

**Mining and extractive urbanism:
postdevelopment in a Mozambican boomtown**

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Abstract

Mozambique has attracted international attention in recent years following the discovery of huge reserves of coal and gas deposits. A major focus of Mozambique's extractives boom is the province of Tete, once a remote outpost but now a hub of power generation for the southern African region and an emerging centre of global investment in coal extraction. Some of the world's largest mining firms from both established and emerging economies have descended on Tete, investing billions of dollars in developing concessions to extract some of the world's largest untapped coal reserves with wide-ranging implications for the region's political economy and effecting significant shifts in relations between state, capital and territorial control. At the urban scale, Tete city and its expanding periphery are increasingly characterized by enclaves and spaces of enclosure, as some groups benefit from and are integrated into global circuits of production while others suffer displacement and dispossession. In seeking to trace the emergence of Tete's resource economy, the paper contends that three distinctive spatialities have resulted from these developments, including the infrastructure networks being constructed around the extractive industries, the enclave spaces arising from the coal boom (and the particular labour geographies that shape them) and the new and distinctive urban geographies that are the product of Tete's rapid urbanisation. The paper seeks to assess the impacts, stakes and challenges linked to investments in extractive activities and looks at how the costs and risks are being differentially distributed within and between the affected communities.

Keywords: Mozambique, coal mining, enclaves, postdevelopment, urbanization, megaprojects

Introduction: Tete as *El Dorado*

“A desperate search for bonds that pay a decent rate of interest and a keen desire for exposure to economies that are still growing quickly have taken rich-world investors to some exotic places. The raciest bets are made in so-called frontier markets, poorer places with even less mature financial sectors than emerging markets. Africa is full of them...The farthest edge of the investing frontier has now reached Mozambique” (*The Economist*, 2013: 1).

Widely viewed as something of a donor darling and often scripted as a post-conflict success story, Mozambique has in recent years emerged as one of the brightest stars in the Africa rising narrative. In her keynote address to the ‘Africa Rising’ conference, jointly held by the IMF and the Mozambican state in May 2014, IMF Managing Director Christine Lagarde lavished praise on the country for its “remarkable” growth and claimed that it “epitomised” the current positive economic optimism and outlook for the continent (Lagarde, 2014). Mozambique’s GDP registered annual growth rates between 6.3% and 8.7% from 2003 to 2012 (African Economic Outlook, 2014) and it is projected to stay above 8% in the next several years. In 2002 FDI inflows stood at US\$347.58m, but by 2013 they had reached US\$5.9 billion (World Bank, 2014a), placing Mozambique above Nigeria as the largest recipient of FDI inflows in Africa (Business Day, 2014).

The discovery of enormous reserves of coal and gas and the explosive boom in the country’s extractives sector has led to a new wave of unbridled optimism about the future prospects for national growth and development. In 2008 visiting geologists in the central province of Tete discovered that the coal seam beneath Moatize basin is part of the largest undeveloped coal basin on the planet, believed to hold over 23 billion metric tonnes of coal — enough to fire all the coal plants in the United States for 25 years (Gerety, 2013). Coal exports could reach 100 million tonnes annually at peak, making Mozambique one of the world’s top ten coal exporters (World Bank, 2014b). Further, in 2011, Italian and US energy companies ENI and Anadarko made vast offshore gas finds in the Rovuma Basin, on the northern border with Tanzania. Analysts expect that Mozambique will receive US\$115 billion in revenue from liquefied natural gas (LNG) exports between 2020 and 2040, but this will require developing two greenfield LNG facilities in Cabo Delgado, led by ENI and Anadarko (IEA, 2014).

Tete is not a historically important minerals producer and was largely unknown to global mining companies until the past decade (Bryceson and MacKinnon, 2012). Mining giants Vale and Rio Tinto have invested nearly US\$12 billion in mines in Tete since 2008, directly employing some 7,500 workers and sparking a sudden transformation of the region into Mozambique's *El Dorado* (Mosca and Selemane, 2011). Invoking the language of modernization, the World Bank (2010: 46) observed "increasing expectations that the province's significant mining potential is finally set to take off" with potential to create a "growth pole" in the region. Despite recent drops in coal prices and ongoing problems with logistics and infrastructure, Moatize basin is now the focus of a series of energy-related mega-projects that the ruling party Frelimo (*Frente de Libertação de Moçambique*) hopes will facilitate the rapid modernization of the country.

[Figure 1 about here]

In this paper, our analytical focus centres on a number of distinct yet converging spatial configurations that are emerging in Tete province (see Figure 1), which has been at the centre of the extractives boom. First, in response to the serious logistical problems that Mozambique has experienced with transporting coal for export, there are the transport corridors and infrastructure networks being constructed around the extractive industries, including the Nacala Logistics Corridor project. Such have been the unforeseen challenges of extractive growth in Tete that Rio Tinto, a major investor, 'wrote down' its assets in Mozambique by billions of dollars in 2013. In July 2014, Rio Tinto sold its coal assets in Mozambique to the Indian state-run International Coal Ventures (ICVL) for US\$50 million, three years after paying US\$3.7 billion for the mines (Hoyle, 2014). Paralleling these developments are large-scale land acquisition schemes that aim to open up Mozambique's once-remote northern savannahs, such as the ProSavana project, jointly funded by the governments of Japan and Mozambique, with technical cooperation from Brazil. These investments seek to restructure the region by fostering the privatization and enclosure of land while installing export-oriented agriculture to accompany resource extraction and emergent regional transport infrastructure networks.

Second, there are the enclavic economic spaces arising from the coal boom and the new labour relations that characterise them. There are growing concerns regarding these spaces of enclosure, the limited local participation in the coal value chain and the disembodied and detached nature of this development. Despite the claims about “remarkable” and “miraculous” economic transformation, recent economic growth relies heavily on mega-projects in the aluminium, extractives and energy sectors (AfDB, 2014) with little evidence of a wider structural transformation. Further, there is a large poor urban and rural population that remain deeply disconnected from these trends (Mosca and Selemene, 2011; Saul, 2011). Even the World Bank (2014b: 39) has tempered its earlier optimism about the resource boom by noting that Mozambique does not appear to be following the “normal” trajectory for development, as other types of capital are not growing, cautioning that “unrealistic expectations about Mozambique’s resource wealth and prospective revenues from the extractive-industries sector may already be developing”, with increased potential for social conflict.

Moreover, there has been renewed armed conflict between ruling Frelimo and former rebel movement and opposition party Renamo (*Resistência Nacional Moçambicana*) that can, in part, be linked to contestation over the extractives boom. In July 2013, Renamo threatened to sabotage the rail and road infrastructures surrounding mining operations, while frequent attacks on government defence forces near the Sena railway prompted Rio Tinto to suspend exports sent by rail for a week (*Mining Weekly*, 2013). In April 2014, Vale briefly halted the transport of coal from Moatize after gunmen shot at one of its trains, injuring a conductor (AllAfrica, 2014a). Renamo’s leader Afonso Dhlakama also moved the party’s HQ to the northern city of Nampula, close to the two major provinces at the heart of the extractives boom, in contrast to what he constructs as “Maputo-centric” Frelimo, and has spoken of “dividing the country in two” along a North-South axis (Vines, 2013; AllAfrica, 2014b).

Third, there are the new urban geographies emerging in Tete. In the days of the Portuguese empire, Tete was viewed as a colonial “backwater” (Isaacman and Isaacman, 2013) with practically no roads and the vast majority of its male population migrating to find mining and farm jobs in South Africa, Rhodesia and Katanga

province in the DRC. Although the onset of anti-colonial war in the 1960s brought significant investment, especially following the construction of a huge hydroelectric scheme at Cahora Bassa, Tete remained something of a forgotten province isolated from the centres of political and economic power, a kind of periphery within the periphery. After independence in 1975, and given its isolation and remoteness from the capital city, the province continued to reside on the edges of post-colonial modernity. The extractives boom and accompanying rapid urbanisation have, however, drastically changed the face of Tete's urban geographies with dramatic land use and demographic changes in the city centre and its outskirts and considerable displacement and resettlement of local communities due to coal operations. Added to the controversy over population displacement are wider concerns about the limited fiscal regime for the state's management of natural resources and the state's failure to locally redistribute the wealth generated by hydrocarbon revenues. Standards were initially set low to avoid putting off investors, but the state introduced a new Mining Tax Law in September 2014, which established that that all capital gains, arising from the direct or indirect transfer of mining rights by nonresident entities with or without permanent establishment in Mozambique, will be taxable at a fixed rate of 32%. Additionally, the Mozambican state has lacked sufficient knowledge about its own natural resources and often the only source of information about the quality of the minerals, their market prices, reserves and operational costs are the companies themselves.

The scripting of post-socialist Mozambique as a wild frontier for various forms of investment is by no means new (Power and Sidaway, 1998) but the country has increasingly come to feature prominently in forecasts produced by investment banks, corporate analysts and asset management firms about the world's fastest growing frontier markets. As an exotic location then on the farthest edges of a shifting global investment frontier, and as a focal point for what *The Economist* (2013) calls some of the "raciest bets" being made in the "desperate" search for accumulation, Mozambique has been "transformed from a basket case to one of the world's most rapidly expanding economies" (Maritz, 2012).

We argue here that the coal bonanza is creating particular landscapes, spaces and sites of development in Tete as some groups benefit from and are integrated into global

circuits of production while others suffer displacement and dispossession. We seek to examine what the ‘extractivist turn’ in Mozambique means for the way its ‘development’ is being imagined and how the ‘extractivist mindset’ (Klein, 2014) being embraced by the Mozambican state, of treating land and people as resources to deplete and exploit, is shaping some of the affected regions, places and communities. In Tete, we argue, there is evidence of emergent ‘spaces of postdevelopment’ (Sidaway, 2007)_resulting from macroshifts in the geography of accumulation, the increasing fragmentation of national territory and the disintegration of Frelimo’s post-colonial nationalist and socialist development project. The paper situates the emergence of Tete’s resource economy within international debates around the nexus of geography, the economy, resources and development (Hayter et al., 2003; Bridge, 2010; Sheppard, 2013). It seeks to assess the impacts, stakes and challenges linked to investments in extractive activities and looks at how the costs and risks are being differentially distributed within and between communities. The first section of the paper engages with recent work on resource peripheries, extractive enclaves and spaces of post-development before introducing the historical context of Tete. The paper then provides an analysis of the coal mega-projects emerging in Tete and their connections to wider national strategies of economic development. Such projects, we argue, are richly illustrative of the Mozambican state’s contemporary vision of economic growth and the challenge of ensuring that extractive industries are locally connected and embedded beyond the enclavic spaces and ‘thin’ socialities they occupy and inhabit or that they spark wider socio-economic transformations. The final section then explores in more depth the three particular spatialities that we contend are the result of this emerging resource economy: (1) the infrastructure networks being constructed around the extractive industries; (2) the enclave spaces arising from the coal boom and the particular labour geographies that shape them and (3) the new urban geographies unfolding in Tete and the processes of displacement and dispossession that characterise its rapid urbanisation. In each case there are significant intersections of enclosure and enclavisation underway that are the consequence of intensified processes and patterns of uneven development, and which provide a valuable insight into the ‘winners’ and ‘losers’ of Mozambique’s supposedly ‘miraculous’ economic transformation in recent years.

Resource peripheries, enclosure and post-development

Since the late 1990s, global economic growth, driven mostly by the major emerging economies, has supported a commodity resources boom. Although there is evidence that the demand for some resources (e.g. oil) within emerging economies is now beginning to cool, it is clear that the decline of the long post-war boom in the industrialized core since the 1970s, and the end of the “age of plenty” or of cheap and readily-accessible fossil fuels, has been marked by changing geographies of resource extraction and capital accumulation. Extractive industry is expanding into new resource peripheries, including “ungoverned” or marginalized spaces and conflict zones (Magrin and Perrier-Bruslé, 2011). These unconventional locations are increasingly a feature of the 21st century’s international political economy of fossil fuels, including oil, gas and coal (Bridge and Le Billon, 2013). Amid the ongoing expansion of the resources frontier in Africa, resource extraction is taking on new forms of social, political, technical and environmental risk. These risks consist, for example, in the application of new technologies, such as ultra-deep water oil drilling, large investments in greenfield sites with limited or non-existent infrastructure and services, and encroachment into environmentally sensitive areas under global public scrutiny (Magrin and Perrier-Bruslé, 2011; Bridge and Le Billon, 2013). Multinational corporations are increasingly engaging in techniques for managing risk and protecting their operations, such as employing private security companies and mercenaries to ensure that costly investments are secured (Ferguson, 2005; Donner, 2009).

Despite these repositionings, resource peripheries are treated “not only as peripheral places but as peripheral to disciplinary thinking” in economic geography and other social sciences (Hayter et al., 2003: 16). Research in economic geography has, for example, been preoccupied with questions of flexible specialization, industrial restructuring or knowledge and service-oriented economies, dynamics that are grounded in the discourses and experiences of the global industrial core, leaving little room for what is viewed as ‘old fashioned’ resource geography. In recent years, however, efforts to recast resource peripheries as integral elements of global processes of uneven development have gathered momentum. Hayter et al. (2003: 17) suggest that theorising from the core or using the experience of the core as a conceptual template is inadequate, arguing that “studying new resource peripheries

can provide insights into the global economy that cannot be derived from the experience of cores, and which act as a catalyst for new forms of economic geography theorizing”. Further, within globalizing resource peripheries “there is a clash of industrial, environmental, cultural and geopolitical dimensions not found in cores, and as a result not theorized in mainstream economic geography” (ibid: 19). There are, for example, environmental concerns in many resource peripheries but these are rarely discussed in the economic geographical literature on globalisation and similarly there have been some very significant geopolitical shifts within resource peripheries, particularly since the end of the Cold War, which have influenced patterns of resource exploitation.

Sheppard (2013) raises the possibility of ‘theorizing back’ on the relationship between resources and economic geography from places outside global capitalism’s core. Writing on the Pilbara in Western Australia, Sheppard suggests that examining the characteristics of place and positionality in a peripheral resource region (peripheral, at least, to those who do not live there) can serve to offset the view “that Euro-American theory suffices to explain the world” (ibid: 4). Such a move extends calls for theorizing ‘from the South’ (Connell, 2007; Comaroff and Comaroff, 2011). Various efforts to decentre the dominance of Western theory-building have drawn on dynamics in localities of the South, but also on increasing evidence of South-South cooperation. There is a growing literature on the BRICS engagements in Africa, including their increasing interest in Africa’s energy resources, yet the new resource spaces arising through these engagements and their lived realities remain largely overlooked. Writing on South Africa, for example, Büscher (2009: 3956) notes that “in fact, there seems to be a glaring gap in the ‘geopolitics’ literature in terms of trying to link global energy power politics with local energy dynamics in Africa”.

A recurring theme in writing on resource peripheries, particularly in Africa, is the enclave. Mining and extractive facilities set up in volatile or risky environments have frequently adopted the enclave model. Extractive enclaves are installed in previously staked-out extraterritorial zones that further the fragmentation of national territories, while underpinning the operation of contemporary globalized space (Sidaway, 2007) and typically have limited linkages to local firms and institutions while remaining largely self-contained and detached from the national economy (Bloch and Owusu,

2012). Such discrete extraterritorial zones are the spatial expression of a series of ‘states of exception’ and are extraterritorial because they are positioned outside of the sovereignty and jurisdiction that surrounds them. They tend to be mobile or temporary, protected by makeshift barriers, temporary boundaries or generally invisible security apparatuses and are “the result of a variety of contemporary processes that have caused the splintering of pre-existing political surfaces” (Weizman, 2005: 1). In one sense then, enclaves of mineral extractive investment are the product of a splintering and fragmentation of pre-existing political spaces and represent an important contemporary manifestation of intensified processes and patterns of uneven development alongside the wider proliferation of export processing zones, gated residential communities, enclaved tourist resorts and shopping malls. Such intersections of enclosure and enclavization with macroshifts in the geography of accumulation demand careful scrutiny (Sidaway, 2012). They are, in part, a consequence of the unravelling of hegemonic national projects of development and are embodied in subtly reworked articulations between territory, accumulation/development and sovereignty (Sidaway, 2007). These sub-national and transnational ‘spaces of post-development’ are marked by a variety of fractures and boundary practices involving articulations of citizens and subjects and places and spaces of accumulation, exclusion and inclusion (Sidaway, 2007).

Writing on the resurgence of capital investment in African mineral resources, Ferguson (2005: 379) observed that extractive sites are often “tightly integrated with the head offices of multinational corporations and metropolitan centres, but sharply walled off from their own national societies (often literally walled, with bricks and razor wire)”. For Ferguson, the ‘Angola model’— in which revenues from offshore oil scarcely touch Angolan soil — offers an interpretive frame for other sites of intensive resource extraction, which are linked “in a selective, point-to-point fashion” rather than in a continuous national grid (ibid: 380). The Angola model is also associated with a bifurcated form of governance in which the increasingly *unviable* formal state structures are ‘hollowed out’ fiscally and in terms of authority and personnel while the ‘viable’ enclaves are governed efficiently as private entities, in a similar vein to pre-colonial mercantilist *entrepôts* (Mohan, 2014: 1262), or in ways which are reminiscent of the colonial cantons, plantations and enclaves that preceded the post-war era of ‘national development’ (Sidaway, 2007). This is symptomatic of

what Aihwa Ong (2006: 91-2) terms “postdevelopmental strategies of reconfiguring space and reregulating populations and their flows” and involves developmental apparatus and regimes being applied differently to segments of national space and/or discrete populations contained within the nation-state or ‘graduated sovereignty’, leading to a “galaxy of differentiated zones unevenly integrated into the structures of state power and global capital” (Ong, 1999: 232). This form of bifurcated governance and ‘selective territorialisation’ has replaced state-led mining across Africa, Asia and Latin America. In the Zambian copper belt of the 1950s and 1960s, for example, “socially thick” forms of public investment accompanied the construction of company towns for thousands of mineworker households (Ferguson, 1999). In its place is a “thin” sociality, revealing the geographies of exclusion and dispossession often found in resource-rich low-income countries (Ferguson, 2005: 380; Bridge, 2009). Understanding such spaces of sovereign graduations in the case of Mozambique requires careful historicisation and ethnographic attention to the transformations and variety of state practices and social relations that have unfolded in this particular context. In the next section, we turn to Tete’s long history of governance through private concessions in order to contextualise the contemporary emergence of enclavic spaces of post-development.

The historical context of Tete’s development

Unlike many extractive boomtowns, Tete city does not owe its origins to mining. Situated deep in Mozambique’s western interior, prior to the onset of Portuguese colonialism Tete served as an important Swahili Arab trade centre. The Portuguese were originally drawn to Mozambique and the Zambezi River in part by news of a local ruler, the Monomotapa, who reportedly had fabulous wealth in gold. In trying to reach the Monomotapa, the Portuguese established in 1531 two settlements far up the Zambezi – one of them, at Tete, some 260 miles from the sea. Tete grew in significance during the 16th and 17th centuries when it served as a departure point for trade caravans to the goldfields further inland, becoming a regional administrative centre in 1767. In the 17th century, Portugal introduced a system to facilitate the management of Mozambique’s natural resources with little administrative and infrastructural investment from Portugal itself. The *Prazos* were large estates leased to colonists, settlers and traders and operated as a semi-feudal system, most

commonly in the Zambezi valley. Up to 50,000km² in size, they were granted to *prazeiros* of Portuguese descent who gave titular obedience to the Portuguese crown and whose powers were practically unlimited, building up private armies and virtually independent fiefdoms as a result. As a town, Tete grew rich or declined along with interior trade and with no significant commercial hinterland it seems the Portuguese considered abandoning the town until it gained a new lease of life in the 18th century with the expansion of gold mining north of the Zambezi (Newitt, 1995).

Tete has a long history of being administered through concessions, originally through the *prazos* and several sugar plantations that were established in the region but later, in the early 20th century, through a wider shift toward the administration of much of Mozambique by large private companies, like the Mozambique Company, with concessions in Manica and Sofala, the Zambézia Company with concessions in Tete and Zambézia and the Niassa Company, with concessions in Cabo Delgado and Niassa. Controlled and financed mostly by the British and granted a charter by the Portuguese government to foster economic development and maintain Portuguese control in the territory's provinces, the companies only began to lose their purpose when the territory was transferred to the control of the Portuguese colonial government between 1929 and 1942 as part of an attempt, under the *Estado Novo* regime of António Salazar, towards stronger Portuguese control of the imperial economy.

In the 1960s, as the anti-colonial war gathered pace, Tete became a focus for the construction of colonial *aldeamentos* – strategic villages designed for counter-insurgency and to increase the colonial state's control over the rural population¹. Tete also was the site of the largest development project built in colonial Mozambique, the Cahora Bassa hydroelectric dam, completed in 1974. For the Portuguese it was a powerful symbol of patriotic pride and a reaffirmation of Portugal's commitment to maintaining its African colonies at all costs. The last major infrastructure project constructed in Africa during the turbulent era of decolonization, colonial officials believed the dam would lead to the expansion of irrigated farming and European settlement, to improved transportation throughout the Zambezi River Valley and to

¹ Many of these *aldeamentos* became the focus of Frelimo's villagisation programme following the adoption of a Marxist-Leninist ideology after independence in 1975.

reduced flooding in this area of unpredictable rainfall, but the project actually resulted in human displacement, violence and environmental destruction (Isaacman and Isaacman, 2013). In many ways a kind of ‘post-colonial amnesia’ has prevailed around Cahora Bassa where many of these failures have been forgotten or downplayed (Isaacman and Isaacman, 2013) and consequently there is a danger that they will be reproduced in some of the large-scale hydro-power and other energy mega-projects currently being considered by the Mozambican state. Instead of powering development in Mozambique, Cahora Bassa became a hub of hydropower generation for southern Africa in the 1970s, feeding industrialization in apartheid South Africa². The dam became central to a colonial export-oriented economy that encouraged the sale of electricity to fuel industrialization in neighbouring countries and created an electricity system that today exhibits entrenched path dependencies due to the large investments made into the dam itself and associated grid infrastructure which has prioritised the needs of export energy markets and industrial consumers over those of the communities that live in close proximity to the dam, despite the historically low levels of electricity access in Tete. More recently, this trend has continued as Tete hosts another planned energy mega-project with the proposed Mphanda Nkuwa dam, sited 60 km downstream from Cahora Bassa at a cost of US\$2.2 billion. When completed, the project will produce 1300 MW of power and is intended to attract energy-intensive industries to Mozambique and to improve its balance of payments through regional electricity sales. Vigorously opposed by a range of civil society organisations because of the anticipated socio-ecological implications, the project will force 1400 households to relocate and will indirectly affect the livelihoods of a further 200,000 Mozambicans (Morrissey, 2013; Isaacman and Sneddon, 2003).

The coal mega-projects in Tete

It is unknown when Tete’s coal was first discovered, but the artist and explorer Thomas Baines first captured onto canvass a coal outcrop on the banks of the Zambezi in the late 1850s. The first geological works in Tete referred to the studies of

² Cahora Bassa continues to export the bulk of its power to the Southern African Power Pool (SAPP), with 80% consumed by the South African utility Eskom. The Portuguese state held 82% of shares in Hidroeléctrica Cahora Bassa (HCB) until 2007.

coal occurrence, and were undertaken in 1859 by Richard Thornton, a geologist on the Zambezi expedition under Dr David Livingstone and Guyot (Hatton and Fardell, 2011). Coal has been mined intermittently in Moatize since the 1930s, but by the turn of the 21st century, mining in the region was confined to villagers who fired bricks using coal from the abandoned mines of Carbomoç, Mozambique's now defunct state-owned coal corporation, and to young men called *garimpeiros* who panned for gold in nearby streams (Gerety, 2013). The Portuguese colonial state did not undertake detailed geological surveys, but large coal reserves, along with sizeable deposits of iron, vanadium and titanium were found in Tete province after independence in 1975. Carbomoç suspended coal production during the civil war in the 1980s amid destruction of the Sena railway, which cut access to the port of Beira and overseas markets beyond. The track runs close to Renamo's civil war headquarters in the remote Gorongosa Mountains and was frequently attacked during the civil war along with other key elements of Tete's infrastructure, including transmission lines from Cahora Bassa. Logistical obstacles in transporting the coal to market impeded further development until the early 2000s, remaining a key issue and a source of frustration for mining firms in the current coal boom.

The Mozambican state's current promotion of export-oriented coal production parallels wider politico-economic shifts since the mid-1990s. Since then, state elites, in conjunction with the international community, have pursued a strategy premised on accelerated free market reforms, macroeconomic growth and the promotion of mega-projects and have relied on FDI to rebuild the economy after decades of conflict. Following the 1992 peace accords, two energy-intensive mega-projects Mozal and Temane anchored external investment, both of which represent significant examples of the difficulties that arise in establishing productive linkages between capital-intensive extractive projects and the broader economy. Mozal is a US\$2.2 billion aluminium smelter located 20 km west of Maputo and part-owned by BHP Billiton, Mitsubishi Corporation and South Africa's Industrial Development Corporation, with the Mozambican state holding a minority stake. Mozal has given the country a residual role in global value chains and its exports have increased Mozambique's GDP. Initial investment in Mozal amounted to 40% of GDP but only created around 1,500 direct jobs, with nearly one third held by foreigners (UN IRIN, 2007). It is estimated that from the US\$1.2 billion revenue posted per year, only US\$200 million

enters the Mozambican economy (Pérez Niño and Le Billon, 2013) and of this just US\$15 million goes to the Mozambican government. According to one estimate, for every US\$1 being paid by the smelter to the Mozambican government, US\$21 has left the country in profit or interest to foreign governments and investors (Jones, 2013). Since the completion of the second phase of Mozal in 2003 it has consumed about 900 megawatts of electricity, which is almost half of Cahora Bassa's capacity and more than four times the rest of Mozambique's electricity consumption (Xiong, 2014). The Temane gas field in Inhambane province hosts a large development led by the South African energy and petrochemicals firm Sasol, which gained a prospecting license in 2000. Production began in 2004, with the bulk of the gas exported to South Africa via a pipeline linking Temane to Sasol's facilities at Secunda in Mpumalanga province (Cuvilas et al., 2010). These mega-projects are clearly geared towards the needs of foreign investors (Gqada, 2013) and neighbouring energy markets while contributing little to addressing Mozambique's own development and energy needs.

In the past decade, Mozambique has embarked on a programme of FDI-led growth through a series of energy and extractive mega-projects. The external demands of the industrialized core drive these projects, with capital and increasing energy demand from the rising economies of China, South Africa, India and Brazil also playing an active role. Accordingly, in recent years coal-rich Tete has attracted surging global investment in its resource deposits. In particular the growth of China and India has shifted demand for coking coal, used for steel production, toward South and East Asia, developments which have coincided with Mozambique's post-socialist transition to a market-led economy.

Following geological confirmation of the extent of the coal seam beneath Moatize, the state issued coal exploration licenses to 40 different companies operating in Tete by 2012 (Besharati, 2012). Tete's coal complex is premised on foreign investment and capital-intensive technologies and relies heavily on expatriate management. It is shaped by and reflects the economic and political histories of the Portuguese colonial project in Africa and the long history of governance through private concession, by the collapse of Frelimo's attempts at crafting a socialist command economy and fostering national territorial integration, by emergent regional transport and electricity grid infrastructures, and by rapid urban growth accompanied by widespread land and

real estate speculation. The Frelimo government—once guided by a Marxist-Leninist ideology—has come to view coal mining and export as a pathway to modernization and development and has hitched its fortunes to the burgeoning demand for resources, including from Western countries and from the ‘rising powers’ (Lagerkvist, 2014), while offering incentives and tax breaks to lure investors. Yet this approach assumes that resource abundance can translate into forms of social wealth that lead to poverty reduction, a scenario refuted by extensive research under the rubric of a ‘resource curse’ (Bridge, 2009).

Amongst the ‘rising powers’ increasingly seeking access to Mozambique’s natural resources the Brazilian mining firm Vale remains the largest investor in Tete’s coal industry. In 2004, it gained an exploration license for the Moatize coalfield at the site of an abandoned shaft mine previously operated by state-owned coal company Carbomoç. Vale planned to export coal to markets in China, India and the Gulf States, and it intends to build a 300 MW coal-fired power station at the mine site with excess power for the national grid. Vale Moçambique (a subsidiary) spent roughly US\$2 billion in the first phase of its Moatize operation and employed 3,600 workers in its construction phase in 2009-2010 (World Bank, 2010). Vale sent its first coal shipment by rail via the port of Beira in August 2011 and believes its Moatize operations will in time become the largest coal production plant globally, generating 12-24 million tonnes per year over its lifetime (Interview with Cédric Lamarie, Vale Moçambique, September 27th 2013). In December 2014 the Japanese firm Mitsui paid Vale US\$450 million for a 15% stake in the Moatize mine and US\$313 million for half of Vale’s 80% stake in associated rail and port infrastructure (the Nacala Logistics Corridor) (Bloomberg, 2014).

The second largest investor in Tete’s coal industry is Anglo-Australian mining firm Rio Tinto, which acquired the Australian company Riversdale and its three coal concessions in Tete in 2011 for US\$3.7 billion. These include the Benga mine, with an estimated deposit of 4 billion metric tonnes, in which the Indian company Tata Steel owns a 35% stake. Rio Tinto employed 1,000 workers in its construction stage, with 400 workers needed to produce 2 million tonnes of coking coal at Benga (World Bank, 2010). Riversdale previously held several exploration licences covering nearly all the municipal area of Tete, finding high quality coal in the north of the

municipality in an area formerly designated as the city's expansion zone, and also covering the airport. They proposed to develop a mine there, known as the Zambeze project. In order to enable its development, the Tete city 10-year structure plan of 2012 designated this area as an industrial zone and defined an alternative residential expansion area in M'Padue, south of the city. Planning authorities were thus prepared to quite radically revise existing long-term development plans for the city in order to accommodate the interests of foreign mining corporations. Rio Tinto took over the Zambeze project following its acquisition of Riversdale, anticipating that production would require relocating several communities along with the Chingodzi municipal airport, but the project has since stalled (Interview with Charlotte Allen, planning consultant, September 19th, 2014). Rio Tinto also planned to build a 500 MW power station at Benga, with excess power for the grid and for export.

Apart from Tata Steel and ICVL, Indian investment in Tete's coal resources appears to be on the rise. India's Jindal Steel and Power holds the Chirodzi concession with an estimated 724 million tonnes of coal reserves, located in Tete's Changara district (Interview with Manoj Gupta, Jindal Mozambique, November 4th, 2013). Jindal aims to invest US\$180 million in the project, which commenced in 2012, and plans to build a 300 MW coal-fired power plant. Other licenses are held by Australia's Baobab Resources, the UK-based and London-traded Ncondezi Coal and Beacon Hill Resources, the Eurasian Natural Resources Corporation (ENRC) based in Kazakhstan, and Minas do Revubòè, jointly owned by Japan's Nippon Steel, Posco of South Korea and Australia's Talbot Group.

In the remainder of the paper we trace the emergence of three particular spatialities resulting from Tete's growing resource economy: the infrastructure networks being constructed around the extractive industries, the enclave spaces arising from the coal boom and the particular labour geographies and material struggles shaping them, and the distinctive urban geographies unfolding in Tete. Our research in Tete was conducted over three periods in the last three years (January and July 2012, October 2013) and included site visits to Rio Tinto's training centre and canteen at the Benga mine, the provincial migration office and resettlement commission, four local food markets, the railway and bus terminals in Moatize and Tete city, and Cateme resettlement village. Semi-structured interviews were undertaken with nine extractive

industry representatives, seven municipal and planning officials, two civil society organisations, 18 small business owners, shopkeepers, market vendors and drivers, and 12 local residents in Matema, Matundo and Chingodzi, outside Tete city. This primary data is supplemented by historical research that enables us to carefully situate and contextualise Tete's historical geographies and to make sense of the extractive and export-oriented imperatives that have characterised Tete's development as a province since the earliest days of Portuguese colonial rule.

Emerging infrastructure networks

Materially, coal is a bulk commodity. Exported at high volumes, it demands extensive infrastructure to move output to market. If made publically available, mining-linked transport infrastructure can enhance mobility for residents while spurring forward and backward linkages and economic diversification (Morris, Kaplinsky and Kaplan, 2012). Yet regional transport networks are a weak link in Tete's coal production chain. The dominant mining firms in Tete have struggled to secure adequate infrastructure, mostly financing it through private investment. As such, they have tended to capture it for their exclusive benefit, with little investment beyond bulk channels for coal (Robbins and Perkins, 2012). Newer entrants, such as Jindal and Beacon Hill, are currently trucking coal to the coast, raising their operational costs while imposing external costs including damage to roadways, air and water pollution (the latter caused by acid mine drainage, or AMD, which can pollute surface and groundwater) as well as higher CO₂ emissions (AIM, 2012). Despite new infrastructural development at various scales, affected populations have had little input in transport planning or in assessing the public costs and risks imposed by extractive activity (Interview with Charlotte Allen, planning consultant, November 4th 2011). More broadly, the corridors emphasize the hyper-mobility of resource commodities (Bridge, 2009), while many people living and working in the region experience relative immobility.

Currently, the only route linking energy-rich Tete to the coast is the Sena line, a single-track railway constructed in the early 20th century, which runs 575 km from Moatize to the port of Beira (see Figure 1). The Sena line forms part of the Beira Corridor that connects Beira and Tete with landlocked Zimbabwe, Zambia, Malawi

and Katanga and forms a critical link between southern Africa and international trade networks. In 2004 the World Bank offered to finance a US\$110 million upgrade to the Sena railway, with Indian firm RICON winning the bid. The rehabilitation was set for completion in early 2009 with a target of one million tonnes of cargo per year, but the railway was only partly reopened in December 2010 as RICON exceeded cost and schedule agreements, with the World Bank accepting some of the blame for project mismanagement (World Bank, 2012). When the line was opened to coal traffic on August 8th 2011, freight was running at 266,000 tonnes per year—27% of the initial target. The current capacity of 6.5 million tonnes annually is woefully inadequate given the initial growth projections (World Bank, 2010). Moreover, this push to upgrade regional transport systems for coal export recalls earlier spatial patterns from Mozambique's colonial period where the country developed into a series of transport corridors, built for extracting raw materials for export and creating links with South Africa's industrializing economy. These included the Beira Corridor to Southern Rhodesia, the Nacala Corridor to Nyasaland across Tete, and the corridor from Lourenço Marques (now Maputo) to South Africa (Newitt, 1995).

Given these shortcomings, mining corporations are pursuing two alternative scenarios by constructing new private infrastructure networks. First, Rio Tinto initiated a partnership with Ncondezi Coal and Minas do Revubõe to explore constructing an entirely new railway and deep water port. A 2012 pre-feasibility study identified Macuse in Zambézia province as an optimal port site, with an estimated cost of US\$8 billion (Hanlon, 2012). Along with its investments in Mozambique's offshore gas fields, the Thai government has invested in the Macuse project. Second, Vale dedicated US\$4.4 billion to the Nacala Corridor project, which involves constructing and rehabilitating a 912 km railway that will link Vale's Moatize mine to the new coal terminal it is building in the northern port of Nacala, passing via southern Malawi (see Figure 1). The port and coal terminal will be run by Nacala Logistics Corridor (CLN), which is 80% owned by Vale and 20% by the state-owned Ports and Railways Authority, *Caminhos de Ferro de Moçambique* (CFM). Vale regards the Nacala Corridor as a dedicated coal line for its own expansion, with rail sharing "negotiable" with newer entrants (McKay, 2012) whilst the Mozambican state envisions the project as enhancing regional connectivity and international competitiveness by enabling further investment and links with global markets. Yet uncertainties remain around

cost sharing agreements, freight rates and capacity sharing between mining firms and unresolved questions of sovereignty (particularly around customs and border issues) could further impede the project (World Bank, 2010).

The Nacala Corridor has also catalysed the opening of Mozambique's once-remote northern savannahs to further investment. Brazil's Agricultural Research Corporation (Embrapa) has sent extension officers to promote export crops in the region, drawing on its experience in fomenting large-scale agriculture in Brazil's *cerrado*, claimed to have similar ecological features (Scoones et al., 2013). The ProSAVANA project aims to introduce monocrop farming to the savannahs of the Nacala Corridor (ibid; Looney, 2014). Leaders of the Mozambican Peasants Union (*União Nacional de Camponeses*, UNAC) and environmental NGOs *Justiça Ambiental* (JA!) and Friends of the Earth have opposed the project as a massive land grab for territory with newfound value. Such large-scale land acquisitions signal a regional restructuring through the privatization and enclosure of land and the development of export-oriented agriculture. This approach, however, threatens long-standing peasant modes of shifting cultivation in the northern savannahs. More generally, the investment structures of the Macuse and Nacala Corridor projects are indicative of changing configurations of regional governance and the increasingly privatized delivery of infrastructure and other state functions. As a result, institutional responsibilities normally exercised by the state are being granted to multinational mining firms, with evidence that Tete's spaces of development are becoming increasingly exclusive and enclavic.

Labour, material linkages and enclaves

As with other hydrocarbon industries, opencast coal mining is normally highly capital intensive, dominated by a handful of players, and generates few employment opportunities for directly affected communities. According to data from the Ministry of Mineral Resources, the coal industry directly employs 7,500 Mozambicans (Resenfeld, 2012) and mine construction could eventually create up to 25,000 temporary jobs (ibid). When a mine opens in a particular area in Tete, residents have high hopes for jobs but the reality usually falls short, with jobs limited to a small number of highly specialised technical positions, private security or chauffeurs.

Mining companies rely on expatriates, recruitment from Maputo and Beira and the use of short-term contractors, while blaming the low skills base among locals for their lack of employment. This reality has not lessened Tete's attraction for domestic and trans-border migrants, lured by the region's sudden transformation. Many have arrived from other districts of Tete province and from neighbouring Zimbabwe and Malawi. Others come from further afield, such as Pakistan and Somalia (Interview with Daniel Da Costa, Vale Moçambique, October 16th 2013). The presence of newcomers and mobile jobseekers creates competing claims on the material benefits from the resources boom.

Labour importation, rising income disparities and the perception that better educated workers from southern provinces and abroad are gaining favourable terms of mining employment, beyond reach for most Tete residents, have created tensions. The pattern risks fuelling latent ethnic divisions, as majority Nhungwe-speaking Tete residents increasingly view ethnic Shangaan and Ronga from the southern provinces as unwanted 'outsiders' (cf. Cox and Negi, 2010). In response to the rising tensions, several mining companies have begun to offer training programs geared to the local labour market. Rio Tinto, for example, created a partnership with the *Instituto Superior Politécnico de Tete* (ISPT), a technical training facility in Tete city founded in 2010, to offer courses tailored to the coal industry's requirements. Rio Tinto also agreed to integrate a number of qualified Mozambicans into its workforce and provide opportunities for continuing education, claiming that more than 28,300 people have registered for employment with them, of which 1,172 candidates were given on-site training and assessed in various building and civil trades (Woodley, 2010). The limited growth in employment opportunities in part reflects a shift from direct employment to outsourcing and the use of contractors, many of whom live elsewhere, work in six-week shifts and regularly fly in and out of the region.

Mining and construction labour for Vale and Rio Tinto is predominantly housed near the mines in self-contained camps with cafeterias, private air-conditioned trailers and recreational areas. The workforce is heavily male and under 40 (UN IRIN, 2013) whilst the camps are fenced in, guarded by security personnel and not signposted or visible from major roads. This spatial footprint serves to segregate mining company employees from ordinary residents (cf. Donner, 2009). Nevertheless, mining

employees interact in various ways with the host economy, for instance in shopping in new commercial centres on the main road between Tete and Moatize. Apart from mining employment, the coal mega-projects also have important downstream effects, generating increased flows of goods and people into Tete province and indirectly creating some employment in agriculture, food supply and construction. The potential for creating wider benefits from the coal rush rests in local procurement and linkages, yet such linkages do not ‘happen automatically’ in private investment projects; they will require active guidance from local and provincial state institutions to foster small and medium enterprise engagement and to mediate between the interests of capital and labour (MacKinnon, 2013). Given that extractive industries are in their infancy in Mozambique, the state’s capacity to develop and operationalise programmes that can offer such active guidance and mediation remains very limited. A new Mining Law was passed in August 2014, which seeks to increase local participation in mining operations and sets out local content requirements for the procurement of goods and services for mining activities. Operators in the mining sector are now required to provide employment and technical training for Mozambican nationals, with a preference for the population residing in the immediate vicinity of the concession. The new Mining Law does not, however, provide any detail about how many Mozambican workers are required to be trained and employed to discharge these obligations.

Rio Tinto has led efforts to foment local participation in the coal value chain, particularly in transport and catering. It reportedly spent US\$120 million on catering and other services in 2011, with 80% of contracts going to Mozambican firms (Besharati, 2012). Rio Tinto opened a Business Centre in Tete in 2012 to facilitate local supply chains, registering suppliers in a central procurement system, yet contracts for purchases above US\$100,000 are issued as international public tenders (Interview with Suleimane Meguegy, Rio Tinto, October 10th 2013). Vale, in turn, has conducted a survey of businesses in Moatize district and in Tete province to identify local partners and offer training and capacity building (Besharati, 2012). Despite these efforts, civil society groups in Mozambique have voiced concern that procurement contracts largely go to South African and Brazilian firms whilst local organizations have observed that the lion’s share of goods and services used by the mining companies—equipment, uniforms, cleaning and catering—are imported (Mosca and

Selemane, 2011). Attempts by Rio Tinto, Vale and other mining companies at encouraging local procurement have often been inadequate, therefore, with much of the food bought to supply canteens being imported and very few efforts made to provide finance, training support or mentorship to local firms and entrepreneurs (Interview with Gary Sizemore, Servco, July 19th 2012; Interview with Suleimane Meguegy, Rio Tinto, October 10th 2013). In terms of transport services, there has been some outsourcing to local companies, including Fleet Services and *Linhas Transportes de Moçambique* (LTM), both based in Maputo with subsidiaries recently opened in Tete. These services carry workers to and from mine sites, but are closed to ordinary residents (Interview with Farouk Hassim, Fleet Services, July 16th 2012).

Neither Vale nor Rio Tinto has been meaningfully involved in promoting knowledge exchange, encouraging business start-ups, or providing venture capital, which are important aspects of embedding development. In the following section we trace the disembedded nature of development in Tete and the displacement and dispossession that characterise its urban geographies.

Disconnections: dispossession and displacement in Tete

Designed by Portuguese town planners in the 1940s and 1950s, Tete city is bisected by the Zambezi River, and at its heart is the Samora Machel suspension bridge (completed in 1973), which serves as a crucial link between southern and northern Mozambique (see Figure 2). Only a few years ago, Tete city was often regarded amongst expats, journalists and former colonial settlers and officials (many living in Maputo) as a ‘sleepy backwater’, a scripting shared by many tourist guides and trade journals, which saw it as a place largely for long-distance truckers to stop overnight on their way to and from Malawi and Zimbabwe. Despite having 158,000 inhabitants by 2007 (INE, 2007) in everyday conversation one might commonly hear that for most visitors there is little reason to spend over 24 hours in the city. Yet, this is changing rapidly as the coal investments have triggered demand for mining support services, with dramatic land use and demographic changes in the city centre and its outskirts. Tete city has seen some growth in entrepreneurial activity to meet surging demand for accommodation, catering, transport, telecommunications and other services for expatriate workers and business visitors to the province. Efforts to create

a stable and viable economic base outside the mining sector are, however, partial and incomplete (Mosca and Selemane, 2011; World Bank, 2010).

[Figure 2 here]

The focal point of urban growth is around the Matema and Matundo neighbourhoods. This area was largely non-existent three years ago but now hosts numerous mining services and logistics firms along with Rio Tinto's Training Centre. It has been the focus of significant investment and development, including new hotels (such as the upmarket Radisson Park Inn opened in August 2012), retail spaces and warehouses. Bank branches, supermarkets and gas stations equipped with long-distance trucking facilities have sprouted up, often supported by capital from Portugal, Brazil and China. Adding to the mix, many white commercial tobacco and dairy farmers who were dispossessed of their land in Zimbabwe have re-established operations in Tete, including flour mills, tire shops, and other start-up enterprises. Many of these new commercial facilities directly adjoin self-built adobe huts and unplanned settlements. There have been several conflicts around land ownership whilst existing titles are often unclear. Moreover, the majority of economically active urban residents rely on variable opportunities in the informal sector.

Mining services and construction firms are flocking to Tete city, and the streets bustle with sport utility vehicles and 4x4 trucks stamped with company logos. Odebrecht and Camargo Corrêa, two privately-owned Brazilian engineering and infrastructure firms, are involved in a number of public works projects in the region and have set up offices in Tete. Additionally, Portuguese construction firms Mota Engil and Soares da Costa are active in hotel construction, road and railway rehabilitation, along with the firm Estradas de Zambezi, which is building a second bridge over the Zambezi for cargo trucks. The latter is owned 40% by Mota Engil and 40% by Soares da Costa with the remaining 20% held by the Mozambican company Infra-Engineering, in which the Mozambican elite has vested interests. Residential construction has lagged, however, prompting mining companies to lease long-term hotel rooms for their staff while speculative investment targets the high-end property market. The resources boom and rising cost of living is thus producing a "dual economy" in which non-mining households struggle to afford the steep prices for food, renting a house, or

buying a plot of land (Mosca and Selemene, 2011: 43). Household spending power has decreased due to local price inflation, which is further compounded by the limited employment opportunities within the mining sector itself (Interviews with residents of Matema, Matundo and Chingodzi neighbourhoods). A Vale representative explained:

“Just a few years ago there were only three flights a week from Tete to Beira and Maputo. On other days, the airport was closed. Now there are 20 flights per week, and one is international, to Johannesburg. There were just four bank branches in Tete a few years ago, and now there are 15. But the number of hotels and guesthouses does not meet demand. Other service enterprises, restaurants, civil construction, laundry, and auto mechanics – all are insufficient for the demand, and what exists is too expensive for locals. As an example of the housing shortage, 5,000 people work in Moatize by day but sleep in Tete” (Interview with Daniel Da Costa, Vale Moçambique, October 16th 2013).

In a sense, the initial promise of the coal boom has never fully materialised for many Mozambicans. As a restaurant owner recalled “we had heard there were thousands of Brazilians arriving, and to me, this meant business. But in reality, only hundreds arrived” (Interview with Mohammed Fawaz, January 23rd 2012). Expatriate workers and those recruited from Maputo and Beira, particularly those on short-term contracts, are likely to direct their remittances largely to their places of origin with limited benefits to the local economy. Further, even just a cursory look beyond Tete’s city centre suggests that claims about the rapid ‘progress’ of development through the resources boom must be tempered by an acknowledgement of the burgeoning shantytowns lacking basic services of electricity, water, sanitation and waste. It is also important to consider what this reveals about the nature of extractive urbanism in Tete. Particularly along the EN 103 from Tete to Moatize, urban expansion consists of unplanned and makeshift dwellings and workplaces. Tete remains one of Mozambique’s poorest provinces, registering among the country’s highest rates of HIV/AIDS infection, and with its influx of miners, truck drivers and sex workers, many view Tete as a conduit for HIV to enter the country (UN IRIN, 2013).

Flows of labour and investment have occurred largely in the context of limited and inconsistent planning measures and infrastructures. There are distinct land cadastres for the municipality and for rural spaces (HRW, 2013) whilst international donors and investors, along with some state officials, frequently make claims about ‘idle’ land and the absence or anarchic nature of rural land administrations, partly as a means for

justifying the further enclosure of rural communal land (Lagerkvist, 2014). Municipal officials are ill-prepared for managing the multiple pressures and cumulative effects arising from the coal operations. At the local and provincial levels, institutional capacity for planning and administering urban development is extremely limited, resulting from years of public sector neglect since the beginnings of Mozambique's post-socialist transition (Pitcher, 2006), coupled with Tete's rapid pace of change. There are also difficulties in collecting local property taxes, and municipal revenues rely heavily on fees derived from municipal markets. Furthermore, inter-agency coordination has also proven challenging. The provincial Departments of Agriculture, Industry and Commerce, Mineral Resources, Energy, Transport, Health, and Public Works have all had direct dealings with mining companies, but they have not begun to coordinate their policies and messages (Besharati, 2012). Local authorities hold little sway over foreign investors, and most deals and concessions are negotiated at the ministerial level in Maputo (ibid). Facing operational deadlines, mining corporations have often built new infrastructure without consulting affected populations or waiting for municipal approval. This highlights the asymmetry of power between the corporations and local institutions (MacKinnon, 2013).

Most controversial has been the displacement and resettlement of local communities due to coal operations by Vale and Rio Tinto. The district government of Moatize has suddenly had to deal simultaneously with several mining companies on the resettlement process, overseeing the building of entire new villages (Besharati, 2012). Vale's resettlement in 2009 of 1,365 smallholder rural households from Mithete, Bagamoyo, Nhambalualu and Chipanga to Cateme, a newly-constructed village 40 km from Moatize, was fraught with problems, causing "significant and sustained disruptions in accessing food, water and work" (HRW, 2013). Rio Tinto resettled 679 households living in or near the villages of Capanga and Benga to newly-built Mwaladzi village in 2011, with further relocation efforts envisioned (see Figure 2). Evidence suggests, however, that mechanisms for local community participation in decision-making have been minimal, with little effort by the state and mining companies to communicate with resettled communities.

Vale and Rio Tinto's development of open-pit coal mines, access roads and related infrastructure has displaced thousands of people from local communities, primarily

subsistence farmers. An estimated 500 residents from the Vale resettlement village Cateme protested on January 10th-12th, 2012, blocking the Sena railway and flows of coal exports for three days, which met with violent police repression. The protestors highlighted the blocking of their everyday activities and livelihoods by the coal mega-projects. The Sena railway has increasingly taken on strategic and symbolic weight, reflecting Moore's (1993: 397) call to recognize the "simultaneity of symbolic and material struggles". The enclave, the transport corridor and the urban come together here amid territorial dispossession on a large scale.

Conclusions: Extractive enclaves and the spaces of post-development

Just five years ago Mozambique was ranked in the top 10 countries of the world according to aid dependency, with foreign aid in 2009 accounting for some 58% of total government expenditure (ActionAid, 2011). As a direct result of the extractives boom, however, the level of aid dependency has dropped as foreign aid was expected to cover 33.5% of the State Budget in 2014 (AllAfrica, 2013). Mozambique's current 20-year National Development Strategy³ (Ministério da Planificação e Desenvolvimento, 2013) regards the resource boom as a starting point from which to effect a shift in emphasis from poverty reduction to industrialisation, with a view to enhancing several sectors of the economy whilst boosting job creation. The strategy, which seeks to "improve living conditions for the population through structural transformation of the economy, expansion and diversification of the productive base", projects that Mozambique's GDP per capita will increase fivefold, while confidently contending that inequality will not worsen between 2015 and 2035. Envisaging multiple partnerships between local and international companies and the creation of several industrial parks and special economic zones, the strategy anticipates that in the vanguard of Mozambican modernization will be a group of "transformative" industries, including agroindustry, mining and the extractive industries, tourism and power generation, that will help to promote "equitable growth". Through the expedited development of extractive industries, the Mozambican state hopes to foster closer trade, investment and financing ties with the BRICS and other emerging economies as a strategy for further reducing dependence on western donors.

³ The *Estratégia Nacional de Desenvolvimento* (ENDE) was approved on June 10th 2014.

There are, however, very few concrete policy proposals to suggest exactly *how* this structural transformation is to be realised, and there is currently little evidence that extractive industries are effecting any such transformation whilst the much heralded growth from the extractive turn seems anything but equitable. Having strengthened its grip on the state after years of post-war direct budget support from western donors that aimed to enhance state capacity (Manning and Malbrough, 2012), Frelimo now stands to consolidate and entrench its power even further with the spoils of the resources boom as it appears to swap dependence on aid for a dependence on natural resources. Industrial and mineral resources mega-projects account for the vast majority of FDI inflows and these, along with several large-scale infrastructural projects, are seen as a statement of Mozambique's impending modernity, underpinning claims that development is being geographically disseminated to impoverished peoples and places in the process. Yet, such strategies fall within a profit-seeking framework that allows little room for tackling the social and ecological implications that mega-projects engender. The coal projects in Tete, and any wider consideration for planning for accelerated urban growth, are clearly designed for 'big business' with little space for ordinary citizens to participate.

Affected populations have little input in planning strategies despite bearing much of the public costs and risks from the extractive activity, ranging from degraded roads, air and water pollution, to industrial fires and population displacement (Kabemba and Nhamcale, 2011; Human Rights Watch, 2013; Vunjanhe and Nhampossa, 2012). Civil society organizations have expressed concerns about the displacement of local communities, the ecological implications of opencast mining, the limited job creation and capacity building, the lack of transparency around the licence agreements between mining companies and the state (which many regard as too advantageous to foreign companies and investors), the incentives and tax breaks being used to lure foreign capital, the absence of sufficient fiscal regulations, the limited resource sovereignty afforded to Mozambique and the state's failure to locally redistribute the wealth generated by hydrocarbon revenues.

Studying the expansion of extractive industry into new and 'unconventional' resource peripheries like Tete and the confluence of contending voices and interests found there can provide valuable insights into the intensified processes and patterns of

uneven development within contemporary spaces of enclosure in the global south, but also enables a ‘theorizing back’ on the relationship between resources and economic geography from places outside the core of global capitalism (Sheppard, 2013). In Tete, a variety of strategies for reconfiguring space and reregulating populations and their flows co-exist as the developmental apparatus is applied differently to segments of national space and discrete populations contained within the nation-state and as articulations between territory, accumulation/development and sovereignty are reworked, producing a “galaxy of differentiated zones unevenly integrated into the structures of state power and global capital” (Ong, 1999: 232). Our research underlines the need to study such spaces of postdevelopment and the intersections of enclosure and enclavization with macroshifts in the geography of accumulation that accompany them.

As a (peripheral) resource economy in formation, Tete is witnessing the rapid emergence of several distinctive spatialities suggestive of a “new metageography of development” (Sidaway, 2007) given the proliferation of enclaved mineral-rich “patches” (Ferguson, 2006), privatised regional transport corridors/networks and urban spaces of enclosure. Our focus here is on coal mining, but further research is needed in order to consider how the socio-material differences between coal, LNG and other resources might be significant in theorizing these emerging spatial configurations in Tete and beyond (Bridge, 2009). These enclavic spaces of post-development are being built on the ruins of Frelimo’s post-colonial nationalist and socialist projects, in which Tete figured prominently, and are shaped by the colonial legacies of underdevelopment and by histories of privatised and securitised administration by colonial concession. They reveal much about the changing political economy of contemporary Mozambique, and given their heavy orientation toward the needs of export markets and foreign investors, they appear to offer little hope for the future reduction of poverty and inequality, increased mobility of local people or the rebuilding of urban spaces ravaged by decades of conflict. Tete may no longer be a “sleepy backwater” but the distance between the majority of its citizens and the centres of political and economic power will likely remain for some time to come as some groups benefit from and are integrated into global circuits of production while others suffer displacement and dispossession.

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Acknowledgements

The authors would like to acknowledge the support of the UK's Economic and Social Research Council (ESRC) in funding the research project (Ref: ES/J01270X/1) from which this paper derives. More details about the project are available at: <http://www.dogweb.dur.ac.uk/the-rising-powers/>. The Council Research Grant of 2011 and 2012 from Rhodes University in South Africa provided initial support. We would also like to acknowledge the assistance of Chris Orton in the Design and Imaging Unit (DIU) at the Department of Geography at Durham University who helped with the preparation of Figure One.

Figure 1: Coal extraction sites and regional transport infrastructure in Mozambique



Figure 2: Tete city, displaced and resettlement villages

