in the corridor? Will Angolan authorities manage to bridge the gap between easy reconstruction and coherent development? Or will this new infrastructure end up as a “white elephant” that slowly degenerates as result of poor management and insufficient maintenance?²

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¹ Ricardo Soares de Oliveira (2015) provides a comprehensive analysis of this. See especially chapter 2 where the reconstruction is examined.

² This reports also expands on views and assessments first published as a policy brief in 2014 (Duarte et al. 2014; see also Duarte 2013).

2. The state of Angola’s transport infrastructure

At independence in 1975, Angola had a reasonably well-functioning transport infrastructure servicing the colonial economy and Portuguese settlers. This included 8,000 km of paved roads and railway lines connecting the interior with the ports and coastal towns. By the end of the war in 2002, most of this infrastructure had been destroyed. Accordingly, during the war, air transport had become the main means of domestic transport between the major towns and cities.

Most road traffic in 2002 was concentrated in the areas surrounding Luanda and the other main coastal cities (Namibe, Lobito, and Benguela). Many of the provincial capitals were inaccessible by road, and feeder roads were non-existent in large parts of the country. The quality of regional transport corridors was also poor (and in most cases absent), making the country’s connectivity with neighbouring countries and the broader Southern Africa Development Community (SADC) area difficult. Most roads were not paved and the road conditions were among the worst in Africa, despite significant improvements since 2002, according to a recent World Bank study (Pushak and Foster 2011).

Until recently, the situation was largely the same for the railways. Angola had three main rail networks linking the main ports with the interior, but most railway bridges and tracks were destroyed during the war. By 2002 most of the rail network was out of operation, and the performance of those few railway sections still in operation was very poor. There have never been any connections between the three railway lines.

In short, the challenges facing the transport infrastructure were enormous in 2002. The devastated infrastructure was a major bottleneck for any efforts at economic and social revival. The government embarked upon a major and ambitious plan to address this.

2.1 Government plans, priorities, and investments

Following the 2002 peace agreement, peace and political stability set the ground for an economic boom fuelled by revenues from oil production. The government prioritised rehabilitating the main road networks that connected the provincial capitals.

A major step in rehabilitating the road infrastructure began in 2005 when the Ministry of Public Works, through Angola’s *Instituto Nacional de Estradas de Angola* (Angola’s National Roads Institute), prepared the *Programa de Reabilitação das Infraestruturas Rodoviárias* (Programme for the Rehabilitation of Road Infrastructure). Following approval by the Council of Ministers the plan was integrated into the *Programa Executivo de Reabilitação de Estradas 2005/2006* (Executive Programme for the Rehabilitation of Roads 2005/2006). The objective was to rehabilitate existing, damaged road surfaces in order to connect the country’s economic centres. In 2008, the government stated that by 2012 it wanted to rehabilitate and build about 1,500 medium and large bridges as well as complete the rehabilitation of more than 12,000 km of the national road network. As discussed further below, the government also prioritised rehabilitation of the railway network, which was largely non-operational at the time.

2.2 Finance and implementation

Angola’s oil revenues have enabled substantial domestic resource mobilisation for rehabilitation and reconstruction. The level of government spending has been substantial by any standards and averaged a staggering US\$ 2.8 billion over the 2005–2009 period. This has made Angola one of the highest spenders in Africa on road infrastructure, according to World Bank estimates (Pushak and Foster 2011).

Foreign finance has also played a role in infrastructure rehabilitation and reconstruction, but the volume of this has been far less than Angolan government spending. Foreign funding has come from a variety of sources, but mainly through export credits and loans tied to purchases of goods and services from the funder. Very little foreign funding has been provided as investment or as development finance. China has been a particularly important provider of such finance, but also others – particularly Brazil – have also come forward. They have been joined by construction companies from Portugal, Israel and others (Soares de Oliveira 2015). The main western countries and financial institutions have been more peripheral in providing development finance for reconstruction (Corkin 2012).

2.2.1 China and other foreign players

Angola has become a main African destination for Chinese development finance through export credits and loans. Through its state-owned policy banks – the Export-Import (Exim) Bank and the China Development Bank (CDB) – as well as export credit insurance provider Sinosure, China has made significant funds available to Chinese companies who want to trade overseas. The scale of this funding is unparalleled: in 2010, China provided US\$ 112 billion in loans to Chinese companies doing business overseas. Chinese companies have firmly established their dominance in Africa in the last decade, and Angola has been a key destination for this type of Chinese development finance (Lee et al. 2014; Tjønneland 2015)

Infrastructure – roads, railways, energy facilities, harbours, and more – has been a core focus of Chinese loans and credits. This funding is typically tied to Chinese enterprises being awarded construction or export contracts. Coupled with this tied lending strategy is a strategy to secure long-term access to oil and other natural resources. This has involved financial support to the major Chinese state-owned oil companies and – most significantly – a series of “oil-for-infrastructure” deals. Under this model, the Chinese government makes loans to infrastructure projects in mineral-producing African countries in exchange for long-term mineral supply contracts (Halland et al. 2014).

China’s loans to Africa through the CDB and the Exim Bank amounted to an estimated US\$30–40 billion in 2012. At the meeting of the Forum for China-Africa Cooperation (FOCAC) in 2012, China promised to provide another US\$20 billion in loans – mainly through the CDB – by 2015 (Freemantle and Stevens 2013). In a relatively short period this has turned China into one of the major funders of infrastructure projects in Africa, comparable to the role of the World Bank in this area. But above all, this funding has provided a platform for the expansion of Chinese companies in Africa (Infrastructure Consortium for Africa 2014). Spearheaded by major Chinese state-owned companies (the main beneficiaries of the loans and credits), a vast number of Chinese companies – whether state-owned or private, big or small – have used these facilities to secure contracts on the African continent.

In addition to these commercial instruments, China also has development aid instruments. China’s aid programme for African countries has a long history, going back to the late 1950s. However, the programme’s present rapid expansion and focus began after 2000. The government has announced priorities and targets at FOCAC meetings and has published two white papers on aid (in 2006 and 2014). Official aid disbursements for the 2010–2012 period were nearly US\$ 15 billion, of which

about half was allocated to Africa (China 2014). These figures are not directly comparable to official development aid from traditional donors – the classification system of what constitutes development aid is different for Organisation for Economic Cooperation and Development (OECD) countries and China – but the figures do suggest that the size of the Chinese flows to Africa may be comparable to or even bigger than the flows from a country like Norway (the 11th-largest OECD donor).³

Chinese aid has some notable features. It is mainly bilateral project aid that is tied to the use of Chinese goods and services, and much of it – particularly aid to infrastructure projects – is closely linked to the commercial expansion of China’s state-owned companies. More than two-thirds of the 2010–2012 development aid went to public facilities (hospitals, schools, water supply, etc.) and economic infrastructure (transport, communications, energy, etc.). Fifty-six per cent of Chinese aid is provided as concessional loans to infrastructure projects and for industrial development with economic and social benefits, according to the 2014 Chinese white paper on development aid. The Exim Bank, the CDB, and others provide the loans, and aid is then used to subsidise interest on the loans. Approximately 8% of the loans are provided interest free, usually for the construction of public facilities.

The final component of Chinese aid is grants, which accounted for about 36% of all Chinese aid during the 2010–2012 period. These grants have been provided for a range of welfare projects, including human resource development, agricultural development, and technical cooperation, and more. One notable recent feature of this aid has been a major expansion of scholarships for African students to study in China: a target of 18,000 students for the 2012–2015 period was announced at the 2012 FOCAC meeting. Also significant was the promise at this meeting to provide funding for a total of 30,000 African professionals to attend short-term training courses in China. This has made China the largest provider of this type of individual capacity-building – along with countries like Japan and Germany (King 2013).

As already noted, Angola has become a main destination for Chinese expansion into Africa. Angola and South Africa are now China’s biggest trade partners in Africa, and these two countries accounted for over 50% of China’s trade with Africa in 2013. Angola is also China’s second largest supplier of oil (only Saudi Arabia supplies more). Today an estimated 50 Chinese state owned companies, as many as 400 privately owned companies, and approximately 150,000–300,000 Chinese citizens are based in Angola. This is remarkable, given that in 2002 China had hardly any presence in the country and Beijing’s relations with the MPLA government were very limited (China had provided support to UNITA during the liberation struggle) (Power and Alves 2012).

However, China’s relations with Angola changed rapidly when the Chinese Exim Bank began providing export credits for the development of infrastructure and other construction (Corkin 2013). The Exim Bank provided its first US\$ 2 billion credit line to Angola in 2004. This was followed by a credit line from the Hong Kong-based, private China International Fund (CIF), which with funding from Chinese banks provided another US\$ 2.9 billion loan for infrastructure development – also to be guaranteed with the delivery of oil.⁴ Later, the CDB provided a US\$ 1 billion loan for agricultural

³ A growing body of literature now analyses Chinese aid compared to traditional aid donors. See Brautigam (2011), Kitano and Harada (2014), and the recent special issue of the *IDS Bulletin* (Jing et al. 2014).

⁴ The CIF (or the 88 Queensway Group as it is sometimes referred to after its Hong Kong street address) has been important both in relation to infrastructure development in general and transport in particular. It has also been a key player and mediator in various “oil-for-infrastructure” deals between Angola and China. However, much of the CIF’s business dealings were with the Angolan government’s now dissolved reconstruction office and much of these dealings were clouded in secrecy. See more on this in Levkowitz et al. (2009), Murray et al. (2011) and Soares de Oliveira (2015: 189-192).

development – the first loan not to be backed by oil guarantees. In total, some US\$ 14.5 billion in credits and loans was made available by early 2013. However, further loans from the CDB were announced in 2013 (US\$ 1.3 billion to the Angolan state oil company Sonangol) and in late 2014 (another US\$ 2 billion to Sonangol). These loans were initially mainly to be used for construction of the oil refinery in Lobito (Macauhub 2014). However, Chinese funding has included significant funding for the Lobito Corridor and the Benguela railway – possibly mainly through the loan from CIF.

A large number of Chinese companies, the majority state-owned, entered the Angolan market through these loans and credit lines. Chinese authorities drew up a list of companies eligible to tender for projects in Angola, companies such as China Road and Bridge Corporation, China State Construction Engineering Corporation, China Guangxi International Construction, and Jiangsu Construction Group. The China Railway Construction Corporation obtained the primary contract for rehabilitating and reconstructing the Benguela railway (see below). The first Chinese companies to gain entry into Angola’s market also helped facilitate the entry of a many other Chinese companies into the country – both private and state-owned.

Brazil has been another important foreign player in the rehabilitation and reconstruction of Angola’s infrastructure. Brazil has provided significant state funding to stimulate Brazilian companies’ exports to Africa and engagement in development projects. This has mainly been through the Brazilian National Economic and Social Development Bank (*Banco Nacional de Desenvolvimento Económico e Social*, or BNDES), which provides loans to Brazilian companies, including export credits. BNDES also works closely with the Brazilian Trade and Investment Promotion Agency. Both have expanded significantly and have launched special Africa programmes in the last few years. The main focus has been on Portuguese speaking countries, in particular, Angola (World Bank 2011).

Brazil has provided several credit lines to Angola going back to 1980s, but it was only with the peace agreement in 2002 that trade and economic cooperation took off. Today more than 50 Brazilian companies operate in Angola – spearheaded by Petrobras (oil), Vale (mining), and Odebrecht (construction) – and as many as 40,000–50,000 Brazilian citizens live in the country. The total value of the six export credits Brazil has provided to Angola is estimated at over US\$ 7 billion. Several companies have benefitted from this, but the main beneficiary is Odebrecht, which heads a Brazilian construction and business empire in Angola. Odebrecht has been in Angola since the mid-1980s and is today the biggest private employer in the country with a staff of about 24,000. It is involved in a range of infrastructure projects in the Lobito Corridor, including roads, airports, harbour, water and sanitation, and energy.

Other foreign countries have also provided export credits and other types of support to companies from their territories. This has partly been a response to China’s rapid expansion, but also is a direct response to the booming Angolan economy, the demand for reconstruction, and prospects of lucrative business deals.

3. The Lobito Corridor – An overview

3.1 Geographic profile

The Lobito Corridor covers a wide region between the Atlantic Coast and the neighbouring countries of DR Congo and Zambia. It includes four provinces: Benguela, Huambo, Bié, and Moxico. However, the corridor catchment zone also extends to the southern part of the Kwanza Sul province (which includes the Sumbe, Seles, Cassongue, and Cela municipalites) and the northern part of Huíla province (which includes the Caconda, Caluquembe, Chipindo, and Chicomba municipalities). This area corresponds to the so-called *Triângulo do Milho* (Triangle of Maize) that in the past was connected to the railroad in the Caála municipality (the location of warehouses and facilities for storing and draining maize). The corridor catchment zone also includes the southern part of Lunda Sul province (which includes the Dala and Muconda municipalities). The catchment zone may expand further, particularly in the east, following further rehabilitation of the roads.

Figure 1. Map of Angola and its provinces



3.2 Demography and settlement

During colonial times, the Central Plateau (discussed in more detail below) was the most populated region of the corridor and also the region with the highest level of education and the highest proportion of Christians. Now, however, most people live in the coastal regions and in the Luanda, Benguela, and Huíla provinces.

The Ovimbundu – the inhabitants of the Central Plateau – historically played a dominant role in Angola’s transport sector because of their strategic location in relation to the major export commodities (Heywood 1984). Portuguese colonial settlement on these highlands only began after 1910–1915. The opening of transport routes to the central highlands was linked to the need for transporting goods from central Africa to the Atlantic coast: initially slaves, and later products such as ivory, wax, honey, and other agricultural products (Pössinger 1973; Heywood 1984). The Ovimbundu organised a system of long-distance trading based on royal caravans (*omaka*) and forming complex trading and political alliances between the states on the highlands (Soremekun 1977). However, the collapse of rubber prices in 1913–1914, the imposition of Portuguese colonial rule, and the subsequent construction of roads and the Benguela railway led to an end of the Ovimbundu’s key role as transport providers.⁵

With trade opportunities disappearing, the Ovimbundu turned to small-scale commercial agriculture, taking advantage of both the men’s commercial experience and the women’s practical and ecological knowledge (Clarence-Smith 1983; Heywood 1984). This shift to small-scale agriculture was known as the *Milagre Umbundu* (Umbundu Miracle), and the plateau became known as the *celeiro* (bread basket) of the country. Ovimbundu farmers struggled with poor soil fertility and had to introduce new technologies and agricultural practices, including the use of animal traction, fertilizer, and irrigation (Diniz 2006). However, an attractive climate and the rumours of the high quality of the soil attracted large number of Portuguese settlers to the area. They occupied the best land and failed to understand that preserving soil fertility depended on constantly using new agricultural land.

The relatively high population density and the pressure exerted on the soil eventually contributed to a significant labour migration from this region. Starting in the mid-1960s, the income of farmers steadily declined and many were forced to find work outside the region (Pacheco 1997). Migrant workers travelled abroad (especially to South African mines) as well as to various domestic destinations – to coffee farms in the north, coastal fisheries, and mines in the Lunda province. However, in the last years of colonial rule the system began to change. A new university in Huambo and a centre dedicated to agricultural research contributed to an increased knowledge of the area and a better understanding of the need for improved agricultural practices. The *Missão de Inquéritos Agrícolas de Angola* (Mission of Angolan Agricultural Surveys) noted that the colonial government’s agricultural policy was a disaster.

These conditions – coupled with the war – led to dramatic changes in migration and settlement. Firstly, as already noted, much of the rural population moved from the Central Plateau to the main cities of Huambo and Kuito and to cities in other provinces, in particular Benguela and Lobito. As an example, the population of the Huambo province, which was the most populous province in 1970, now falls well behind the populations of the Luanda, Benguela, and Huila provinces. Secondly, the percentage of people active in agriculture dropped considerably. In 1970, 85% of the population in Huambo and Bié lived in rural areas where the main subsistence comes from agricultural activity, but by 2014 this percentage had dropped to 53% and 56%, respectively, in these two provinces.

The Benguela Railway Company⁶ facilitated the evolvement of a common identity, and the ethnic consolidation of Ovimbundu groups with (seemingly) different historical trajectories (Neto 2008).⁷

⁵ See Pacheco (1997). From the moment construction of the Lobito port and connecting railway began, the Ovimbundu played an important role in settling the city of Lobito, exceeding by far the number of Mundombe inhabitants that lived in this region.

⁶ The Benguela Railway Company (*CFB*) was a 99-year private concession that the Portuguese government gave the British capitalist Robert Williams to build the line, expiring in 2001. It is now formally state-owned and responsible for the railway line.

Thus, in Benguela and Lobito most inhabitants now speak Umbundu, including many who do not identify with any particular ethno-linguistic group.⁸

Preliminary results from the 2014 census indicate that nearly one quarter of Angola’s population lives in the four provinces covered by the Lobito Corridor. If one adds to this the corridor catchment zone (that is, the Kwanza Sul, Huíla, and Lunda Sul provinces), the percentage increases to over 30. The war has, however, led to major changes in the population settlement within the Lobito Corridor with a greater proportion now living in the Benguela province and in the major towns. In the Benguela province, 37% of the population is rural. In the Moxico province, 45% of the population is rural, and 48% of the population lives in Luena, the provincial capital. On the other hand, in the Huambo and Bié provinces, the percentage of the population living in rural areas is higher in those living in urban areas (see table 1).⁹

Table 1. Total population of selected Angolan provinces (2014)

Provinces	Population	
	Total	Percentage
Benguela	2,036.662	100
<i>Urban</i>	1,278.680	63
<i>Rural</i>	757.982	37
Huambo	1,896.147	100
<i>Urban</i>	885.297	47
<i>Rural</i>	1,010.850	53
Bié	1,338.923	100
<i>Urban</i>	587.722	44
<i>Rural</i>	751.201	56
Moxico	727.594	100
<i>Urban</i>	398.107	55
<i>Rural</i>	329.487	45
Total	5,999.326	100

Source: *Instituto Nacional de Estatística* [National Statistics Institute], *RGPH 2014*, Preliminary Results.

The preliminary 2014 census results show that the population of the corridor is concentrated in districts and towns along the railway line. One example is the Moxico province. Five of the nine districts in the province are served by the train, and over 70% of the population lives in these districts.

⁷ The Ovimbundu is the largest and most important ethno-linguistic group in the Lobito Corridor. However, other groups can be identified, such as the Mundombe in coastal Benguela (historically dedicated to cattle ranching), the Nganguela in the corridor’s centre (working in subsistence farming and cattle ranching), and smaller groups (including the Luimbe, Luena, Luvale, Lutchaz, and Bunda) in the east (engaged in subsistence farming).

⁸ In the Bié province, Umbundu is also increasingly used by the Nganguela.

⁹ There is very secondary literature on the current state of these provinces, but seen an excellent report on the important Huambo province by the Development Workshop (Mendelsohn and Weber, 2013).

Similarly, nearly 60% of the inhabitants of the Bié province live in the four districts served by the train.

3.3 Agriculture and ecology

The Lobito Corridor has great agricultural potential, but the war destroyed most commercial farming and led to a major population displacement. Most data on prospects for future farming is derived from the pre-independence period. Agricultural data from the early 1960s is also still the best source for learning about the ecological characteristics of the country. The Lobito Corridor catchment zone is quite diverse. Five zones can be identified: the Central Plateau, the Upper Kwanza, the East, the Midwest Transition, and the South Coast.

The *Central Plateau* consists of the Huambo and Bié provinces (except for the Camacupa, Chitembo, and Cuemba municipalities), the eastern part of the Benguela province (the Balombo and eastern Ganda municipalities), and the northern part of the Huíla province. This is the most important zone from an historical, demographic, and socioeconomic perspective. The central highlands have an average elevation of 1,700 metres.¹⁰ The climate is tropical, with an average temperature of around 20°C, and humidity varies from 35–40% to 75–80%.¹¹ Most of the important rivers are in the Plateau, and numerous watercourses enable the use of irrigation systems.¹² The northern part of the Huíla province is traditionally responsible for maize production in the Plateau. The concentration of rainfall to six months interrupted by irregular dry periods lasting a few weeks (short dry season) causes profound disturbances in the annual crop production. However, agricultural activities in the Central Plateau have been carefully managed in the past to avoid soil erosion. The Plateau also has considerable potential for timber from fast growing species such as eucalyptus, pinus, and cupressus. It is estimated that in the early 1970s the planted forest area was close to 80,000 hectares. These plantations belonged to the Benguela Railway Company, other private companies, and the state, and one of their main purposes was to produce coal for the railway. Today it may be possible to recover and expand these forest plantations.

The *Upper Kwanza* is a transition zone between the Central Plateau and the East. It covers most of the Camacupa municipality and the western part of the Cuemba municipality in the Bié province. The climate is tropical and humid with annual rainfall between 1,100 and 1,300 mm, which makes rice cultivation possible. The main crops are maize, cassava, rice, sweet potatoes, and different kinds of fruit. This may enable the development of agroindustry. Cattle ranching, small ruminants, forestry, inland fisheries, aquaculture, and the exploitation and processing of honey are other potential activities.

The *East* includes a relatively narrow stretch of land on both sides of the railway line from the Cuemba municipality in the Moxico province to the border with DR Congo. The climate is humid with rainfall between 1,100 and 1,350 mm from October to April. The soil is predominantly sandy and fragile and vulnerable to erosion. The land in this area has a low agricultural value compared to that of the Upper Kwanza, but there is still potential for cultivating crops such as cassava and peanuts. In areas subject to temporary flooding (*tchanas*) rice may also be produced. The rivers have rich fish

¹⁰ Serra do Moco in the Londuimbale municipality is the highest point in the country (2,620 metres) and is considered one of the “seven wonders” of Angola.

¹¹ There are two seasons: rainy (September–April) and dry (May–September). During the latter, minimum temperatures are close to 0°C.

¹² These rivers include (among others) the Cunene, Queve, Cutato, Cubango, Catumbela, Balombo, Cuchi, Cunhinga, and Cunje. Topographical conditions allow the use of natural irrigation drawing upon water that accumulates in the valleys.

stock that could be exploited both for consumption and commercial purposes. There are also opportunities related to cattle, goats, and poultry. Finally, forests in the region may allow some harvesting of valuable species like mussivi, muvuca, and girassonde for furniture manufacturing and other construction. The forest may also be used for the gathering of honey and wax and for the collection of medicinal plants, wild fruits, and insects.

The *Midwest Transition* zone embraces the Caimbambo, Chongoroi, Bocoio, and Cubal municipalities, as well as the western part of the Ganda municipality. The average annual rainfall varies between 800 and 1,000 mm, increasing from west to east, but very irregularly. The arid climate and erratic rainfall constrain the area’s suitability for agriculture, although maize, sorghum, cassava, cowpeas, sesame, and castor crops have traditionally been cultivated here. Sisal, tobacco, sunflower, cotton, pineapples, and citrus fruit are other past commercial crops. Livestock (cattle and goats) and poultry also have potential in this region.

The *South Coast* climate area roughly comprises the municipalities located on the coast (Lobito, Benguela, and Baia Farta). It is an arid region with annual rainfall ranging from 200 mm along the coast to 500 mm further inland, an average temperature of 25°C, and a relatively high humidity. The soil has varying fertility. Some of the most fertile areas in the country can be found close to the Catumbela, Cavaco, and Coporolo Rivers. This region is suitable for producing fruit (bananas), vegetables, and potatoes based on irrigation, as well as for cattle breeding, so long as the water supply to pastures is guaranteed. Table 2 summarises the potential for crop production in each ecological zone.

Table 2. Summary of potential crop production in each ecological zone

Zone	Crop Production
Central Plateau	Maize, beans, potatoes, sweet-potatoes, vegetables, fruits, Arabic coffee, cattle for meat production and milk, livestock (risky), small ruminants, industrial aviculture, agroforestry (exotic species), fishing, and aquaculture.
Upper Kwanza	Rice, maize, beans, manioc, sweet-potatoes, vegetables, fruits, livestock, small ruminants, forestry, honey production, fishing, and aquaculture.
East	Rice, maize, beans, manioc, fruit (oranges, pineapples, mangos, avocados, bananas), vegetables, livestock, small ruminants, forestry, honey, fishing, and aquaculture.
Transition Centre-West	Maize, sorghum, beans, manioc, sesame, castor, sisal, tobacco, sunflower, cotton, fruit (pineapples and oranges), cattle ranching, small ruminants, and irrigated crops.
South-Coast	Maize, manioc, bananas, beans, potatoes, vegetables, cattle for meat production and milk, small ruminants, and industrial aviculture.

Source: primary data from authors research

3.4 The provinces in the corridor

The section below summarises the main economic features of each province.

3.4.1 Benguela

This province is, as noted above, quite heterogeneous when it comes to agricultural production. The main crops are maize, sorghum, potatoes, sweet potatoes, beans, cassava, vegetables, fruit (bananas, citrus fruits, pineapples, mangos, passion fruits), and coffee. Before 1975, the area also produced sisal, cotton, sunflower, sugar cane, palm, tobacco, and cattle for meat and milk. The commercial sector is now recovering, particularly in fruit (bananas, pineapples, and others), vegetables, and cattle, although the sector's growth is still modest compared both to the past and to its potential. The province's cattle production ranks fourth out of the other provinces, with a livestock population of 300,000 heads. However, this is much lower compared to the one million heads of cattle in this province before 1975 (Mendelsohn and Weber 2013).

Benguela has a long tradition in the fishing sector and is currently the second largest fish producer in Angola (after Luanda). However, the support structures on land and the fishing fleet are obsolete. Artisanal fishing is one of the most important income sources for the population that lives by the sea and river shores, and fishing is also a main food source for these communities. Some of the fish produced is frozen (and a minor proportion dried) and sold to inland provinces.

The Benguela province also has an industrial park, but as a result of the conflict and limited investment it is operating at very low levels. However, it still represents the second largest industrial park in the country. It includes the agro-industry and the factories that provide raw materials and processing (backward and forward activities). Reestablished factories include facilities for production of oil, soap, wheat (industrial and artisanal), pasta, soft drinks, sugar, salt and agricultural inputs. Reactivation of the industrial park is an urgent priority of the provincial government. It has attempted to create partnerships with different entities for the financing and restructuring of the various industrial subsectors. Furthermore, the provincial government has sought to develop and strengthened physical infrastructure that supports the economic activity in the Benguela province.

3.4.2 Huambo

The main economic activities in this province are subsistence agriculture and livestock. The main crops are maize, beans, sweet potatoes, potatoes, vegetables, and fruit. The agricultural sector in this province is technologically very poor. However, the use of animal traction and chemical fertilizers still makes it advanced compared to other regions of Angola.

The government has launched two main programmes to promote agricultural production: the *Programa de Extensão e Desenvolvimento Rural* (Extension and Rural Development Programme, or PEDR) and the *Programa de Agricultura Familiar Orientada para o Mercado* (Subsistence Agriculture Oriented Market Programme, or MOSAP). The latter is funded by the World Bank in cooperation with the International Fund for Agrarian Development and Japan. The project's objective is to increase the agricultural production of smallholders in the rural areas of Bié and Huambo as well as in Malanje (a province located outside the Lobito Corridor). The 25 *comunas* and *municípios* selected by the project are extremely poor, and the majority of households in the area are made up of formerly internally displaced persons who have taken up farming to provide a livelihood for themselves. The average farm is between one and two hectares, but in some villages a significant number of people do not have access to even one hectare of farmland. Some 126,000 households in the area are expected to be direct project beneficiaries. The most vulnerable are those who farm less

than one hectare; they are often woman-headed households, which in some villages make up an important part of the overall population.

The project area is home to about 80% of Angola’s food insecure population and an estimated 68% of its most vulnerable people. The area has a potential for long-term sustainable development. The project focuses on increasing agricultural productivity by building farmers’ capacity, by supporting seed multiplication and livestock production, and by supporting and strengthening extension services that respond to the communities’ needs. It works with farmers’ groups and traders to enhance the marketing of agricultural produce, storage, and access to local markets.

The African Development Bank has similar objectives with its Calenga project, which targets 11,000 households in the Huambo province. Another project implemented by the Angolan government has sought to improve distribution of agricultural products by setting up a company close to the railway line in Caála (a town in the Huambo province) dedicated to buying agricultural goods from producers.

In 1975, the Huambo municipality had the second biggest industrial park in the country. This included metal works, chemical products, building materials, bicycles, textiles, clothing, leather and footwear, food, beverages, tobacco, and wood and furniture production units. This all came to an end during the war, and today there is hardly any activity in the park. However, in 2012 the industrial, geology, and mining sectors received a total investment of nearly US\$ 8 million (from the government), which allowed the opening of 10 entities and the creation of nearly 280 jobs.¹³ An industrial park is also planned in the Caála municipality – *Pólo de Desenvolvimento Industrial da Caála*. The trading sector in the province revolves around agriculture (agricultural products, farming inputs). The commercial sector is characterised by and an expanding number of small private businesses.

Historically, Huambo was an important university centre with educational opportunities in agricultural sciences, medicine, economics, law, and education (among others). It also had two major research institutes in the agricultural and veterinary science areas.

3.4.3 Bié

Subsistence agriculture, although not very technologically developed, is more advanced in Bié than in other Angolan provinces. The use of animal traction has increased the cultivated area and has benefitted the small percentage of households who can afford the equipment. The use of fertilizers is limited because of poor distribution and limited credit availability to farmers. Table 3 provides a list of the main crops produced in the Bié province, as reported by the provincial directorate of agriculture.

¹³ The mining industry operates at low levels, but there potential for expansion based possible resources such as manganese, barium, iron, phosphorus, radioactive, tungsten, and graphite, gold, and copper.

Table 3. Main crop production in Bié

Crops	Production (in tonnes)
Maize	28,595
Beans	4,983
Sweet potato	17,994
Cassava	55,479
Potatoes	33,920
Vegetables	8,737
Peanut	1,347

Commercial farming is very limited and only involves about 500 farmers. However, the province has excellent conditions for the production of coffee, and policies are being developed to facilitate increased production. The quality of the Arabica coffee species in Angola is expected to be attractive on the international market. Cattle ranching in the area was severely affected by the war, but efforts are now being made to reverse the situation. Other subsistence and commercial activities are honey extraction (mainly in the east), beverage production (*caxipembe* and *hidromel*), and small-scale timber harvesting. These activities might be encouraged if access to markets can be improved. Many households are also dedicated to fishing, but commercial distribution is limited. Fishing may take on a greater role in household income with improved conservation, processing, and marketing.

Given the more advanced state of the agricultural and trade sectors in Bié, the Benguala railway has the potential to provide a particularly important economic boost in this province. In addition, the railway may create new income generating opportunities for citizens of local communities, especially women. The government’s PEDR and MOSAP programmes have also been implemented in this province. Close to the railway line in Chinguar a company has also been established to buy agricultural commodities. A large private project (*Terra do Futuro*, or Future Earth) is also in place providing support for young farmers involved in production of maize, rice, beans, and soybeans. Finally, the province has an institute in Andulo that offers training to agricultural technicians.

The industrial sector in the province of Bié includes an industrial park in the Cunje village - *Pólo de Desenvolvimento Industrial do Cunje* - with 39 planned projects. Some of those projects are already being funded by commercial banks while others are currently subjected to feasibility studies. Table 4 highlights the main industrial factories by municipality:

Table 4. Main industrial factories in Bié (by municipalities)

Industrial Factories	Municipalities								
	Cuito	Andulo	Nharea	Chitembo	Catabola	Camacupa	Cunhinga	Cuemba	Chinguar
Bakery	09	01	-	-	-	01	-	01	01
Pastry	03	-	-	-	-	-	-	-	-
Milling	54	01	01	01	07	13	-	04	-
Frame factory	06	-	-	-	-	-	-	-	-
Carpentry	11	-	-	-	02	-	-	-	-
Locksmith metal	10	01	01	-	07	03	-	03	-
Sawmill	01	-	-	-	01	-	-	-	-
Bock factory	06	-	-	-	-	-	-	-	-
Stone crusher	03	03	-	-	-	-	-	-	-
Ceramics	01	-	-	-	-	-	-	-	-

Source: Report on the Activities in 2013, Provincial Government of Bié (*Relatório de Atividades Desenvolvidas Durante o Ano de 2013, Governo da Província do Bié*).

Table 5 summaries the figures for the size of the industrial sector in Benguela, Huambo and Bié provinces.

Table 5. Number of workshops and factories in Benguela, Huambo and Bié

Provinces	Number of factories
Benguela	297
Huambo	141
Bié	34

Source: National Statistics Institute – Business units file statistics 2010 – 2013 (*Estatísticas do Ficheiro de Unidades Empresariais FUE 2010-2013, Instituto Nacional de Estatística*)

3.4.4 Moxico

The main economic activities in Moxico are agriculture, artisanal fishing, and trade. As in Bié these activities are benefitting from the new train service. Agricultural production is essentially for subsistence, and animal traction is hardly ever used. The main crops are cassava (representing more than 50% of the cultivated area), followed by maize, groundnuts, beans, and sweet potatoes. Rice was a major crop in the past and has the potential to become the main crop again in the future. Limited commercial farming has developed as a result of three government projects aimed at stimulating production of vegetables, goats, eggs, corn, rice, and soybeans.

Artisanal fishing is practised in the dry season and is an important complement to subsistence agriculture (which mainly takes place during the rainy season). Similar to in Bié, fishing might play a greater role in household income if the storage and distribution process is (vastly) improved. Other subsistence and commercial activities include honey extraction (mainly in the north and south), beverage production (*caxipembe* and *hidromel*), and small-scale timber harvesting. These activities might be encouraged if access to commercial markets is improved.

Finally, Moxico has many areas of natural beauty, tourist attractions, zones of protection for fauna and flora, and a rich cultural heritage.¹⁴ It also has great historical significance due to its role in the liberation struggle and the events that led to the end of the war in 2002. Above all, the capital city, Luena, is a border town and the gateway to DR Congo.

4. The Benguela railway

The history of the Benguela railway – *Caminho-de-Ferro de Benguela* – began in 1902 when the Portuguese government gave the British capitalist Robert Williams a concession to build a railway line from the Atlantic port of Lobito (Angola) through the central Angolan highlands to the copper producing area of Shaba (Katanga province) on the border between what is now Zambia and DR Congo. Construction inside Angola was completed in 1929, and in 1931 the railway was connected with the Belgian railway in DR Congo.

The primary purpose of the project was to provide a route for the transport of copper and minerals from Katanga to the Atlantic coast. However, domestic Angolan transport remained the main source of income for the railway company before Congo’s independence in 1960 (Katzenellenbogen 1973). The Benguela railway was a feeder line to the port of Lobito and served the coastal hinterland south of Lobito. This permitted the movement of African cash crops from the central Angola plateau to different Portuguese colonial centres (Hance and Van Dongen 1956).

Anti-colonial forces criticised construction of the Benguela railway, arguing that it would be an instrument for opening up the hinterland to colonialism and occupation (Esteves 2008). The construction of the railway also symbolised the massive use of forced labour. Neto (2008) analysed the economic and social consequences of railway construction in the Huambo region and noted that women and children were affected by this forced labour. During the independence struggle, the liberation movements were highly critical of role of the country’s railway system, in particular, the Benguela railway.

Importantly, however, affected communities adapted to the railways and resilient practices developed. The Benguela railway facilitated expansion of commercial agriculture, with maize becoming a significant cash crop in the Central Plateau region. In fact, during the 1940s, maize was the country’s second most exported product, after diamonds (Dilolwa 1978). The growth in commercial agriculture as a result of the railway gave local communities access to more and better job opportunities. This also led to social mobility and increased social differentiation within the affected communities. At the same time the new railway also facilitated the development of links between people from different regions and different ethno-linguistic groups. This contributed towards the construction and affirmation of a broader regional and national identity, as noted above (Heintze 2008).

¹⁴ Tchafinda Falls (Moxico), Luizavo River (Upper Zambezi), Calundo Lake (Leua) Dilolo River (Luacano), Cameia National Park (Cameia), and Mussuma Mitete Natural Reserve (Bundas) are among the natural attractions in this province.

The Benguela railway proved very successful and profitable and gained increasing importance, particularly following Rhodesia’s 1973 decision to close its border with Zambia. The Benguela railway then offered an alternative route to the main export markets. However, the benefits for the railway company of the border closure proved to be short-lived because the railway became a target for sabotage. The line was first seriously damaged on Christmas Eve in 1966, when UNITA launched its first major operation (Marcum 1978). Following a spate of further attacks, the line was closed in August 1975. At this time, while much of the railway line was under MPLA control, part of the line had been taken over by UNITA forces. Furthermore, the invasion of Katanga rebels from Angola into southern Zaire in March 1977 jeopardised any chance of re-opening the line. The railway was to remain closed for the next several decades, with the exception of the Lobito–Benguela coastal stretch and the Lobito–Cubal stretch (which was in operation until 2008, although it had sporadic stops due to the conflict and technical problems). Following rehabilitation of the Benguela railway these stretches were reopened in 2012.

4.1 Rehabilitation and development

Development of the Lobito Corridor has been one of the major priorities of the Angolan government since independence. This corridor is intended to be a multimodal road and rail system running from the Lobito harbour to the border with DR Congo and its Katanga province.¹⁵ Until 2010, the president’s National Reconstruction Office was in charge of developing the corridor, but this responsibility was later shifted to a special section in the Ministry of Transport – The Lobito Corridor Office. Since 2010 this office has been tasked with developing and managing the different transport components in the corridor.

The Lobito Corridor is an important initiative from a southern African perspective. Neighbouring countries and businesses linked to the mining industry have followed the corridor’s development with great interest. The route linking DR Congo’s mining regions, Zambia’s copper belt, and Lobito is also one of the main priorities in the 2011 SADC master plan for regional transport (Caholo 2012; Tjønneland 2011).

Currently, most exports from the mining regions of Katanga in DR Congo and the copper belt of Zambia (which contains some of the world’s largest deposits of copper, cobalt, and other minerals) are transported by truck and rail to Tanzania or (more often) to South Africa, which is 8000 km away. Shipping to these ports is slow and costly. By comparison, the distance from the Katanga region to Lobito is just 2000 km and – assuming a well-managed port and railway – much cheaper and quicker. Imports to the mines, especially oil, could also be transported by rail from Lobito. Angola’s interests in developing this transport channel will be further reinforced when the oil refinery in Lobito is completed. Given that energy and transport currently often constitute half the costs of operating a mine, the savings could be huge.

The Lobito harbour has a deep water port, replete with a dry dock, a container terminal, a new bulk ore terminal (expected to be operational sometime in 2015), and a nearby 200,000 barrel-a-day oil refinery under construction (with expected completion in 2018). The port has been rehabilitated with government funding and additional financial and technical assistance from China and others. In December 2014, the CDB announced that it will provide a US\$ 2 billion credit to Sonangol to be used to finance the refinery. The oil refinery itself is being constructed by a US company, KBR. In December 2014, Angola also signed an agreement with the French company CMA CGM, the world’s

¹⁵ In 2012, Angola’s Ministry of Transport hosted an international conference in Lobito that focused on the transport corridor. A series of papers on the different components were presented. See www.incfa.gv.ao/CD.html

third largest sea cargo transport line, wherein the French company will manage the container terminals in partnership with an Angolan company, the Multiparques Group (Macauhub 2015b). The DT Group – a joint company owned by the Swiss Trafigura Group and the Angolan Cochan Group – will manage the mineral terminal (see below).

Figure 2. Benguela railway



Source: *Caminho-de-Ferro de Benguela, EP*, 2012 (Benguela Railway Company)

Rehabilitation and reconstruction of the Benguela railway began in 2006 and was officially completed in August 2014. The railway now runs from Lobito for 1,344 km to the town of Luau, which is on the Kasai River between Angola and the Katanga province in DR Congo. The inaugural train from Lobito all the way to Luau ran in February 2015. The run-down railway bridge on the border is currently being rehabilitated and will provide a connection from Dilolo (the border town on the DR Congo side) to Kolwezi and mining areas in Katanga with further connections to the copper belt and mines in Zambia. The railway line on the DR Congo side is also currently being rehabilitated with funding both from the World Bank and China.¹⁶ Completion of the railway in DR Congo and the establishment of effective management of the DR Congo rail system may still take some time, however. Trains between Dilolo and Kolwezi are currently forced to run slowly on poor tracks, and this stretch does not appear to have been prioritised in the current phase of rehabilitation.

In Zambia, government and mining interests are preparing to construct a new, direct railway line from mines in the copper belt to Angola via the Jimbe border crossing. This line would connect to the Benguela railway as a branch line at the Luacano station. This will be far more efficient than the

¹⁶ This is the first project where China and the World Bank have provided funding to the same project (Reuters, 2011). The status of the DR Congo project can be monitored through the World Bank's website at www.worldbank.org/projects/P092537/drc-multi-modal-transport?lang=en

current connection via DR Congo and Katanga. The South African company Grindrod announced in January 2015 that it is providing US\$ 500 million for the first phase of the construction, which will link mines in Zambia’s Northwestern province to the copper belt. A future second phase will link this line to the Benguela railway (African Review of Business and Technology, 2015).

In the Lobito Corridor, a main national road runs parallel to the railway from the coast to Luau, although the road is still not suitable for commercial traffic in the east. This road is the western part of what is planned to become Trans-Africa Highway 9 (TAH9). TAH9 will eventually run from Lobito on the Atlantic coast to Beira on the Indian Ocean coast. So far the highway is mainly operational in the south eastern part of the continent. Major parts of the Angolan section of this highway road have deteriorated or were destroyed during the war and have not been operational for many years. Accordingly, rehabilitation and reconstruction is now being undertaken, and most parts of the road from Lobito to Kuito (in the Bié province) were completed in 2014. Beyond Kuito, however, large stretches of the road are still in need of rehabilitation. In particular, the stretch from Luena (the provincial capital of Moxico) to Luau is a very difficult drive to navigate because of many potholes on a very bad road. A road also connects Luena to Zambia via the border post at Jimbe, but this is also a dirt road not really suitable for commercial traffic.

The Angolan government and foreign credit lines and loans (mainly from Brazil) have provided funding for road rehabilitation, with the Brazilian company Odebrecht playing a key role. Generally, roads in the western part of the Lobito Corridor – and in the western part of Angola in general – are sparser and much more dilapidated compared to those in the eastern part. This is no small part due to war, when much of the road network was destroyed, but also has resulted from the impact of periodic torrential flooding that sometimes leads to roads and bridges being washed away. Safety is also big issue on Angola’s roads, as landmines continue to be a major problem in the areas outside major towns. During the rainy season from November to April mines may become displaced and end up outside recognised minefields.

Several airports along the corridor have also been rehabilitated or built from scratch. These include the main Catumbela airport (which lies between Benguela and Lobito), a new airport in Luau (inaugurated in February 2015), and several others. The Catumbela airport was built by a consortium of companies that included Odebrecht (Brazil), Somague (Portugal), and Imbondex (Cuba) and was financed through public funds and foreign credit lines.

However, the railway is the main mode of transport in the corridor. The first train to reach the border town Luau arrived in December 2013, and the project was officially completed in August 2014, with regular train service from Lobito to Luau beginning in February 2015. This has just been written Chinese companies funded and implemented the work, with the private CIF and the state-owned China Railway Construction Corporation playing key roles, using the oil-for-infrastructure model. In a similar way, China led the rehabilitation of the two other main railway lines in the country – the Northern Line from Luanda (479 km) and the Southern Line from Namibe (907 km). With its 1,344 km of track, the Benguela railway is by far the longest of these. The Benguela railway is also the longest railway line built by the Chinese in Africa since construction in the 1970s of the 1,860 km TAZARA railway between Zambia and Tanzania.

The cost of rebuilding the Benguela railway – according to Chinese sources – was US\$ 1.83 billion. It was built under an engineering, procurement, and construction contract, with all equipment sourced from China. The design speed is now 90 km per hour (compared to the previous 30 km per hour). China has delivered wagons and locomotives and built 67 railway stations, 35 railway bridges, and warehouses at several stations. The railway will have the capacity to carry 20 million tonnes of cargo and four million passengers annually, according to the China Railway Construction Company. Most skilled workers were Chinese, but approximately 100,000 Angolans were employed during the

construction and some 10,000 Angolans have received training as railway technicians, according to the Chinese company.¹⁷ Rehabilitation has been a huge task and has in many cases involved building entirely new bridges, replacing obsolete or deteriorated rails, and removing mines from the war.

China has provided locomotives and rolling stock to the three main railways. However, in 2013 the Angolan government signed a memorandum of understanding with the US giant General Electric (GE) under which GE will refurbish the current rolling stock of locomotives and supply an additional 100 new locomotives. GE will also support and provide technical assistance to a locomotive service plant in Lobito.¹⁸ In June 2014, the US Export-Import Bank announced that it will provide a US\$ 350 million guarantee for the delivery of these locomotives (Macauhub 2014a). The locomotives are expected to be assembled at the South African company Transnet’s locomotive plant outside Pretoria and are expected to be mainly used for heavy transport to the mines. In addition to the planned delivery of these locomotives, South Africa has also serviced and refurbished a number of old Angolan locomotives.

A crucial component of the Lobito Corridor and its ability to deliver is the management and logistics platforms. Angola is considered to be among the world’s worst performers when it comes to the trade facilitation logistics, including the quality, timeliness, and tracking and tracing of shipments. Some improvements have been recorded (e.g. in customs procedures), but logistics performance remains a challenge (PricewaterhouseCoopers 2013). The railway, the road, the port, and other transport components are national assets that serve national interests and priorities. Accordingly, the government through its Ministry of Transport and the Lobito Corridor Office are planning and supervising the development of these platforms. The *Rede Nacional de Plataformas Logísticas* (National Network of Logistic Platforms) provides the basis for this. The Ministry has also initiated logistics platforms projects in the Lobito Corridor, including in Luau and in Caála.

An on-going process of institutional reform in the management of the harbour and the railway sector has started. A notable feature of this process is an effort to involve the private sector – mainly international companies that have partnerships with politically connected Angolan companies – in managing the new infrastructure. One example is the Swiss company Trafigura – a global giant in commodity trading and logistics. Trafigura now plays a key role in managing Angola’s imports of refined petroleum products as well as supplying fuels to the mining industry in Katanga and in Zambia (Berne Declaration 2013). With the Angolan company Cochan, Trafigura has set up the DT Group, which manages Trafigura’s Angolan investments in mining, infrastructure, agriculture, and more. The DT Group also has links to the Belgian company Vecturis, which is involved in rehabilitating the railway in Katanga, including the border crossing at Dilolo/Luau and the connection to the Benguela railway (Grobler 2014). The DT Group is also expanding its role in relation to the railway and the Lobito harbour. Its website reports that the DT subsidiary Angofret – specialising in cargo and logistics – now owns and operates multimodal stations and depots on the Benguela railway at Lobito, Catumbela, Huambo, Luena, and Luau.

¹⁷ See Jornal de Angola (15 Aug. 2014) http://jornaldeangola.sapo.ao/economia/concluidas_obras_do_caminho-de-ferro; English news.cn, “Chinese Company Completes Massive Angolan Railway” (13 Aug. 2014), http://news.xinhuanet.com/english/china/2014-08/13/c_133553543.htm.

¹⁸ Jornal de Angola, “Assinado acordo de fornecimento de locomotivas” (16 Feb. 2013), http://jornaldeangola.sapo.ao/economia/assinado_acordo_de_fornecimento_de_locomotivas; see also General Electric, “Angola,” www.ge.com/africa/company/angola.

4.2 The corridor today

The Benguela railway and the incomplete Trans-Africa Highway 9 still primarily serve domestic needs in Angola. Although Angola's infrastructure may be fully operational later in 2015, there is no cross-border transport and it will still take some time before DR Congo and Zambia have the infrastructure in place to ensure the reliable movement of copper, cobalt, and other mining products to the export terminals in Lobito, or oil from Lobito to neighbouring countries.

However, benefits from the domestic train service are already evident. One quarter of Angola's population lives in the corridor's catchment zone. The Benguela railway provides regular and affordable transport to communities that previously had no access to such transport. Passenger trains run daily between Lobito and Benguela and twice weekly between Lobito and Huambo and the east. Tables 6 and 7 below list the passenger figures for different distances on the line in 2013 and 2014.

Table 6. Passenger traffic, Benguela railway (2013)

Month	Lobito-Benguela	Lobito-Huambo	Huambo-Kuito	Kuito-Luena	Total
January	7,964	1,454	5,152	9,375	23,945
February	10,323	1,153	3,939	7,495	22,910
March	13,752	708	3,459	4,465	22,384
April	8,734	1,327	3,277	6,560	19,898
May	8,172	1,847	4,867	11,685	26,571
June	6,826	1,191	4,550	9,670	22,237
July	9,941	1,133	4,827	8,844	24,745
August	8,806	-	4,041	11,975	24,642
September	12,430	-	4,612	17,726	34,768
October	12,033	-	5,351	17,655	35,039
November	12,118	720	4,495	10,382	27,715
December	9,938	1,668	6,510	12,897	31,013
Total	121,037	11,201	55,080	128,549	315,867

Source: Benguela Railway Company, E.P., November 2014.

Table 7. Passenger traffic, Benguela railway (2014)

Month	Lobito-Benguela	Lobito-Huambo	Huambo-Kuito	Kuito-Luena	Total
January	9,954	1,214	5,852	11,697	28,717
February	8,718	1,072	7,798	10,914	28,502
March	9,783	1,128	7,568	9,538	28,017
April	8,281	1,631	9,854	13,633	33,399
May	3,378	1,151	6,141	8,566	19,236
June	8,033	1,304	3,943	-	13,280
July	9,886	1,458	6,393	10,922	28,659
August	7,026	1,721	6,508	13,843	29,098
September	7,339	1,471	7,528	13,057	29,395
October	10,131	2,240	6,121	11,481	29,973
November					
December					
Total	82,529	14,390	67,706	103,651	268,276

Source: Benguela Railway Company, E.P., November 2014.

The impact of the operation of the Benguela railway is evident in a number of ways. This is particularly obvious in the Bié and Moxico provinces where the road infrastructure is very bad and in many instances missing altogether. In the absence of road transport services, the train service between the capitals of these two provinces is already making a major difference. The tables above shows that there is significant traffic on the short coastal stretch between Benguela and Lobito, where the train operates as a commuter train. There is little traffic on biweekly trains between Lobito and Kuito, which is a stretch with good alternative roads. However, the train service has really made a difference on the Kuito–Luena stretch (and presumably also on the passage from Luena to the DR Congo border, which just opened in February 2015). For these routes, there are no real alternatives to the train.

The train service has also contributed to new social dynamics along the corridor from Kuito to Luena. The railway has facilitated the reestablishment of commercial links between urban and rural areas and between inland and coastal areas. Significantly, it has also helped develop a series of “intermediate trade centres” that act as marketplaces and distribution points for low-income households. The villages and settlements along the railway that appeared to be deserted in wartime are now bustling with small-scale trade, markets for agricultural products, and passenger activity. Table 8, 9, 10, and 11 below reveal an increased amount of goods and freight moved from 2013 to 2014.

These new trade centres are attractive for emerging small-scale traders and transport operators. They provide a training ground for rural-to-urban migrants, a basis for a more equitable distribution of social services, and an arena for the distribution of information, ideas, and social mobilisation.

Table 8. Goods moved by the Benguela railway in 2013 (units)

Month	Lobito-Benguela	Lobito-Huambo	Huambo-Kuito	Kuito-Luena	Total
January	528	4,556	4,148	8,755	17,987
February	307	3,105	2,568	8,146	14,126
March	109	1,675	925	6,822	9,531
April	133	2,395	1,864	8,736	13,128
May	416	1,738	2,150	17,246	21,540
June	718	2,643	1,166	16,522	21,049
July	706	1,964	1,560	16,833	21,063
August	521	-	1,586	11,645	13,752
September	551	-	917	7,735	9,203
October	492	-	360	8,536	9,388
November	952	3,162	433	10,357	14,904
December	892	2,712	407	13,954	17,965
Total	6325	23,950	18,084	135,277	183,636

Source: Benguela Railway Company, E.P., November 2014.

Table 9. Goods moved by the Benguela railway in 2014 (units)

Month	Lobito-Benguela	Lobito-Huambo	Huambo-Kuito	Kuito-Luena	Total
January	662	2,685	399	10,964	14,710
February	798	3,381	624	11,673	16,476
March	354	2,298	1,275	11,352	15,279
April	488	3,119	1,872	17,242	22,271
May	200	1,518	463	11,549	13,730
June	274	2,449	379	-	3,102
July	793	2,280	592	20,654	24,139
August	247	2,108	362	18,798	21,515
September	612	2,378	344	11,562	14,896
October	527	2,718	312	17,982	21,539
November					
December					
Total	4,955	24,934	6,622	131,776	168,287

Source: Benguela Railway Company, E.P., November 2014.

Table 10. Freight moved by the Benguela railway in 2013 (tonnes)

Month	Lobito Luena	Lobito Huambo	Lobito Cuemba	Huambo Luena	Huambo Cangumbe	Huambo Cuemba	Kuito Cuemba	Kuito Luena	Lobito Kuito	Total
January	2,560									2,560
February		480								480
March	480			200				80		760
April	520							80		600
May	1,040			40				40		1,120
June	1,800			40				40		1,880
July	2,480			240						2,720
August				1,120				80		1,200
September				560				80		640
October	80		160	520	80		120	80		1,040
November	1,720		200	160	80	280		320	1,120	3,880
December	360		160	40		80		40		680
Total	11,040	480	520	2,920	160	360	120	840	1,120	17,560

Source: Benguela Railway Company, E.P., November 2014.

Table 11. Freight moved by the Benguela railway in 2014 (tonnes)

Month	Lobito Luena	Huambo Luena	Huambo Cangumbe	Cangonga Lobito	Kuito Cuemba	Kuito Luena	Lobito Kuito	Total
January	1,080	120						1,200
February	1,120	240		200				1,560
March	1,120	80		200		400	40	1,840
April	1,240	40			120			1,400
May	920	320				200		1,440
June	480							480
July	2,160	80	80	200	80			2,600
August	1,920	120	120		80	40	80	2,360
September	680	480						1,160
October	440	480	40		40		80	1,080
November								
December								
Total	11,160	1,960	240	600	320	640	200	15,120

Source: Benguela Railway Company, E.P., November 2014.

In addition, the railway has given rise to new transport operators on motorbikes in the vicinity of train stations. This group consists of *kupapata* and *kaleluia* operators, individuals who have scraped together enough money to buy a motorcycle, some with a small back wagon (*kaleluia*). *Kupapatas* and *kaleluias* provide a type of taxi service that has developed as a response to a gap in the transport market. They provide transport to areas that are not easily accessible by larger motorised services and to individuals with insufficient funds to pay for *hiaces* (regular taxi service) or a hired van, lorry, or truck. Importantly, the motorcycle taxis also transport goods to and from the emerging marketplaces around the railway stations.

The motorcycle taxis play a crucial role not just in boosting commercial trade (and thus earning opportunities for poor and isolated households), but also in creating informal forms of employment and thus expanding the informal economy. This includes self-employment for those who own and drive the motorcycles, as well as wage labour for those hired by the owners to drive.¹⁹

The rise of new taxi services – both motorcycles and major commercial providers – is just one illustration of how rehabilitation of the transport infrastructure and adaptive strategies by rural and urban communities along the railway line have led to potentially significant social changes in the Lobito Corridor. Transport operators are playing (both directly and indirectly) a major role in stimulating employment growth and providing better access to income-earning opportunities. Other facets of this change include an increase in local entrepreneurship, emerging market economies, class and social respectability, and rural-urban migration.

5. The transport infrastructure at work

5.1 The train, expanding trade, and new dynamics

The railway company operates three different types of trains in addition to the commuter train between Lobito and Benguela:

1. The *comboio-mala* is a passenger train that stops at all train stations, including at the crossing of provincial borders (Benguela, Huambo, Bié, and Moxico). This train is used by passengers carrying small quantities of goods to sell in addition to personal belongings. One railway wagon is used exclusively by Benguela railway staff.
2. The *comboio-recoveiro* is a train that carries passengers and large freight loads. This train is slower because of longer stops at the railways stations to allow for off- and on-loading goods. This is particularly the case on the stretch between Kuito and Luena (the Catabola, Camacupa, and Cuemba stations). We observed that passengers often complained about the delays caused by such stops, which often lasted 1–2 hours. We also noted that because of delay at the first stations, goods were not loaded at the later Cuemba station. At this and many other stations there were no warehouses or facility for storing goods.
3. Finally, a separate goods-only train runs only when there is sufficient volume of goods to be transported. It departs from Huambo for Luena at 5 a.m. Goods between Lobito/Benguela and

¹⁹ A number of studies concerning intermediate means of transport emphasise the economic role of transport in the development process: Barwell et al. (1985); De Veen (1991); Riverson and Carapetis (1991); Airey (1992); Dawson and Barwell (1993); Howe and Dennis (1993); Edmonds and De Veen (1993); Malmberg-Calvo (1994); Grieco, Apt, and Turner (1996); Porter (2001); Starkey (2001); Heyen-Perschon (2005); and Hook (2006).

Huambo are to a greater extent moved by trucks. However, a goods train depart Lobito for Huambo at 6 a.m. if there is sufficient demand. Goods moved include fertilizers, cement, salt, dried fish, beans, tomatoes, and cabbage. In the opposite direction from Luena to Huambo and the coastal areas the train carries fish, maize flour (*fuba*), cassava, honey, dried meat, and wood. This train only stops at the main stations.

A passenger train and a goods/passenger train run from Lobito (Benguela province) to Huambo (Huambo province) each week. They depart from Lobito at 5:30 a.m. on Monday (goods/passenger) and Tuesday (passenger) morning, arriving at Huambo 15 hours later (8:30 p.m.) and moving on average 250 passengers per journey. This is a distance of approximately 350 km. The same trains run the following days (Tuesday and Wednesday, respectively) from Huambo to Kuito (Bié province), leaving at 9 a.m. and arriving at 5:30 p.m., after traveling a distance of 150 km. Finally, after an overnight stay in Bié, the trains depart at 4.30 a.m. for Luena (Moxico province) on Wednesday and Thursday, respectively. This final journey – a distance of approximately 408 km – takes 16 hours. The trains return to Lobito on Friday and Saturday, respectively. In February 2015, a service from Luena to Luau (on the border with DR Congo) also began.

Two members of the team behind this report travelled on the goods/passenger train to observe first-hand the services and evolving dynamics along the railway and to interview passengers and staff.²⁰ The train they took left Kuito (the capital of Bié province) at 4:30 a.m. on Thursday, 16 October 2014, arriving in Luena 16 hours later. The train consisted of six third class passenger carriages, one second class passenger carriage, and five freight cars. The journey to Luena (the capital of Moxico province) is a distance of 330 km and included stops at a range of train stations: Catabola, Camacupa, Kwanza, Cueli, Cuiva, Cuemba, Savinguila, Munhango, Cangonga, Cavinbe, Cangumbe, and Cachipoque. These stations, like the railway itself, have all been built by Chinese companies. They are modern and relatively well-equipped.

The cost of a passenger ticket depends on the class of travel (second or third class). The fare doubles on each stretch of the route. Freight rates are more complex. Depending on the volume, the tariff can vary from 200(US\$ 2) to 800 kwanzas (US\$8). A freight car may carry up to 40 tonnes with the price depending also on the distance and type of goods carried. According to the train supervisor interviewed en route, renting a freight car from Huambo to Luena might cost around 210,000 kwanzas (US\$ 2,100). Most of the stations have no warehouses, and day labourers who assemble at the stations waiting for job opportunities often move goods to and from the stations. Construction companies from Lobito are among the main users of rail transport from the coast to the interior.

Train stations tend to be crowded with passengers. People waiting for a train gather inside and outside train stations using any seat or floor space available. Passengers will attempt to board the train immediately even if the train is expected to make a long overnight stop, such as in Kuito. Passengers coming from Lobito or Huambo whose final destination is the Moxico province would rather wait for 10 hours on the train than leave and risk losing their seats. Travelling can be excruciatingly stuffy due to overcrowded wagons and high temperatures, especially in the rainy season. Passengers often bring along food to eat during their journeys.

²⁰ Although researchers know they are by no means an invisible, the tendency of train passengers and non-passengers to modify their behaviour was unlikely to occur in this instance, as they were not aware that their actions were being recorded (at least until they were approached for an interview). There are varying degrees of observation as there are a variety of levels of engagement by researchers (Feldman, Bell, and Berger 2003).

Figures 3 and 4. Passengers at Kuito train station



Source: Authors’ photographs

The long train journey allowed for extensive observation of passengers’ behaviours and interactions. Furthermore, the journey allowed for observation of the lively activity and the informal economy at railway stations (see figures 3, 4, 5, 6, 7 and 8). There is a strong demand for the small-scale movement of goods between railway stations, especially from Huambo and further east, due to poor roads and lack of transport alternatives. The train has also facilitated the creation and development of new marketplaces at railway stations, stops, adjacent areas along the corridor, and even on the trains themselves. People from peri-urban informal settlements (*sanzalas*) are able to sell their agricultural surplus and charcoal and buy essentials and other consumer goods that were unavailable before the coming of the railway. Baskets of potatoes, avocados, bananas, sugar cane, chickens, sacks of manioc flour (*bombo*), and industrial products are all available at the station platforms, which have turned into lively markets. Many potential buyers are on each train, but negotiations must be completed quickly because of the train’s short stops on the smaller stations. Other traders board the train and travel to the next station while selling goods such as chicken and fries, soft drinks, and fruit inside the train. These traders told us that their income was sufficient to compensate for the return fare as well as for the *kupapata* taxi service to and from the station to their homes.

Figures 5,6,7 and 8. Trade Dynamics at the Train Station





Source: Authors’ photographs

Trade on the trains and at the stations is dominated by a relatively large number of independent operators, most of whom are women, who travel by train to do business. The prevalence of women may be related to the more limited availability of other income-generating opportunities for women. Women collect products (tomatoes, carrots, sweet potatoes, other vegetables and fruits) and bring them to the market (by themselves or by hiring a transporter). They may sell these products to wholesalers in urban areas, to retailers or directly to end customers.

One of the interviewed women, Teresa Nhama from Huambo, started her business selling different products such as a natural medicine to people in the local markets of Luanda and Cubal (in the Benguela province). After the railway opened, she changed her business to sell exclusively to train passengers. During the entire journey she moves inside the carriages, and between the second and third class, trying to sell products to passengers. When the train stops, she tries to sell to people at the stations. The train has given her increased mobility and access to more customers, including those in distant areas such as Moxico. Teresa claims that she and her family are now better off compared to in the past (see figures 9 and 10). Other women interviewed also claimed that they now do business at a greater profit than before.

The railway has also created new prospects for expanding trading activities. With slightly increased profit margins and a higher volume of trade, some of the women interviewed said they were able to accumulate sufficient start-up capital to move from selling charcoal or agricultural products to selling consumer goods such as clothes. They buy these goods in coastal towns and then sell them in Kuito and Luena. These kinds of trading activities provide higher earnings and are physically less demanding than producing and selling charcoal or agricultural products. This allows these women to meet other family and personal requirements that they could not afford before. The improved socioeconomic condition of women traders is also evidenced by our observation that some travel seated in the more expensive second class in order to travel more comfortably.

Figures 9 and 10. Interviewed woman trader (Teresa Nhama)

Source: Authors’ photographs

In short, the Benguela railway is doing more than just moving people and commodities from A to B. Many communities, particularly those in the more remote provinces of Bié and Moxico, have gained access to new income earning opportunities. Even in areas such as the stretch from Huambo to the Atlantic coast, where highway reconstruction has been completed and a good road runs parallel to the railway line, the train serves as an alternative means of transport to a large number of poor people who cannot afford the more expensive *hiaces* and bus service. Furthermore, we observed that a number of travellers use the train to visit friends and relatives, or simply to travel for leisure.²¹ Inside the train, passengers circulate to observe or check the views through the windows – the scenery, villages, and children waving their hands. For some of the older travellers, the arrival of the train brings back memories of the past.

5.2 Trans-Africa Highway 9, roads, and road transporters

The conditions for running a train service are now in place. However, more time is still needed before a national road system will cover the Lobito Corridor. The rehabilitation of the roads have experienced delays and there are serious gaps in achievements. Generally, the main roads and highways in the Western part of the country have been rehabilitated, but far less has been achieved in the Eastern part. The highway still has to be rehabilitated and upgraded from Kuito to Luena and the border with DR Congo. Even more challenging is the need for the construction of feeder roads to the main highway and to the railway – particularly in Bié and Moxico. Finally, even where roads are in place, the available transport services need to be made accessible for the vast number of poor people.

The more advanced rehabilitation of roads in the Benguela and Huambo provinces illustrates the emergence of new issues and new demands. Regulation of transport operators is often inadequate. Attempts to assign motorised transport operators to specific routes are sometimes ignored if the returns obtained from operating quieter, less busy routes are perceived to be too low. Thus, some itineraries are particularly badly served compared to more profitable routes.

²¹ Despite all the difficulties, poor and low-income individuals can always find a way to afford travel to visit relatives and friends, to visit sick relatives and friends, and to attend funerals – often bringing with them goods to offer (especially food). Even this kind of travelling makes an important contribution to the circulation of information, the exchange of ideas, and the settlement of family disputes.

Furthermore, vehicles are often not roadworthy and are overloaded. Violations of traffic laws and irresponsible driving characterise traffic on the new roads. These factors have contributed to a rising number of road accidents.

The labour conditions of those working in the transport sector are also becoming an important issue. Many workers labour under unfavourable (non-formal, non-regulated and non-safe) conditions that ultimately affect the transport sector’s adequacy, efficiency, and reliability. This is particular evident in road transport.

6. Conclusions: Making the Lobito Corridor a vehicle for development

Will the much improved transport sector contribute to realising the Angolan government’s vision for development? Will it contribute diversification and poverty reduction in the Lobito Corridor? The achievements in developing the corridor are in many respects remarkable. Significant investments have been made and the backbones of the corridor – the Lobito harbour, the main roads in the Western part and the Benguela railway – is now operational. Rehabilitation and reconstruction of the railway was officially completed in August 2014, and in February 2015 the first regular train from Lobito arrived in Luau. Chinese companies played the main role in railway construction, including building railway stations, providing wagons and locomotives, and developing signal systems and other software. The Benguela railway has been China’s biggest railway project in Africa since the Tanzania–Zambia railway was built in the 1970s.

Much investment has also gone into rehabilitating roads in the corridor, with companies from Brazil and other countries playing a key role. However, national roads still need to be rehabilitated in large parts of the Bié and Moxico provinces, and progress in rehabilitating and constructing secondary and feeder roads in the interior has been limited thus far.

What the implications do these huge investments in transport infrastructure have on social and economic development? And will the role played by China and others in developing the corridor also have an impact in the future? First, it must be emphasised that the main objective of the railway – providing a connection to the mineral-rich regions of DR Congo and Zambia – will not be realised immediately. There is still much work to be done in these two neighbouring countries before the new route to Lobito becomes operational. However, the great interest multinational companies have expressed in the railway and in the Lobito harbour indicates a strong potential for the corridor to become an important and lucrative route between the mineral-rich regions of neighbouring countries and the Atlantic coast. Further development of the Lobito harbour, including the oil refinery currently under construction, will only increase this potential.

Furthermore, although cross-border railway traffic may only be fully realised in the medium term, the railway and rehabilitation of the transport sector are already responding to domestic Angolan needs. The arrival of train service to the country’s interior has contributed to the emergence of a vibrant informal sector with new marketplaces, small-scale agricultural producers, traders, transporters, and drivers linked to railway stations. Public buildings and administrative centres are also being constructed or rehabilitated in the towns and cities along the railway line. The size of the formal economy in the interior is still very limited, but there is a great potential for the growth of agricultural and other sectors, as discussed above. We have found that local communities had adopted a variety of adaptive strategies (of coping and accumulating) to make the best use of the passage of the train. Incessantly creative in finding income-generating activities, local communities have not been «waiting for Godot» (or the Angolan authorities), as expressed by Pacheco (2001).

Does the investment in the transport infrastructure of the Lobito Corridor provide value for money? Is it the most efficient way of promoting social and economic development in the interior of Angola? These questions are far more difficult to answer. One critical issue is that little is known about the cost of rehabilitation and reconstruction. The only figure made public is the US\$ 1.85 billion figure announced by a Chinese contractor as the cost of rehabilitating the railway. Foreign funding for the railway and other transport infrastructure in the corridor has largely been secured through credit lines and loans, and limited public information has been provided about specific contracts and deliveries. We know from other countries that the risk of corruption and mismanagement of publicly-funded construction projects is of great concern, and governments often struggle to secure monetary value through competitive procurement processes (Søreide et al. 2011). These challenges are especially prevalent in a country like Angola with its main needs for reconstruction, huge investments, secrecy and limited availability of data. The lack of transparency regarding the budget and cost of reconstruction in the Lobito Corridor has made it nearly impossible to assess the returns on investment in the area. There is plenty of opportunities for corruption through over-pricing of materials, fake invoicing and transfer pricing. What we do know is that costs of reconstruction in Angola is very high and that the reconstruction business in the country has been dominated by a small group of construction companies from China, Brazil, Portugal, Israel and other countries (Soares de Oliveira 2015).

What we do know from this case study of the Lobito Corridor is that local inputs of goods and services into the reconstruction project have been limited; rather, foreign construction companies have done most of the work, especially in rehabilitating the railway. In fact, Angolan involvement in the project has been far more limited than what was required by the Chinese funders. Following complaints from Angolan authorities, the required inputs from local sources increased to a minimum of 25%. The China Railway Construction Company claimed at completion that some 100,000 Angolans had been hired as workers during rehabilitation of the railroad, and more than 10,000 of these individuals had received some training. Still, a noticeable feature of the rehabilitation was the dominant presence of Chinese staff – not just in skilled and managerial positions, but also in unskilled and semi-skilled positions. In contrast, Brazilian companies doing road rehabilitation in the Lobito Corridor appear to have used much more Angolan labour. These observations are based on anecdotal evidence, rather than hard data, however.

Construction companies and financial institutions from China and other countries has been a significant player behind rehabilitating the Benguela railway and other transport infrastructure in the corridor. At the start of the reconstruction in 2004 many predicted or feared that China and other would become very influential in the development and management of the Lobito Corridor. By 2015 and the completion of the railway the Chinese influence appears far less influential than many expected ten years earlier. The Angolan authorities appears to be firmly in charge, they have mobilised companies from a range of countries and managed to ensure that foreign companies and expatriates wishing to do business will have to adopt to priorities set by Angolan leaders (Corkin 2013, Soares de Oliveira 2015).

This brings us to a related challenge: management of the transport infrastructure and associated logistics, including maintenance. Angola is ranked among the world’s worst performers when it comes to trade facilitation logistics. Although there have been important improvements in customs procedures and – in the case of the Lobito Corridor – in transport infrastructure, overall management and operations are poor. The Angolan government has addressed this deficiency through a series of public-private partnerships, including privatisation. Usually these partnerships involve major international companies working in cooperation with politically connected Angolan companies. The terms and conditions for managing important components of the Lobito Corridor infrastructure (e.g., container and mineral terminals in the Lobito harbour, warehouses, and the railway) are not known. How are conditions of use decided? Who will reap the financial benefits of using this new

infrastructure? Who covers the costs? How much will be paid in fees and taxes? How will the government monitor performance of the corridor? And above all, are there sufficient resources in place to ensure that the new infrastructure can be maintained?²²

This brings us to perhaps the most important dimension in assessing the benefits of the reconstructed infrastructure and the bridge to development: The political will and capacity of the Angolan authorities. We are already witnessing emerging gaps between the new infrastructure and its running. Inaugurations have been followed by closures and postponements. The two other railway lines have already witnessed several disruptions and temporary halts in the train services. Many have noted that Angolan authorities have prioritised mega projects to show off but with scant attention to management of operations or needs (Soares de Oliveira 2015). In the Lobito Corridor this “gigantism” is perhaps best illustrated by the construction and refurbishment of three airports within 30 km of each other – in Lobito, Benguela and Catumbela. Of these three the International Airport of Catumbela is a formal part of the Lobito Corridor (although it does not yet have international flights) while Lobito airport as military airport and the Benguela airport is not fully operational.

Finally, rehabilitating and reconstructing the railway and other transport infrastructure in the corridor appears to have progressed without much attention to how poverty reduction could be enhanced. In 2008, SADC organised a major consultative conference – attended by the Angolan government – to discuss the role of infrastructure development in poverty reduction. The background document prepared by the SADC secretariat on transport corridors, infrastructure, and poverty reduction highlighted the importance of transport in promoting economic growth and reducing poverty (SADC 2008). However, the document also noted that infrastructure and growth do not necessarily translate into reduced poverty. Based, *inter alia*, on findings from other development corridors in southern Africa, this document made a number of recommendations to facilitate poverty reduction. Translated into the Angolan context, the recommendations revolve around ensuring that rural communities in the Lobito Corridor have access to the new infrastructure and call for the following:

- development of feeder roads connecting to the national road and railway stations as an integral and crucial component of the corridor;
- the use of local labour forces in constructing rural and feeder roads;
- a transport policy integrating different modes of transport (road and rail) and creating competition between transport providers; and,
- above all, complementary public and private investments to ensure pro-poor policies (including investments in sectors such as health, education, agriculture, and access to credit and trade centres).

In our discussion above of the agricultural and economic profiles of the provinces of the Lobito Corridor, we found a potential for new and expanding economic activities. The evolving social dynamics and informal sectors emerging because of the railway service demonstrate the potential for further development of job and development opportunities in this area.

The rapid development of the Lobito Corridor and the railway in particular is impressive. However, so far it has mainly resulted in development in the towns and cities along the railway. We do not yet know whether these investments will lead to diversification, development, and poverty reduction in

²² See more on these important issues in a recent attempt to summarise lessons from management of transport corridors (Hartmann 2013).

Angola as a whole – or whether these investments will join the list of Africa’s many “white elephants.” To fully exploit the corridor’s potential, more emphasis must be placed on integrating development of the railway and road systems with efforts to increase job opportunities in the corridor’s rural areas and towns.

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The Angolan government has put much emphasis on rehabilitating and expanding the country's transport infrastructure. Assisted by oil revenues, foreign construction companies, credits lines and loans Angola has embarked upon a major reconstruction. One of the main efforts in this area has been the Lobito Corridor, which connects the Atlantic port of Lobito with Angola's interior as well as the neighbouring countries of DR Congo and Zambia.

A major component of this effort has been the rehabilitation of the Benguela railway that runs between Lobito and the eastern border of DR Congo. With Chinese assistance, rehabilitation began in 2005 and was officially completed in August 2014. The first regular train from Lobito arrived at Luau on the border with DR Congo in February 2015.

This report analyses progress in developing transport infrastructure in this Lobito Corridor. What has been achieved? What are the main remaining challenges? Will this corridor become an engine for economic diversification and social and economic development? Will these investments in transport also lead to development for poor and vulnerable people living in the corridor? Or will this new infrastructure end up as a "white elephant" that slowly degenerates as result of poor management and insufficient maintenance?