



Deposited via The University of York.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/id/eprint/192077/>

Monograph:

Dye, Barnaby (2019) What holds back dam building?: The role of Brazil in the stagnation of dams in Tanzania. Working Paper. The University of Manchester , United Kingdom.

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

Future DAMS

Design and Assessment of
water-energy-food-environment
Mega-Systems

What holds back dam building? The role of Brazil in the stagnation of dams in Tanzania

Barnaby Joseph Dye

Global Development Institute, The University of Manchester, UK

Barnaby.dye@manchester.ac.uk; @BarnabyJDye

FutureDAMS

Working Paper 006

December 2019

ISBN: 978-1-913093-05-1

Cite this paper as: Dye, Barnaby Joseph (2019) What holds back dam building? The role of Brazil in the stagnation of dams in Tanzania. FutureDAMS Working Paper 006. Manchester: The University of Manchester.

www.futuredams.org

Abstract

Across Africa, a number of major dam projects have been resurrected, often with the backing of the so-called emerging powers. However, many are yet to reach construction and are stuck in the early phases of implementation, with studies ongoing. This paper examines this issue in Tanzania, where eight dam projects were pursued between 2005 and 2017 yet only one reached construction. Beyond the literature on anti-dam activists, there is little analysis of the more technical, financial and policy-making processes that cause such stalling of dam projects. Therefore, this paper focuses on the Brazilian government and two companies, Odebrecht and Queiroz Galvão, as the international enablers of two dams in Tanzania, the Stiegler's Gorge and Mnyera projects. It demonstrates the significance of two drivers in undermining these dams construction. One was the inconsistency resulting from Brazil's heavily presidential foreign policy that oscillated from strong support for Africa relations and infrastructure projects between 2010-2012, to a withdrawal of diplomatic and financial support since. The second driver was the degree to which Brazilian governmental and private sector actors misread Tanzanian politics, not understanding the degree of fragmentation in the ruling party and how this affected policymaking. These two factors help explain why the widespread resurrection of dam projects has not entailed an equal boom in dam construction. Additionally, the paper makes a secondary contribution to understanding the factors behind the collapse in Brazil-Africa relations over the last decade, particularly beyond a core group of Lusophone countries.

Keywords

Hydropower, infrastructure, politics, development, Brazil, Tanzania, emerging powers

Acknowledgements

FutureDAMS is funded by the Global Challenges Research Fund (GCRF).

Introduction

Dam building is undergoing a global resurgence. Zarfl et al's (2015) oft-cited article records 3,700 major dams at various stages of planning and implementation. But while this dam resurgence is provably underway (Lempérière & ICOLD, 2006; Hwang et al, 2015; Ahlers et al, 2015; Dye, 2018), many of its resurrected or newly created projects have not reached construction. This is notable in Myanmar, where activists have blocked building efforts (Kiik, 2016; Kirchherr et al, 2017), and in Democratic Republic of Congo's Inga dam sites, where technical concerns and difficulties in assembling finance have halted progress (Showers, 2009; Gottschalk, 2016). Similarly, activists in Brazil and India have stalled particular projects (see, respectively, Khagram, 2004; and Mawdsley, 2005; Watts, 2018). This paper looks at this question in Tanzania, where eight dam projects were pursued between 2005 and 2018 yet only one, the Rusumo Falls Hydropower Projects, reached construction (Dye, 2019) It takes these cases because, beyond the literature on anti-dam activists, there is little analysis of the more technical, financial and policy-making processes that stall dams. This paper attempts to address this gap by focusing on one element, the international enablers of dams. Typically, in the African context, the lack of finance capability makes international actors the crucial enablers who finance, design and carry out civil and electromechanical works. Here, the paper also focuses on a lesser known international dam building actor, Brazil. During the 2000s, the Brazilian government and two companies, Odebrecht and Queiroz Galvão, formed engagements with the Tanzanian government to build the Stiegler's Gorge and Mnyera dams, respectively, in Tanzania. However, neither of these Brazilian actors was able to see its project to implementation, despite presidential diplomacy and state support.

The paper links the failure of these Brazilian dam projects in Tanzania to the wider trajectory of Brazil's relationship with Africa, which has experienced a remarkable boom and bust. From 2003, ties between country and continent soared: trade experienced a six-fold increase between 2005 and 2015 (Stolte, 2015), while spending on South–South cooperation reached a reported \$700million in 2010¹. and the number of Brazilian embassies in Africa rose above that of the UK's (Stolte, 2012; Alves, 2013). The charismatic president of the Workers' Party (PT) Lula da Silva (2003–10) championed this Brazil–Africa boom, travelling the continent and proclaiming a new era of enhanced ties. Indeed, it was on one of his last trips that Brazilian diplomats and companies were introduced to dam projects in Tanzania. However, since 2012, ties between the country and the continent have decreased. This paper therefore explains the stagnation of dam projects in Tanzania through the rise and fall of the Brazil–Africa relationship. Indeed, this focus on Brazil is noteworthy in its own right as the speed at which Brazil has withdrawn from many countries in Africa presents something of a puzzle: given the degree of diplomatic support, development cooperation spending and corporate investment between 2003 and 2012, why didn't Brazil's activities embed beyond lusophone Africa? Why have projects not been implemented? Tanzania presents an interesting case here as it exemplifies both the boom in relations with 'new' countries beyond Angola and Mozambique and the bust post-2015: for instance in

¹ Derived from a total South–South cooperation spend of \$1.2 billion – although this is disputed; see Carmody (2013, p 127) – of which 60% supposedly went to Africa.

Tanzania, there are now almost no remaining Brazilian development cooperation projects left (with the exception of the Victoria Cotton scheme).

The paper details the key drivers behind this see-saw trajectory, demonstrating how they are linked to dam-building projects in Tanzania. They include structural factors like the commodity boom, but also those related to the individual agency of Brazilian presidents, who have considerable influence on foreign policy. However, the paper argues that these explanations do not sufficiently capture the reasons behind the stagnation in dam projects. Rather, focusing on the politics and policy-making dynamics in Tanzania, it advances a new concept of naivety. This refers to the way in which Brazilian actors lacked knowledge, or made misleading assumptions, about the political and policy-making environment of the countries they were working in. In part such naivety stems from structural issues in the Brazil–Africa relationship, such as the lack of historic ties, linguistic barriers or lack of an intellectual tradition of studying the continent. Additionally, the concept of naivety covers assumptions seemingly made by a wide variety of actors, based on generalising from experience elsewhere on the continent, or from the rhetoric and policy vision of the Lula years that saw Brazil as a ‘southern’ brother to Africa, with unique knowledge of the continent. Through this analysis, the paper makes further contributions to the debate on Brazil–Africa, and arguably to the emerging powers role in the continent more widely. First, the paper asserts the role of corporations in forging foreign policy ties, and thereby having an important influence over dam building projects. Second, it argues for the importance of taking African agency seriously in the analysis of the continent’s international relations and internationally financed projects. It is through these perspectives that the paper demonstrates its concept of naivety, using this to partially explain why dam projects aren’t always implemented.

The paper proceeds by examining the broader literature on Africa’s international relations and drawing contrasts with China and India in Africa. This section also reviews literature on Brazil–Africa’s boom and bust, situating the paper’s empirical contribution. It also outlines the theoretical debate on the emerging powers in Africa, and the relative importance of agency and structure in dictating those relations. The empirical case of Tanzania follows, with evidence of diplomatic ties, development cooperation projects and infrastructure construction initiatives, which focus on hydropower dams. Research for the paper is a product of the author’s doctorate. Fieldwork was carried out in Tanzania and Brazil in 2015–16. Over 60 semi-structured interviews were conducted with officials in Tanzania, including civil servants in government ministries and development agencies related to the electricity sector, as well as academics and donors. In Brazil, 53 semi-structured interviews were conducted with government officials alongside representatives of infrastructure companies, NGOs, journalists and researchers. In addition to this primary research, associated grey literature and news reports were analysed to triangulate findings. All of this evidence was then brought together, using an inductive, process-tracing approach that also involves evidencing findings with different sources – written grey literature or interviews with different

types of actors. This process generated an understanding of the engagements that had taken place, the involvement of different actors and their rationales.

1 Agency versus structural factors in Africa's emerging power relations

1.1 The boom and bust in Brazil-Africa relations

High Many emerging powers underwent a sea change in their ties with countries in Africa during the 2000s. This was part of a broader geopolitical shift, with trade between countries in the so-called Global South starting at US\$147 billion in 1990, growing to \$1 trillion by 2004 (Aykut & Goldstein, 2006, pp 11–12), and reaching a peak of \$5.5 trillion (UNCTAD, 2017) in 2014.² Trade between the so-called BRICs³ and Africa grew at an even faster rate, increasing 10 times between 2000 and 2009, reaching roughly \$377 billion in 2016 (Singh, 2017). China has led this change. Its trade relationship with Africa rose from \$10.5 billion in 2000 to \$32 billion in only the first half of 2007 (Alden et al, 2008, p. 11), moving to a peak of \$215 billion by 2014 (Johns Hopkins China–Africa Research Initiative, 2017). Brazil also played an important role in this boom in Africa relations as its trade rose from \$4.2 billion in 2000 to a peak of \$27.84 billion in 2013 (Stolte, 2015). This has also translated into investment in infrastructure. China has led the way, with investment in infrastructure rising from \$0.5 billion between 2001–03 (Foster et al, 2009, p 21), to a peak of \$17 billion in 2012, before falling to \$12 billion in 2015 (Atkins et al, 2017). Typically, power and transport were the largest sectoral recipients in 2015, with \$4.5 and \$4.6 billion, respectively (Atkins et al, 2017). The Chinese government financed two dams in 2003 and at least 17 dams and an accumulated spend of \$13.3 billion by 2014 (Hwang et al, 2015, p. 12). Additionally, by 2014, many Chinese companies had become established engineering contractors leading projects. In 2014 Sinohydro was the largest contractor in African hydropower (Hwang et al, 2015, p. 5; Zarfl et al, 2015). However, this well-known emerging power is not alone, with Verhoeven (2016) citing Saudi Arabia's role in Sudanese dam engagement and Dye (2018) describing India's growing financing of dams in Africa.

Brazil also emerged as a dam builder during this time. Brazil's (Ministry of Foreign Affairs (Itamaraty) explicitly promoted dam building, as its energy department places hydropower construction as its second aim after biofuel promotion.⁴ Indeed, other officials interviewed in the PT government and Itamaraty confirmed a general aim of promoting hydropower alongside other 'developmental' competences. This dovetails with the 'national champions' policy that promotes those construction companies that constitute Brazil's major dam builders. Brazil's international dam building extends domestic policies as, during the 2000s, the PT government pursued the Belo Monte Dam and other dams on the Tapajos river (Fearnside, 2014; Atkins 2017, 2018). This also applies to finance; since the sector's privatisation, state banks, most prominently Brazil's development bank (BNDES), have been funding dam construction domestically, while BNDES replicates this internationally. Indeed, just as Brazil's domestic dams were caught in the wide-ranging Lavo Jato corruption investigation, a number of Brazil's international dams have been found to have involved

² 2015–16 saw this category of trade fall.

³ Brazil, Russia, India, China. NB inclusion of Russia lies outwith the paper's South–South focus.

⁴ Interview, senior Officials, Itamaraty, 2016.

corrupt payments for contracts.⁵ Brazil therefore hosts a capable, politically powerful dam industry and a bureaucracy supportive of hydro-power in what amounts to an iron triangle, where companies and government benefit from the implementation of socially and environmentally contested dams (McCormick, 2010; Fearnside, 2014). In Africa, the most notable completed project is the Lauca Dam which, at 2,096MW, is one of Africa's largest (see Table 1). Odebrecht constructed Lauca and BNDES financed it alongside others (Capi & Viana, 2016; Seifert, 2016). In Angola, Odebrecht also recently completed the long-delayed Capanda Dam and refurbished the Cambambe Dam. In Ghana, a high-level visit initiated Odebrecht's involvement with Andrade Gutierrez on a proposed dam on the river Oti, although Ghana's government redirected this BNDES loan to a road project.⁶ BNDES also extended \$320 million for the Moamba Major Dam in Mozambique, with construction led by Andrade Gutierrez.⁷ Electrobras, the state-owned electricity conglomerate, further illustrates the export of Brazil's hydropower model. Itamaraty's energy department is most active in supporting its engagement in renewables and hydropower, the latter being Electrobras's primary generation technology.⁸ However, thus far, Electrobras's success is limited as it is involved in the stalled Mphanda Nkuwa Dam in Mozambique and the stagnating Inga III in Democratic Republic of Congo.⁹ Tanzania therefore appears to present a typical pattern where, beyond Angola, the Brazilian government and companies have been unable to implement dam projects. In part, this is related to the retreat of the Brazilian government and companies from Africa, which gathered pace from 2013.

Table 1: List of dams with Brazilian engagement

COUNTRY	PROJECT (STATUS)	(TOTAL CONTRACT) GENERATION CAPACITY	COMPANY
DEMOCRATIC REPUBLIC OF CONGO	Inga III (Stalled, needs financing)	(Estimated \$14Billion) 4,800 MW	Electrobras in consortium bid for tender
MOZAMBIQUE	Mphanda Nkuwa Dam (Stalled)	(Estimated \$4.2billion) 1,500MW	Consortium of Camargo Corrêa, Electrobras and Mozambique Agencies
	Moamba Major Dam (Suspended pending investigations of corruption)	(\$466/\$320million from BNDES) 15MW plus water and irrigation supply	Andreas Gutierrez
TANZANIA	Stiegler's Gorge Dam (Active planning)	(Estimated \$4.2billion) 2,100 MW	Odebrecht
	Mnyera Hydropower Project (Active planning)	\$700million	Queiroz Galvao
GHANA	River Oti (Funding redirected)	-	Odebrecht with Andreas Gutierrez
ANGOLA	Lauca (Functioning)	(\$4.3 billion) 2,096MW	Odebrecht-Led
	Capanda (Functioning)	(\$4billion) 130MW	Odebrecht-Led
	Camembe Expansion (Functioning)	(Estimated \$512million) 700-MW	Odebrecht-Led

⁵ Eg Michoacán State, Mexico (Chavkin, 2019).

⁶ Interviews, senior official, Itamaraty, 2019; and HydroReview 2009

⁷ 'Work to start on Mozambique's new \$500m dam'. *Global Construction Review*, 22nd March 2016.

⁸ Interview, senior officials, Itamaraty, 2016.

⁹ Interviews, journalist, 2016.

One initiator of this was the 2014 global slump in raw commodity prices like crude oil, which saw trade values between the BRICs and Africa fall. Partly, this is because the value of these products has lessened, even as trade volumes have remained roughly constant. For instance, trade dropped 70% in value between 2013 and 2017 (Standard Bank, 2017, p 1), particularly after 2014, as it decreased from \$26.7 billion that year to \$12.4 billion in 2016 (Standard Bank, 2017, p 6). Brazil's fall goes beyond commodity values, however. Levels of total trade decreased by over 50% to \$12.4 billion in 2016 (Stratfor, 2017). These figures match the large-scale withdrawals of key companies in Brazil's Africa push. Petrobras was one of the major Brazilian actors in Africa, expanding operations across the Gulf of Guinea and investing in new exploration blocks, including in Tanzania. However, after the Lavo Jato corruption scandal, which centred on that company's construction contracts, and compounded by Brazil's economic downturn, in order to reduce its debt Petrobras sold off international stakes. This included closing its Tanzanian office (Reuters, 2018) and selling a \$1.5 billion Nigerian stake in a Vitoil-led joint venture (Reuters, 2018) as part of a new Brazil-focused strategy (Augusto-Vieira and Instituto Brasil África 2017). Besides involvement in raw commodities, Brazil also played an increasing role in infrastructure investment in Africa, something the author has examined more widely in relation to dams (Dye, 2018, ch 2). This brought large Brazilian construction companies, including, Queiroz Galvão, Camargo Corrêa, Andrade Gutierrez and most importantly Odebrecht, to prominence. However, all these firms, and again particularly Odebrecht, were central actors in the Lavo Jato corruption scandal, as well as facing fines for bribery in projects in Africa (Pierson, 2017). This combination of increased scrutiny, business downturn and legal costs has caused a decline in these companies' activities. Their position has been further weakened by a reduction in finance from BNDES,¹⁰ which was the key Brazilian lender for infrastructure domestically and in Africa (Hochstetler, 2014).

In addition to these economic trends, development cooperation has collapsed. By 2012, the level of cooperation had halved, compared to Brazil's 2010 peak (Stolte, 2015). As Hochstetler and Inoue (2019) demonstrate, the number of projects, and especially new projects, continued to drop markedly, before stabilising around 2015–16, although they are expected to drop again by two-thirds by the end of 2020 as existing projects finish. This continual decrease has caused the closure of key cooperation initiatives such as the opening of a branch of Embrapa, Brazil's agricultural technological institute, in Ghana in 2018. Despite much talk of closing embassies under President Temer's government (2016–18) this did not happen until the present incumbent, President Bolsonaro, announced the closure of five embassies globally, including two in Africa.¹¹ Brazil's degree of retreat in Africa is also demonstrated through its contrast with other Southern powers (Mthembu, 2018) where, in infrastructure finance for example, China invested \$12 billion in 2015 (Atkins et al, 2017) and India, \$4.9 billion in 2016 (Chakrabarty, 2017). However, this retreat has not completely reset Brazil–Africa relations to their 1990s level. Trade seems to have stabilised to an extent, being similar in 2017 to what it was in 2016, reportedly around \$12.6 (Macahub, 2017).¹² This persistence is partly caused by the geographical inequality of the retreat. Lusophone

¹⁰ 'Brazil puts its state development bank on a diet'. *The Economist*, 2017.

¹¹ 'Brazil closes 5 Caribbean embassies citing costs and staffing'. *TeleSur*, 5th June 2019.

¹² Figures from government agency APEX, reported at <https://tradingeconomics.com/brazil/exports-to-africa>. Accessed: 6 November 2019.

countries, where Brazilian firms tended to have longer operational histories, underwent less change; Odebrecht maintained 13,000 jobs in Angola – down from its 17,000 peak by 2017 – while Vale continues operations in Mozambique after its \$9.5 billion investment there (Stratfor, 2017). This, albeit somewhat unequal retreat, has therefore had consequences for Brazil's previously growing role as an infrastructure- and dam-building player in Africa. The following Tanzanian case study demonstrates this in practice. But first the paper analyses the drivers of Brazil–Africa ties and describes its concept of naivety.

2 Explaining Brazil-Africa relations

2.1 Structural determinants

Two dominant narratives have been posited as explaining the boom and bust in Brazil–Africa relations. The first is structural and includes economic drivers. Here, Brazil's 2000s strong pursuit of African relations can be placed in the broader context of the commodities boom, which saw petroleum and other raw-mineral prices consistently rising from the early 2000s until 2014. This created an important context, as it piqued corporate interest in investing in commodity extraction in Africa. Petrobras, for instance, brokered a number of oil deals in the Gulf of Guinea and in East Africa—including Tanzania (Carmody, 2011, 2013). Vale, Brazil's mining conglomerate, built on existing political ties in Mozambique to become the major player in the large Tete mining project (Kirshner & Power, 2015) but also engaged in Liberia (Taylor, 2014). Meanwhile the commodity boom also supported infrastructure building, given the direct demand for infrastructure- enabling commodity extraction, and given the way the commodity boom increased government finance for various projects. Here the premium company was Odebrecht. For example, Angola's explosion in oil wealth underpinned Odebrecht's rehabilitation of the Capanda Dam and construction of the Lauca Dam – to date Africa's joint-largest by installed capacity (Soares de Oliveira, 2015).¹³ Additionally, smaller firms like Queiroz Galvão established themselves, for instance in Ghana, which was experiencing its own petroleum-driven boom between 2008 and 2012 (Whitfield, 2018) and using the firm to build motorway projects in Accra and elsewhere.¹⁴ The commodity boom was also a major bonus for commodity-exporting Brazil, increasing the government's budget for diplomatic ventures, South–South development cooperation and subsidised loans for infrastructure (Casanova & Kassum, 2014). Equally, the bust in commodities in 2014 then became part of the explanation for the downgrading of Brazil–Africa relations, reducing the profitability of mineral and petroleum projects and squeezing the budgets of the companies and governments of Brazil and many of those in Africa (Marcondes & Mawdsley, 2017).

Another structural issue highlighted by some (eg the World Bank and IPEA (2012) are the lack of physical connections between Brazil and Africa. Despite the historic links through the mass enslavement of West African peoples to (mainly) northeastern Brazil, few flights directly connect continent and country. Equally, there are no current global shipping lanes straight across the Atlantic, meaning that exports and imports between Brazil and Africa typically go through Europe or the USA (Maia, 2016). Another key factor creating an important limitation concerns Brazilian politics. Brazil's parliament, the Congress, is

¹³ At 2100MW it equals the High Aswan Dam.

¹⁴ Interviews, senior Itamaraty diplomat, Sao Paulo, 2019.

characterised by strong fragmentation. It is rare for any one party to win more than roughly a third of seats (Limongi, 2006). Indeed, during the PT rule, it never received more than one-quarter of the seats in the Congress. This was an important limitation on Presidents Lula and Dilma, as it meant that neither could easily legislate for longer-term changes that might cement African relations and South–South ties. For instance, neither president was able to pass debt-relief legislation, despite making repeated pledges on trips to Africa.¹⁵ This was particularly true under President Rousseff, who struggled in her relations with Congress, ultimately being impeached (Marcondes & Mawdsley, 2017). This factor increased the degree to which foreign policy became presidential, ie concentrated in the president’s office.

2.2 Presidential and corporate agency

Thus, the second narrative concerns the agency of individuals, and especially Brazilian presidents, in driving the trajectory and content of Brazil–Africa. The majority of the literature on this topic (de Freitas Barbosa et al, 2009; Stolte, 2012, 2015; Alves, 2013) highlights the central role of President Lula (2003–10). His government fundamentally transformed the level of state support for Africa engagements, whether in development cooperation, credit for exports or diplomatic resources. Lula visited 29 countries during his presidency, making strident speeches extolling the brotherhood, partnership and new dawn of emancipatory world relations flowing from South–South cooperation (Marcondes et al, 2017). Lula also increased the scale of finance for corporate operations in Africa. Under his direction, from 2007 BNDES extended credit for various projects, which amounted to an accumulated US\$2 billion by 2012 (Carmody, 2013) and reached a total of \$12.6 billion for export services, largely consisting of infrastructure projects (Alencastro, 2019; Fernandes & Neder, 2019). He also pushed for Brazil to become what Carmody (2013) cites as the largest development-cooperation spender by 2010: the budget for Brazil’s Development Cooperation Agency (ABC), increased significantly under Lula, with total development-cooperation spending moving from \$120 million in 2006 to \$1.2 billion in 2010.¹⁶ The importance of Brazilian presidents is also emphasised by the rapidity of change after Lula’s government. His successor in the PT, President Rousseff, kept the broad policy direction but devoted far less resources, as signified by the fall in development cooperation by 50% in two years (Stolte, 2015, p. 159). Her decreased interest was also reflected in the lower number of visits she made to Africa (six over five years (Marcondes & Mawdsley 2017)). Following Dilma’s impeachment and the end of PT rule, President Temer brought more rapid change, including the effective suspension of BNDES’s loans to Africa (Gaier, 2016). This was part of a response to the Lavo Jato corruption scandal in Brazil that had effectively brought Temer to power and cast business activities in Africa as corrupt,¹⁷ while Temer’s foreign minister announced the adoption of a ‘pragmatic’, business-centric approach, on the grounds that this entailed a dramatic practical decrease in presence (Marcondes & Mawdsley, 2017). While it

¹⁵ For instance in 2010 and 2013 (Dye, 2018, ch 7).

¹⁶ Although this is disputed. See Carmody (2013, p 127).

¹⁷ Particularly Odebrecht’s projects in Angola (Alencastro, 2019).

is too early to make a definitive assessment, President Bolsonaro's 'Brazil First' doctrine appears to be accelerating this plummet in political support and state resources for Africa.

This isn't new. The prioritisation and valuing of Africa has consistently shifted from president to president. The period 1961–64, under President João Goulart, saw the first serious engagement with the continent (Ioris, 2014), including the opening of six embassies, four consulates and a 1961 trade tour (Alves, 2013). Following the military coup, a foreign-policy retreat lasted until 1974, when newly installed President Geisel responded to the international oil crisis by initiating a foreign-policy era of 'responsible pragmatism', in which Brazil sought to diversify oil imports and internationalise its strong construction and manufacturing industries (de Freitas Barbosa et al, 2009; Stolte, 2015). Thus, Itamaraty emphasised the importance of Southern ties and Brazil became the first country to recognise the MPLA regime in Angola, before its Soviet Russian backers (Seifert, 2016).¹⁸ During this era (1983), Brazil also became a full member of the African Development Bank (having joined as an observer in 1974). Foreign policy changed again from 1985, with democratic governments favouring ties with the US and Europe (Doctor, 2017). South–South cooperation persisted, for instance through the institutionalisation of a technical cooperation agency, the ABC, but was given a far lower priority (Willis, 1995). Brazil's orientation towards 'Southern' developing countries and Africa has thus ebbed and flowed, with changes in presidents playing an important role in dictating this. Such variation is also pronounced when placed in contrast with other emerging powers. For example, India's recent push to Africa which, in terms of deliberate government support, has roots in the 1996–2004 right-wing BJP governments, was continued by its political opposite, the Congress Party (2004–14), who furthered support with high-level diplomatic forums and lines of credit (Carmody, 2013). The overtly religious, rightwing BJP Prime Minister Narendra Modi (2014–) has more recently outdone the centre-left Congress in India–Africa diplomatic ceremony and in terms of pledges on South–South cooperation and lines of credit (Dye, 2018, ch 2).

However, individual agency and personality are not a feature of Brazilian politicians only. First, the importance of Brazilian companies should be recognised. While not the initiators of the Brazil–Africa vision, infrastructure and resource-extractive companies were key agents shaping and implementing the PT's Africa policy. Companies like Odebrecht, Camargo Correa, Queiroz Galvão, Petrobras and Vale had some experience, primarily of lusophone Africa and were increasingly seen by the PT as agents capable of delivering the Brazil–Africa agenda (Dye & Alencastro, forthcoming; Dye, 2018; Alencastro, 2019). Petrobras for instance, brokered many of its own deals, arriving in Tanzania before the embassy reopened in 2005. This point is especially pertinent in Angola, where Odebrecht's relations with President Dos Santos's regime were so well aligned (Soares de Oliveira, 2015) that one interviewed diplomat commented that "Marcelo [the company's currently-jailed former chief] is more important than the ambassador".¹⁹ To a lesser extent, Vale enjoys the same close political ties in Mozambique, having established mining operations since the 1990s (Kirshner & Power, 2015). But it is also important to look beyond Brazil in understanding Brazil–Africa ties. Despite the number of frequently cited texts on the relationship (de Freitas Barbosa et

¹⁸ Interview, former senior official, PT government, 2016.

¹⁹ Interviews, senior journalist and Itamaraty diplomat, Brasilia, 2016.

al, 2009; World Bank & IPEA, 2012; Cheru & Modi, 2013; Alves, 2013; Stolte, 2015), these largely overlook the agency of political elites in Africa. Africanist literature on the continent's wider international ties frequently seeks to dispel the ideas of the continent's economic and political elites as helpless and mere recipients. Whitfield and Fraser (2009), and before them Mosley et al (1995), come to similar conclusions in their studies of aid, which shows the degree of agency governments in Africa have to shape terms, even if not all of them use it. Countries like Ethiopia and Rwanda, for instance, are noted for insisting that international donors engage on their terms, forcing such organisations to support and adapt to each regime's policies, despite receiving a significant percentage of their budget and GDP from donors (Hagmann & Reyntjens, 2016; Marriage, 2016). This point has also been made extensively with regard to the literature on China–Africa relations (Mohan & Power, 2008; Power et al, 2012; Mohan & Lampert, 2013). The emphasis on agency is also relevant for understanding business relations in Africa: particularly in more centralised authoritarian states with less transparent legal frameworks, and in which the rule of law can be overridden, personal relations with key members of government are vital for Brazilian firms' operations, as again highlighted by the case of Odebrecht in Angola. The latter's close ties allowed the company to extend from providing core infrastructure competences to mining, agriculture, supermarket management and public services (Soares de Oliveira, 2015; Seifert, 2016; Alencastro, 2019). However, this paper asserts that African elites' agency was less appreciated by Brazilian actors, leading to naivety, which helps explain the downturn in Brazil–Africa ties.

2.3 Naivety in Brazil's relations with Africa

'Naivety' here refers to having limited knowledge about the complex variety of contexts in Africa. In particular, it focuses on an insufficient understanding of how to read the state–business environment in order to successfully implement projects, whether for development cooperation or for profit-making initiatives. In the case of Brazil, its naivety has a number of different underpinnings. Some of these are structural. A low level of prior relations between continent and country over the 20th century was significant here. As indicated by the small volumes of trade in the 20th century, the variable foreign policy priority and the absence of connections like direct shipping, at the start of the push to Africa in the 21st century, there were few businesses and individuals with experience of working in Africa (Stolte, 2015). Language constitutes another barrier to access and understanding. Given that English and French are the most commonly spoken foreign languages, Brazilian Portuguese does not unlock large swaths of Africa. Related to this, the study of Africa within Brazil is limited. There is one Brazilian Centre for African Studies at the Universidade Federal do Rio Grande do Sul, and another Centro de Estudos Africanos da Universidade de São Paulo but these are under-resourced and the former only started after a 2005 course.²⁰ Collectively these factors have resulted in a limited pool of expertise and experience to draw on. Arguably, this weakness was aggravated by the PT's approach to Africa ties. Lula and many of his ministers asserted a narrative that the continent and country shared very similar economic and environmental challenges. Brazil was joined to West Africa in Gondwanaland in prehistoric times, and as a result has comparable plant species. Thus, parts of Brazil's north

²⁰ <https://www.ufrgs.br/cebrafrica/en/sobre/>.

contain similar Savannah zones to areas of Africa. Additionally, the Atlantic slave trade has generated some shared cultural roots in cuisine and music. These connections were used to validate a public discourse proclaiming Brazil as the 'brother of Africa', a country with the solutions to poverty reduction, economic growth and healthcare (Carmody, 2013; de Renzio et al, 2014; Stolte, 2015; Marcondes et al., 2017). As Foreign Minister Celso Amorim used to quote, "for every African problem there is a Brazilian solution" (Dye, 2019, p 131). This rhetoric bred a confidence, echoed by those interviewed for this research, that Brazil's history and its environment equipped it to understand the continent.²¹ Despite the most experienced actors, Odebrecht and Vale, largely having only worked in Angola and Mozambique, respectively, Brazil's history was presumed sufficient. Interviewees, and political speeches of the time, asserted a familiarity with 'Africa'. This naivety, condensing the continent's complexity and contexts, is used in this analysis as a conceptual tool, alongside other structural and agency drivers, to understand the case of Tanzania and explain why Brazil–Africa relations failed to embed despite substantive state support. While not using the concept of naivety, there are a number of academic publications which demonstrate instances of such naivety. For example, Cabral (2016; Cabral et al, 2016) shows how Brazil's agricultural engagements, either through the idea of Brazilian 'family farming' and how this was assumed to travel, or in the relevance of Brazilian tractors and other machinery to the continent. This paper now furthers these examples with a case study of Tanzania.

3 Case study of Tanzania

3.1 Private sector infrastructure projects

Brazil's ties with Tanzania reflect the shifting status of Africa in the country's foreign policy. Relations began in the 1970s, particularly stemming from Tanzania's President Nyerere, whose advocacy of Pan-Africanism and of greater South–South relations through the Non-Aligned Movement made the country prominent. Brazil opened an embassy in Dar es Salaam in 1982 and extended a line of credit for the upgrading of a major highway between the *de facto* capital and Morogoro. Little cooperation or investment occurred after 1985, however, and the embassy closed in 1991. This was reversed under Lula and the PT. Tanzania was in the first tranche of embassy openings. Alongside historical links, senior diplomats interviewed indicated that Tanzania's importance came from it being a non-permanent member of the UN Security Council at the time. This was strategic given Brazil's long-held desire to gain a permanent seat at the Security Council (Hurrell, 2010). It was also influenced by Brazil's and Tanzania's membership of the G15 group of countries that cooperate in World Trade Organization (WTO) meetings over perceived developing-country interests.²² While Petrobras already had an established presence in off-shore gas exploration near Mtwara, the re-opening of this embassy initiated significant further engagement. In 2008, a Brazil–Tanzania Technical Cooperation Deal was signed with ABC (Ministry of External Relations & Brazilian Cooperation Agency, 2010). Through diplomatic negotiations, a number of projects were started in the field of agriculture, primarily consisting of capacity building, knowledge exchange and the promotion of Brazilian agricultural

²¹ As reflected by interviews with senior and junior Itamaraty diplomats and researchers and senior officials in Odebrecht, Queiroz Galvão and Electrobras 2015–16.

²² Interviews, senior diplomats, Itamaraty, Rio de Janeiro, Dar-es-Salaam.

products. Brazil's arrival coincided with the resurrection of a number of dam projects by Tanzanian president Kikwete's government. The Stiegler's Gorge Dam project was resurrected in 2006, roughly a decade after it had been shelved following rejection by the World Bank (Dye, 2018). Similarly, although discussed in the 1980s and early 1990s as part of Norwegian studies of the Rufiji Basin (Havnevik, 1993), the Mnyera Dam returned in the 2008–09 Power System Master Plan.

Odebrecht in Tanzania

Brazilian diplomats therefore played an important role in securing dam projects in Tanzania. As one senior diplomat explained, "Kikwete [the Tanzanian President], he extended an invitation to Brazilian companies to work on energy, infrastructure and agriculture [his three priority areas]", which matched the Brazilian competences Itamaraty was supposed to support.²³ Following this meeting the ambassador "identified energy, mining and logistics" and sent out invitations and briefing notes to companies in Brazil accordingly.²⁴ Brazil's largest construction company, Odebrecht, responded. Its representatives visited Dar es Salaam in November 2009, demonstrating the firm's resources for engaging in new ventures in Africa. The embassy's efforts, particularly in relation to development projects, were strengthened by the visit of Foreign Minister Celso Amorim, who held meetings with senior government figures, raising Brazil's profile in the country. This is partly because diplomats sought to secure agreements that could be announced during his trip, a factor that helped initiate and push the agriculture and HIV/AIDS cooperation projects cited above. Lula's high profile trip also enabled high-level company introductions. As one diplomat explained, such backing is significant in Tanzania as, without it, you can have a "very hard time".²⁵ This shows that, in a country with almost no pre-existing business relations with Brazil, Itamaraty's diplomats and high-level political visits played a major role in raising the profile of Brazil–Tanzania relations and initiating development cooperation and corporate projects. For instance, an Odebrecht official explained that it influenced their investment choices: "[we were] looking at the market before in Kenya ... then Lula came [to Tanzania] and when you are in Dar es Salaam, you see the opportunities ... we talked to people ... Ministry of Energy and Minerals ... Stiegler's Gorge [was apparent] as a priority project".²⁶ This role of the Brazilian state in initiating projects contrasts with the situation in the lusophone countries Angola and Mozambique, where Odebrecht and Vale's longer-standing ties to members of the ruling party meant that they operated far more independently from the Brazilian state (Soares de Oliveira, 2015; Capi & Viana, 2016; Alencastro, 2019).

However, over time, Odebrecht's role in driving infrastructure projects in Tanzania became more prominent. The company chose to open an office in Dar es Salaam and engaged in regular meetings from 2011. Their efforts brokered an agreement on the Stiegler's Gorge Dam with the responsible government agency – Rubada (the Rufiji Basin Development Agency). In 2012 a Memorandum of Understanding (MoU) between the two gave Odebrecht responsibility for the project's construction, with a first step of producing an updated

²³ Interview, senior diplomat, Itamaraty, 2016.

²⁴ Interview, senior diplomat, Itamaraty, 2016.

²⁵ Interview, senior diplomat, Itamaraty, 2016.

²⁶ Interview, senior official, Odebrecht, 2016.

feasibility and design report, while Rubada would undertake an environmental impact assessment (EIA). A further future EIA was envisioned that would meet the UN Economic, Social and Cultural Organisation (UNESCO) criteria, given that the Stiegler's Gorge project would take place in the UNESCO Selous World Heritage Site. In addition, and without the initiation of Itamaraty or any high-level visit, the company also entered discussions over the construction of a larger airport at Mtwara, the base for Tanzania's new off-shore gas industry. This would facilitate the dam project by increasing staff in the country and by building experience of operating in Tanzania. Odebrecht therefore began talks with the Ministries of Finance and Works to pursue the airport.

Odebrecht's independent actions in Tanzania also included attempts to secure UNESCO's approval for the Stiegler's Gorge Dam. The company faced a similar obstacle when working on a viaduct construction project that would damage the Viejo cultural World Heritage Site in Panama City. Odebrecht helped circumvent the committee's objections through the production of extensive reports about the road's ability to enhance the site (something the UNESCO secretariat derided) and by supporting extensive lobbying of the committee's constituent national representatives (Meskell, 2018, pp 103–108). In Tanzania, Odebrecht proposed sanitising the dam by creating an additional levy on the hydroelectric plant's tariff. With the dam's feasibility assessment indicating a price of \$0.0435 per kilowatt-hour (Kwh), below the national average of \$.065kwh, an additional cent (\$0.01) could be added and reserved for a ring-fenced Selous conservation fund (Odebrecht, 2013).²⁷ In addition, Odebrecht started soliciting finance for the dam. With the project envisaged as an Independent Power Plant (IPP) between 2005 and 2015, Odebrecht and Rubada were made responsible for securing finance for construction. Reportedly, Odebrecht began approaching partners for such funds, including the World Bank,²⁸ European Development Banks,²⁹ and, with the support of the Brazilian ambassador,³⁰ the Canadian government. Again this underlines the role of Brazilian companies in advancing projects in Africa. Indeed, Odebrecht was particularly capable of undertaking this scale of dam building, as it led the consortium constructing the similarly sized ~2,100MW Lauca Dam in Angola.

Queiroz Galvão in Tanzania

A similar pattern emerged with another Brazilian company, Queiroz Galvão. While the company had not come on President Lula's earlier trip, it agreed an MoU with Rubada in 2012 to build another hydropower project, the Mnyera Dam. It set up an office earlier than Odebrecht and conducted feasibility and construction studies in 2012. These included a redesign of the project to increase its hydropower capacity, entailing a large dam at the top of a cascade of six run-of-river hydropower stations. Collectively, the Mnyera hydropower project is projected to produce a maximum of 670MW, with the large upstream reservoir regulating flow to reduce seasonal fluctuations in power production (Construtora Queiroz Galvão, 2012). Queiroz Galvão then paid for hydrological research from 2013 to 2017 in

²⁷ Interview, senior official, Odebrecht, 2016.

²⁸ Interview, senior official, World Bank, 2017.

²⁹ Interview, senior official, Odebrecht, 2016.

³⁰ Interview, senior diplomat, Itamaraty, 2016.

order to underpin feasibility studies.³¹ It also spent money on an EIA for the dam that was completed in 2014 and approved by the Tanzanian environmental regulator.³² This underlines the degree to which Queiroz Galvão invested in this Tanzanian infrastructure project from an early stage. Like Odebrecht, Queiroz Galvão also entered negotiations for an airport extension to build Tanzanian experience and increase the number of staff in the country. It entered into negotiations with the Tanzanian government over airport expansion at Dodoma, technically the country's capital city.³³ Using its European subsidiary company, Queiroz Galvão also began to actively solicit finance for this dam. This allegedly included meetings with the UK Export Credit Agency.³⁴ However, crucially, neither of the Brazilian companies was able to implement its dam projects. The following section links this, at least in part, to their misreading of the Tanzanian state.

3.2 Misreading the Tanzanian state

Analysis has, thus far, indicated the significance of the conventional explanatory factors about what drove the trajectory of the Brazil–Tanzania relationship. Changes of Brazilian president, and their degree of power, mattered, especially in Brazil where a decline in interest decreased the amount of high-level diplomatic support and resources. Additionally, the worsening global economic climate contributed to Petrobras reducing its investment and activity in Tanzania. Equally, the analysis below demonstrates the significance of the Brazilian Congress's blocking of debt relief until 2017, as this prevented access to Brazilian subsidised credit. However, the other crucial factor behind the trajectory of the countries' ties was the way in which Brazilian governmental and corporate actors failed to appreciate Tanzanian agency. They saw themselves as primary drivers, and thus as capable of overcoming blocks to implementation.

This is best demonstrated by Odebrecht and Queiroz Galvão, which verged on naivety. In terms of gaining further support from the Tanzanian government, both the Stiegler's Gorge and Mnyera dams had stalled by 2014. While Stiegler's Gorge and Mnyera were prioritised as medium-term (five-year) projects in the 2009 and 2012 Power System Master Plans (Ministry of Energy and Minerals, 2009; United Republic of Tanzania Ministry of Energy and Minerals, 2013), in the 2016 Master Plan (United Republic of Tanzania Ministry of Energy and Minerals, 2016) both dams were pushed into a longer term, ten-year, planning horizon. This lowered status began in 2012, with a new Minister for Energy and Minerals, Dr Sospeter Muhongo, preferring fossil fuels: as one informant stated, from 2012 "the minister [of energy was] oppose[d] to hydropower".³⁵ He publicly asserted that gas was the priority energy-generation technology, followed by coal and then hydropower (Friedman, 2014; Makoye, 2015).³⁶ In meetings with Brazilian counterparts, he reportedly had little interest in either

³¹ Interview, senior official, Queiroz Galvão, 2016.

³² Interviews, official, Rubada, 2016–15; Arms on Environment 2014. The regulator was the National Environmental Management Council.

³³ Interviews, senior official, Odebrecht, 2016 and senior and junior officials, Itamaraty, 2015–16.

³⁴ Interviews, senior official, Odebrecht, 2016 and senior diplomat, Itamaraty, 2016.

³⁵ Interview, senior official, Itamaraty, 2016.

³⁶ See also 'Tanzania: energy priority for Tanzania 2030 scheme', *East African Business Week*, 27th February 2016.

the Stiegler's Gorge or Mnyera dams. This contrasted with the former minister of energy, who expressed broad support (Dye, 2018, ch 7). Further, in 2012, deep-sea exploration found significant reserves of natural gas. Consequently "people started saying why are you going ahead [with the Stiegler's gorge when we have gas]?"³⁷ This point was made especially pertinent by the frequent black-outs experienced in Tanzania during droughts, where insufficient rainfall caused a shortfall in hydropower (Kapika & Eberhard, 2013). Such droughts worsened during the 2000s and 2010s, creating scepticism about further dam building (Dye & Hartmann, 2017). Rather than investing in hydropower, the national energy utility Tanesco, built gas plants at Ubungo, Tegeta and Kinyerezi.³⁸

Instead of facing this weakening interest and scant evidence of substantive support, Odebrecht and Queiroz Galvão appeared to believe that the official development plans amounted to concrete action plans. More than that, they trusted assurances made in high-level meetings. One common refrain cited during interviews to demonstrate Tanzanian interest, concerned the president's desire to implement the hydropower projects (eg "Kikwete keen on hydropower"³⁹). Equally, meetings held with Rubada and in the ministries where their dam and/or airports were discussed were claimed to be proof of intent in interviews. Crucial significance was also ascribed to the initial engagements between senior Tanzanian officials and Brazilian politicians and company representatives between 2010 and 2012. Indeed, Senior Tanzanian officials were also responsible for bringing in the two Brazilian companies. As noted above, President Kikwete raised energy and infrastructure projects with the Brazilian ambassador, and President Magufuli is reported specifically to have brought up Stiegler's Gorge with the new ambassador in 2016, saying "oh this is a very fundamentally important project for us, pivotal for us".⁴⁰ After President Lula's 2010 visit, Tanzania's foreign minister, Bernard Membe, reaffirmed interest with a trip to Brazil. This was followed by a visit from Prime Minister Mizengo Pinda, who specifically focused on dam infrastructure,⁴¹ including the head of Rubada and Energy Minister Williams Ngeleja in his delegation. President Kikwete also advanced Brazil–Tanzania ties by making a trip in 2012: "Kikwete went to Brazil and he went to meet these companies ... he brought Queiroz Galvão",⁴² inviting them to undertake studies and preparation for the Mnyera Dam as well as discussing the Stiegler's Gorge and other energy, agriculture and mining projects.⁴³

Thus, when asked about the dams' implementation issues, officials interviewed did not blame decreased governmental interest. Rather, they primarily cited problems with Rubada, the institution responsible for developing dams in the Rufiji Basin. Typically, such Brazilian officials highlighted the organisation's extremely limited capacity, signified by the fact that it only had one key qualified engineer. Being so hamstrung, Rubada thus relied on companies to advance their projects and needed the energy ministry's permission to sign deals. Additionally, given its incapacity, Rubada was unable to uphold its side of the dam deals, requiring Brazilian companies to spend money on studies and reports. For instance,

³⁷ Interview, senior official, Itamaraty, 2016.

³⁸ Ubungo I (2009) and Ubungo II (2012); Tegeta Gas (2009); and Kinyerezi I (2015) and Kinyerezi II (2018).

³⁹ Interview, senior official, Queiroz Galvão, 2016.

⁴⁰ Interview, senior diplomat, Itamaraty, 2016.

⁴¹ For instance, visiting the Itaipu Dam, Odebrecht offices and the Ministry of Energy.

⁴² Interview, senior official, Itamaraty, 2016.

⁴³ Interview, Senior Official, Queiroz Galvão, 2016.

Odebrecht “realise[d] that the client (Rubada) does not have the know-how or technical ability to do these studies [as agreed in the MoU]”. Thus, Odebrecht paid a local company to produce the initial EIA but then “[had to] hand it to another group of 20 people in Brazil at our headquarters to improve the document created by the local company”. In Rubada’s absence, both firms therefore realised the key power to advance their power purchase agreements for the dams, or allocate preparatory funding, lay with the Ministry of Energy and Minerals. Here the scepticism of the aforementioned 2012–15 and 2015–17 Energy and Minerals Minister, Sospeter Muhongo, was noted, particularly in contrast to his predecessor: “there was a minister not keen on hydropower”;⁴⁴ “[now we have a minister opposed to hydropower!].⁴⁵ One official reported the contrast between positive meetings with this minister when he brought a senior company executive over from Brazil, only for little action to follow. However, none of the interviewed officials saw Minister Muhongo as an immovable block, believing that the Tanzanian government wanted this project to go ahead. Officials counted on the validity of publically proclaimed infrastructure and development plans, seeing this as proof that their projects would ultimately prevail. One stated that “I can feel and see the possibilities of many projects to be implemented ... with the industrialisation agenda of the new government. [It is not like] Brazil in the ’80s going round in circles, hopeless at building infrastructure ... The agenda of the new government [is rooted in an] ... understanding of the lack of infrastructure”.⁴⁶ This led to a belief among company officials and the diplomats involved that the large hydropower dams had to “accompany industrialisation”;⁴⁷ really, the Tanzanian state would support dam building.

Evidence from the past two decades questions this understanding of Tanzanian politics, particularly when applied to public–private infrastructure deals. Until 2018, the only electricity projects to have progressed were the government-owned thermal plants cited above and two corrupt private sector plants: the Richmond-Dowans plant involved in a 2009 scandal and the Independent Tanzania Power Plant Ltd (ITPL), which was involved in numerous instances of corruption as it slowly progressed and changed ownership from the 1990s to the 2010s (Cooksey, 2017). The exception is the Songo-Songo Gas project, although (perhaps as a result of being less corrupt) it suffered a 13-year-long negotiation (Kapika & Eberhard 2013). Numerous other private-sector led projects were listed by the government between 2009 and 2016 covering gas, coal, wind and hydropower generation technologies (Kapika and Eberhard, 2013; Jacob, 2017). The projects that came closest to implementation, with finalised agreements and some degree of financing secured, were the Ruhudji, Malagarasi and Kakono dams, and Kinyerezi III and IV gas plants. However, none reached construction stage (Dye, 2018, ch 4). This indicates the Tanzanian government’s limited ability to support private sector projects through to implementation, and the difficulties faced by the Brazilian companies in implementing their dams. Such projects require multiple legal agreements with different government agencies, most central of which is the Power Purchase Agreement with Tanesco. However, even with this achieved, Tanesco’s low credit rating – stemming from its history of not paying the aforementioned private sector plants⁴⁸ – requires investors to obtain

⁴⁴ Interview, senior official, Queiroz Galvão, 2016.

⁴⁵ Interview, senior and junior officials, Itamaraty, 2015–16.

⁴⁶ Interview, senior official, Odebrecht, 2016.

⁴⁷ Interview, senior official, Odebrecht, 2016; and interview, senior officials, Itamaraty, 2015–16.

⁴⁸ Namely the Richmond-Dowans, ITPL and Songas plants.

further government guarantees in order to raise the necessary finance for construction. This was particularly problematic for the Brazilian companies, as until 2017, Tanzania's outstanding debt to Brazil ruled out the extension of government finance through an export-credit agency like BNDES, the bank which has unlocked other projects, including the Lauca Dam in Angola. This latter point reinforces the importance of the political structural constraint of Brazil's fragmented Congress, which failed to sign-off on Tanzania's debt relief.

Brazilian actors appear to have misread these hurdles in their pursuit of dams. A key reason behind the lack of power-project construction was the deep divisions in Tanzania's ruling party that prevented the necessary joined-up decision making across government. Such divisions have their roots in the shift towards a private sector-led economy that began in 1985, and was furthered with the transition to democracy in 1995 (Coulson, 2013). Both changes lessened party discipline and the hard separation of politics from business (Collord, 2018a, 2018b). Thus, political office was increasingly used as a business platform to capture contracts, engage in grand corruption and carve out protected economic monopolies for self-enrichment and political finance (Gray, 2015, 2018). Indiscipline over dealing with such practices, alongside competition for rent seeking, increasingly fractured the ruling Chama Cha Mapinduzi party into rival groups that occupied different ministries, especially during Kikwete's 2006–15 tenure (Gray, 2015; Jacob, 2017; Collord, 2018a). Consequently, cohesive policy making of the type required to support private sector investment, especially on the scale required for dams, was absent.

Moreover, the lack of central coordination, and intra-party competition, meant that ministers were particularly powerful. Thus, even if President Kikwete supported the Mnyera or Stiegler's Gorge projects, his ability to advance them was limited, particularly when a hydro-sceptic minister of energy was in post. In contrast to the Brazilian firms, other companies recognised this. For instance, Aldwych, a British energy firm, realised that its Ruhudji project was all but shelved in 2012.⁴⁹ While continuing to monitor the situation, it withdrew from further substantive action. Sinohydro, after completing studies for the Mpanga Dam in 2012, also took no further steps. Advisory consultants, finding none of their clients successful in electricity projects, reported in interviews that they were telling clients to avoid investment until substantive, legal government support had been given.

Brazilian companies and diplomats therefore seem to have misunderstood policy making in Tanzania by underestimating the disconnects within government. In particular, they did not appear to grasp the extent of disconnect between stated policies and actual implementation. Rather, there was a belief that if the president invited a company in, and if certain high-level meetings were positive, the Tanzanian state (assumed to be a unitary body) wanted implementation. Ultimately, the necessary support would prevail. This apparent naivety could be rooted in the companies' experiences of other countries in Africa. As noted, Odebrecht's major work in Africa is in Mozambique and Angola, highly centralised and strongly presidential governments with more pyramidal systems of decision making. There, if the

⁴⁹ Interview, senior official, Aldwych, 2016.

president and senior officials approve a project, it is more likely to indicate support across the state and carry through to decision making throughout government and its agencies. Given that Tanzania also follows an authoritarian model of holding elections but having a dominant ruling party, Brazilian actors might have assumed that the Tanzanian state functioned in a similarly pyramidal way. The reality, in contrast, was a fractured government of powerful ministries and ministers.

Another instance of seeming short-sightedness was Odebrecht's belief that it could gain the UNESCO World Heritage Centre (WHC) approval for the Stiegler's Gorge Dam. The project will lie in the heart of a protected reserve, flooding over 3% of its area. Additionally, it will entail significant downstream effects for its key ecological area (Havnevik, 1993). Studies by the World Wide Fund for Nature (WWF) (Dye & Hartmann, 2017), and by academics modelling potential flood releases (Duvail et al, 2014) show that the infrastructure will have inevitable trade-offs for the marshland area immediately below the Stiegler's Gorge. This area is the reserve's most biodiverse habitat and also its main tourist site. The dam will also undermine the biophysical processes sustaining agriculture and fishing downstream, and the ecology of the Ramsar-protected river delta (Havnevik, 1993). Construction, by bringing in constant traffic and workers, will itself entail risks in the areas of poaching, logging and pollution in the reserve. Although such risks were established by past environmental impact assessments in the 1980s and consistently cited in International Union for the Conservation of Nature (IUCN) monitoring reports, Odebrecht officials refuted the idea of fundamental trade-offs: "I believe there is a good chance [of the EIA gaining approval] ... the few conversations I have seen show that there is a good understanding of the positives [among the WHC]". "Careful attention", such as a "conscious drive on anti-poaching [would] ... minimise impacts and create benefits [to the park]".⁵⁰ In contrast, UNESCO's WHC has issued strongly worded statements since 2012 (eg UNESCO WHC, 2018) and reactive monitoring missions have produced stark warnings of the risks of the dam (Jaeger et al, 2014; IUCN, 2017). Since President Magufuli's attempts to push through construction of Stiegler's Gorge Dam, opposition has increased, as exemplified by the official warnings given by the IUCN and UNESCO (UNESCO WHC, 2018).

Odebrecht's calculation around UNESCO and the Selous therefore indicates another way in which Brazilian actors seem to have overestimated the ease of implementing projects in Tanzania while also misreading the politics involved in undertaking their activities. Collectively, this suggests that Brazilian actors were naïve in their engagement with Tanzania. They overestimated the openness of doing business in the country, the degree to which formal institutions and official communications could be trusted. The obstacles presented by the government's fragmented policy making, particularly for private sector projects, were not sufficiently understood, nor was the international sensitivity around the Stiegler's Gorge Dam. However, rather than acknowledging this, interviewees cited above blamed blockages on specific Tanzanian government agencies – frequently Rubada – or on the withdrawal of support from Brazil. As one explained, Brazilian infrastructure projects had not been implemented because "after Lula, there was a loss of interest [in the Brazil–Africa

⁵⁰ Interview, senior official, Odebrecht, 2016.

policy] ... I think at the end of the Lula [period], government completely overstretched. Announcing too many projects and not being able to implement them.”

This point is further reinforced by the latest developments under current president Magufuli. He stopped a drift towards gas generation and fired energy minister Muhongo in 2017, as well as abolishing Rubada. The president has delegated development of the Stiegler’s Gorge Dam to a trusted minister, Medard Kalemani.⁵¹ From this point onwards, the government actively pursued the Stiegler’s Gorge Dam, even making it a flagship project (Luhwago, 2017a, 2017b; Namkwahe, 2019). This time, the government plans to finance the dam itself through the national budget, which may speed up implementation and allows pronouncements by UNESCO’s WHC to be ignored. However, the latest progress sidelined Odebrecht. The company entered the bidding rounds in 2018 and 2019, making it to the second round in the latter process,⁵² but despite having the most knowledge about the project, including preparation of detailed feasibility, design and EIA reports, it was passed over by the Tanzanian government, which appointed an Egyptian consortium made up of Arab contractors to lead civil works, and El Sweeney for the electromechanical works. This is deeply surprising as, seemingly, neither contractor has any experience leading dam design and construction.⁵³ For Odebrecht to be frozen out of this process, despite its position of strength, reinforces the impression of its inability to form alliances with key brokers and to read Tanzanian politics and decision-making processes. It also has implications for whether this dam will be built, given the inexperience of the contractors. For example, on the civil works side, to construct what would currently be the joint-largest dam in Africa requires considerable expertise in hydrology, hydro-infrastructure, not to mention project management, elements that the Arab contractors do not appear to have.

4 Conclusion

Through a case study of Tanzania, this paper has demonstrated the combination of drivers behind Brazil’s dramatic see-saw trajectory in Africa relations, explaining why its retreat from beyond lusophone Africa has been quite so dramatic, then linking this to the stagnation of dams in Tanzania between 2005 and 2018. The commodity-price downturn reduced the attractiveness of investments in natural resources and both governments’ budgets. Additionally, the structural political issues of Brazil’s fragmented Congress, and the way in which this hampered debt relief for Tanzania, proved an impediment to accessing concessional finance. Typically, such BNDES finance was an important key to unlocking the go-ahead for economically risky infrastructure. Equally, the influence of presidents is noticeable. President Dilma Rousseff’s lower-level prioritisation of Africa and South–South cooperation-influenced aid spending, and of the degree of presidential diplomacy that had proved important to increasing ties under Lula had an impact. But the amount of resources and support for relations with Tanzania has fallen even further down the pecking order with Presidents Temer and now Bolsonaro. This degree of presidentialism in foreign policy clearly creates a structural weakness in terms of building relations with the Global South. In addition,

⁵¹ From the same constituency as the president and reportedly a family relation.

⁵² Personal correspondence, academics, December 2018 and February 2019.

⁵³ Oxford Analytica 2018; Dye 2019b

Brazilian companies were key agents in themselves. After initial introductions and support from diplomats, they invested in projects and forged deals with the Tanzanian state.

But these agency and structure factors do not explain the whole picture of why Brazil's companies were unable to bring either dam to implementation. European finance and other investment sources could have plausibly offered a pathway to implementation for Odebrecht and Queiroz Galvão's infrastructure projects. Additionally, they do not wholly explain why Odebrecht wasn't involved when the Tanzanian state decided to proceed with Stiegler's Gorge Dam when it seemed the most qualified. Therefore, this paper argues that, given the degree of presidential diplomacy and the resources of the Brazilian government and companies, one could have expected to see more successfully implemented projects. To understand their failure requires appreciation of the concept of naivety, of Brazilian firms' misreading of the policy making and politics in Tanzania. Brazilian actors did not appear to understand the priorities and processes of the relevant Tanzanian politicians and civil servants. Nor did they appear to have access to expertise that could have given them a more critical appraisal of decision making. Assuming that their experience in Mozambique and Angola could serve as a guide, they also failed to appreciate the weakness and fragmentation of the Tanzanian regime and the effect this had on policy making. Collectively, Brazilian firms appear to have misread the policy-making process to a greater extent than other countries in the energy sector. Thus, this paper argues that the concept of naivety makes a useful contribution to understanding why international enablers of dams fail to see these complex infrastructure projects through to completion. This contribution demonstrates an alternative mechanism by which dams are delayed and stagnate, in contrast to much of the dam-building literature, which has rather emphasised the role of protest and socio-environmental issues. In contrast, this article demonstrates the importance of international financing and constructing enablers: given their importance in contexts like Tanzania, where capital and expertise are limited, they are vital to the progress of a project and so their weaknesses play a key role in dictating the progress of dams. Finally, through an empirical analysis of the material here, the paper also contributes to two debates about the emerging powers in Africa. One is the role of African agency in determining foreign relations, as this case highlights Tanzanian's crucial role in shaping Brazil–Tanzanian outcomes. In addition, the paper demonstrates the significance of companies and corporate agency in the foreign policy of the emerging powers in Africa, which the literature has not always given sufficient recognition to. Although the Brazilian state was the primary actor pioneering and supporting relations in Tanzania, and despite being less important than Odebrecht in Angola, both actors did play an important role here in advancing each project and investing in preparation.

References

- Ahlers R, Budds J, Joshi D, et al (2015) Framing hydropower as green energy: assessing drivers, risks and tensions in the Eastern Himalayas. *Earth System Dynamics* 6:195–204. <https://doi.org/10.5194/esd-6-195-2015>
- Alden C, Large D, Soares de Oliveira R (2008) Introduction: China Returns to Africa. In: Alden C, Large D, Soares de Oliveira R (eds) *China returns to Africa: a rising power and a continent embrace*. Hurst, London
- Alencastro M (2019) Brazilian Corruption Overseas: the case of Odebrecht in Angola. In: Rotberg RI (ed) *Corruption in Latin America: How Politicians and Corporations Steal from Citizens*. Springer, Cham
- Alves AC (2013) Brazil in Africa: Achievements and Challenges. In: Kitchen N (ed) *Emerging Powers in Africa- Special Report, SR016 edn*. London School of Economics and Political Science (LSE), London
- Arms on Environment (2014) *Environmental Impact Assessment for the Proposed Mnyera Hydro-Electrical Power Generation in Rufiji Basin*
- Atkins E (2017) Dammed and diversionary: The multi-dimensional framing of Brazil's Belo Monte dam: Dammed and diversionary. *Singapore Journal of Tropical Geography* 38:276–292. <https://doi.org/10.1111/sjtg.12206>
- Atkins E (2018) Dams, political framing and sustainability as an empty signifier: The case of Belo Monte. *Area* 50:232–239. <https://doi.org/10.1111/area.12364>
- Atkins L, Bräutigam D, Chen Y, Hwang J (2017) *China-Africa Economic Bulletin #1: Challenges of and opportunities from the commodity price slump*. Johns Hopkins University School of Advanced International Studies, Washington DC: CARI
- Augusto-Vieira G, Instituto Brasil África (2017) *Oil, Brazil's new strategy for Africa*. Atlantico
- Aykut D, Goldstein A (2006) *Developing country multinationals: South-South investment comes of age*. OECD Development Centre, Paris, France
- Cabral L (2016) Brazil's Tropical Solutions for Africa: Tractors, Matracas and the Politics of 'Appropriate Technology.' *The European Journal of Development Research* 28:414–430. <https://doi.org/10.1057/ejdr.2016.13>
- Cabral L, Favareto A, Mukwereza L, Amanor K (2016) Brazil's Agricultural Politics in Africa: More Food International and the Disputed Meanings of "Family Farming." *World Development* 81:47–60. <https://doi.org/10.1016/j.worlddev.2015.11.010>
- Capi E, Viana N (2016) *Em Angola, a Odebrecht no espelho*. Publica. 20 December 2017, <https://apublica.org/2016/02/em-angola-a-odebrecht-no-espelho/>.
- Carmody PR (2013) *The rise of the BRICS in Africa: the geopolitics of south-south relations*. Zed Books, London ; New York
- Carmody PR (2011) *The New Scramble for Africa*. Polity Press, Cambridge, UK ; Malden MA
- Casanova L, Kassum J (2014) *The political economy of an emerging global power: in search of the Brazil dream*. Palgrave Macmillan, Hampshire, UK ; New York

- Chakrabarty M (2017) *Indian Investments in Africa: Scale, Trends, and Policy Recommendations*. Observer Research Foundation, New Delhi
- Chavkin S (2019) Leak Exposes Millions Of Dollars In New Payments In Odebrecht Cash-For-Contracts Scandal. International Consortium of Investigative Journalists. 25th June 2019, <https://www.icij.org/investigations/bribery-division/leak-exposes-millions-of-dollars-in-new-payments-in-odebrecht-cash-for-contracts-scandal/>.
- Cheru F, Modi R (eds) (2013) *Agricultural development and food security in Africa: the impact of Chinese, Indian and Brazilian Investments*. Zed Books, London
- Collord M (2018a) *The political economy of institutions in Africa: Comparing authoritarian parties and parliaments in Tanzania and Uganda*. DPhil, Department of Politics and International Relations, University of Oxford
- Collord M (2018b) *The Legislature: Institutional Strengthening in Dominant-Party States*. In: Cheeseman N (ed) *Institutions and Democracy in Africa*, 1st edn. Cambridge University Press, pp 281–303
- Committee UNE Scientific and Cultural Organisation (UNESCO) *World Heritage (2019) Convention Concerning the Protection of the World Cultural and Natural Heritage*
- Construtora Queiroz Galvão (2012) *Mnyera River-Tanzania: Implementation of Hydroelectric Developments; Technical Preliminary Feasibility Studies*. Construtora Queiroz Galvão
- Cooksey B (2017) *ITPL, Richmond and Escrow: The price of private procurement in Tanzania*. African Research Institute, London UK
- Coulson A (2013) *Tanzania: a political economy*, Second edition. Oxford University Press, Oxford
- de Freitas Barbosa A, Narciso T, Biancalana M (2009) Brazil in Africa: Another Emerging Power in the Continent? *Politikon* 36:59–86. <https://doi.org/10.1080/02589340903155401>
- de Renzio P, Seifert J, Zoccal Gomes G, Assunção M (2014) *Solidarity Among Brothers? Brazil in Africa: trade, investment and cooperation*. BRICS Policy Centre: Policy Brief 4:
- Doctor M (2017) Brazilian business and Itamaraty in the PT era: foreign policy-making in the context of 'graduation dilemmas.' *International Affairs* 93:643–660. <https://doi.org/10.1093/ia/iix077>
- Duvail S, Mwakalinga AB, Eijkelenburg A, et al (2014) Jointly thinking the post-dam future: exchange of local and scientific knowledge on the lakes of the Lower Rufiji, Tanzania. *Hydrological Sciences Journal* 59:713–730. <https://doi.org/10.1080/02626667.2013.827792>
- Dye BJ (2018) *The Politics of Dam Resurgence: High Modernist Statebuilding and the Emerging Powers in Africa*. DPhil Thesis, Department of Politics and International Relations, University of Oxford

- Dye BJ (2019a) Continuity or Change in the Infrastructure Turn? Reform of the Technicians' Realm in a World Bank Dam. *The European Journal of Development Research* 1: <https://doi.org/10.1057/s41287-019-00232-4>
- Dye BJ (2019b) Stiegler's Gorge Dam, Tanzania. In: Simonov E (ed) *Heritage Dammed: Water Infrastructure Impacts on World Heritage Sites and Free Flowing Rivers. Rivers Without Borders; World Heritage Watch*
- Dye BJ, Alencastro M (Forthcoming) Debunking Brazilian Exceptionalism in its Africa Relations: Evidence from Rwanda and Tanzania. *Global Society*
- Dye BJ, Hartmann J (2017) *The True Cost of Power: The Facts and Risks of Building the Stiegler's Gorge Hydropower Dam in the Selous Game Reserve, Tanzania*. World Wildlife Fund International, Gland, Switzerland
- East African Business Week (2016) Tanzania: Energy Priority for Tanzania 2030 Scheme. *East African Business Week*. 27th February 2016, <https://allafrica.com/stories/201602290646.html>.
- Fearnside PM (2014) Impacts of Brazil's Madeira River Dams: Unlearned lessons for hydroelectric development in Amazonia. *Environmental Science & Policy* 38:164–172. <https://doi.org/10.1016/j.envsci.2013.11.004>
- Fernandes A, Neder V (2019) BNDES devolverá R\$ 100 bilhões ao Tesouro. *Folha de S.Paulo*, 7th January 2019, <https://economia.estadao.com.br/noticias/geral/bndes-devolvera-r-100-bilhoes-ao-tesouro,70002669549>
- Foster V, Butterfield W, Chen C, Pushak N (2009) *Building bridges: China's growing role as infrastructure financier for sub-Saharan Africa*. World Bank : Public-Private Infrastructure Advisory Facility, Washington, DC
- Friedman L (2014) Africa Needs Fossil Fuels to End Energy Apartheid. *Scientific American*
- Gaier RV (2016) Brazil's BNDES halts overseas disbursements amid graft probe. *Reuters*. 11th October 2016, <https://www.reuters.com/article/brazil-corruption-bndes-loans/brazils-bndes-halts-overseas-disbursements-amid-graft-probe-idUSL8N1CH6N7>
- Global Construction Review (2016) Work to start on Mozambique's new \$500m dam. *Global Construction Review*. 22 March 2016, <http://www.globalconstructionreview.com/news/work-start-mozambi7ques-ne7w-500m-da7m/>
- Gottschalk K (2016) Hydro-politics and hydro-power: the century-long saga of the Inga project. *Canadian Journal of African Studies / Revue canadienne des études africaines* 50:279–294. <https://doi.org/10.1080/00083968.2016.1222297>
- Gray H (2018) *Turbulence and Order in Economic Development: Institutions and Economic Transformation in Tanzania and Vietnam*. Oxford University Press, Oxford
- Gray H (2015) The political economy of grand corruption in Tanzania. *African Affairs* 114:382–403. <https://doi.org/10.1093/afraf/adv017>
- Hagmann T, Reyntjens F (2016) Introduction: Aid and Authoritarianism in sub-Saharan Africa after 1990. In: Hagmann T, Reyntjens F (eds) *Aid and authoritarianism in Africa: development without democracy*. Zed Books, London

- Havnevik KJ (1993) Tanzania: the limits to development from above. Nordiska Afrikainstitutet ; Mkuki na Nyota Publishers, [Uppsala] Sweden : [Dar es Salaam] Tanzania
- Hochstetler K (2014) The Brazilian National Development Bank goes International: Innovations and Limitations of BNDES' Internationalization. *Global Policy* 5:360–365. <https://doi.org/10.1111/1758-5899.12131>
- Hochstetler K, Inoue CYA (2019) South-South relations and global environmental governance: Brazilian international development cooperation. *Revista Brasileira de Política Internacional* 62:.. <https://doi.org/10.1590/0034-7329201900204>
- Hurrell A (2010) Brazil: What Kind of Rising State in What Kind of Institutional Order. In: Alexandroff AS, Cooper AF, Centre for International Governance Innovation, Woodrow Wilson School of Public and International Affairs (eds) *Rising states, rising institutions: challenges for global governance*. Centre for International Governance Innovation ; Brookings Institution Press, Waterloo, Ont. : Washington, D.C
- Hwang J, Bräutigam D, Wang N (2015) Chinese Engagement in Hydropower Infrastructure in sub-Saharan Africa. SAIS Working Paper: China-Africa Research Initiative 2015/1:
- HydroReview (2009) Brazil and Ghana to build 90-MW project in West Africa. *HydroReview*. 13th December 2009, <https://www.hydroreview.com/2009/10/13/brazil-and-ghana-to/>
- Ioris RR (2014) *Transforming Brazil: a History of National Development in the Postwar Era*. Routledge, Taylor & Francis Group, New York : London
- IUCN (2017) *Reactive Monitoring Mission: Selous Game Reserve World Heritage site, United Republic of Tanzania*. IUCN, Tanzania
- Jacob T (2017) Competing energy narratives in Tanzania: Towards the political economy of coal. *African Affairs* 116:341–353. <https://doi.org/10.1093/afraf/adx002>
- Jaeger T, Debonnet G, Guma N (2014) *Reactive Monitoring Mission Selous Game Reserve (United Republic of Tanzania)*. UNESCO World Heritage Centre - IUCN, Tanzania
- Johns Hopkins China-Africa Research Initiative (2017) *China and US Trade Data*. Johns Hopkins University School of Advanced International Studies, Washington DC: CARI
- Kapika J, Eberhard AA (2013) *Power-sector reform and regulation in Africa: lessons from Kenya, Tanzania, Uganda, Zambia, Namibia and Ghana*. HSRC Press, Cape Town, South Africa
- Khagram S (2004) *Dams and development: transnational struggles for water and power*. Cornell University Press, Ithaca
- Kiik L (2016) Nationalism and anti-ethno-politics: why 'Chinese Development' failed at Myanmar's Myitsone Dam. *Eurasian Geography and Economics* 57:374–402. <https://doi.org/10.1080/15387216.2016.1198265>
- Kirchherr J, Charles K, Walton MJ (2017) The interplay of activists and dam developers: the case of Myanmar's mega-dams. *International Journal of Water Resources Development* 33:111–131. <https://doi.org/10.1080/07900627.2016.1179176>

- Kirshner J, Power M (2015) Mining and extractive urbanism: Postdevelopment in a Mozambican boomtown. *Geoforum* 61:67–78. <https://doi.org/10.1016/j.geoforum.2015.02.019>
- Lempérière F, ICOLD (2006) Achieving a sustainable development target. In: *The role of dams in the XXI century*. HydroCoop, Barcelona
- Limongi F (2006) A democracia no Brasil: presidencialismo, coalizão partidária e processo decisório. *Novos Estudos - CEBRAP* 17–41. <https://doi.org/10.1590/S0101-33002006000300002>
- Luhwago R (2017a) JPM Snubs Stiegler’s Critics. *Daily News*. 29th June 2017, <https://allafrica.com/stories/201706290490.html>.
- Luhwago R (2017b) Grand Projects Flag JPM Coast Visit. *Daily News (Tanzania)*. 21st June 2017, <https://allafrica.com/stories/201706210302.html>.
- Macauhub (2017) Trade between Brazil and African countries recovers. Macauhub (Government Information Bureau Macau Special Administrative Region). 4th December 2017, <https://macauhub.com.mo/feature/pt-trocas-comerciais-entre-o-brasil-e-paises-africanos-em-recuperacao/>
- Maia A (2016) *Logística Internacional: o desafio do atlântico sul*. Editora Kiron, Brasília, Brazil
- Makoye K (2015) As hydropower dries up, Tanzania moves toward fossil fuels. Thomson Reuters Foundation. 29th December 2015, <https://www.reuters.com/article/us-tanzania-hydropower-drought/as-hydropower-dries-up-tanzania-moves-toward-fossil-fuels-idUSKBN0UC0SS20151229>
- Marcondes D, Kim S-M, Mawdsley E (2017) Political leadership and ‘non-traditional’ development cooperation. *Third World Quarterly* 38:2171–2186. <https://doi.org/10.1080/01436597.2017.1333416>
- Marcondes D, Mawdsley E (2017) South–South in retreat? The transitions from Lula to Rousseff to Temer and Brazilian development cooperation. *International Affairs* 93:681–699. <https://doi.org/10.1093/ia/iix076>
- Marriage Z (2016) *Aid to Rwanda: unstoppable rock, immovable post*. In: Hagmann T, Reyntjens F (eds) *Aid and authoritarianism in Africa: development without democracy*. Zed Books, London
- Mawdsley E (2005) The Abuse of Religion and Ecology: the Visha Hindu Parishad and Tehri Dam. *Worldviews: Global Religions, Culture, and Ecology* 9:1–24. <https://doi.org/10.1163/1568535053628427>
- McCormick S (2010) Damming the Amazon: Local Movements and Transnational Struggles Over Water. *Society & Natural Resources* 24:34–48. <https://doi.org/10.1080/08941920903278129>
- Meskill L (2018) *A future in ruins: UNESCO, world heritage, and the dream of peace*. Oxford University Press, New York, NY
- Ministry of Energy and Minerals (2009) *Power System Master Plan, 2009*

- Ministry of External Relations, Brazilian Cooperation Agency (2010) Brazilian Technical Cooperation in Africa. ABC - Brasil, Brasilia, Brazil
- Mohan G, Lampert B (2013) Negotiating China: Reinserting African agency into China-Africa relations. *African Affairs* 112:92–110. <https://doi.org/10.1093/afraf/ads065>
- Mohan G, Power M (2008) New African Choices? The Politics of Chinese Engagement. *Review of African Political Economy* 35:23–42. <https://doi.org/10.1080/03056240802011394>
- Mosley P, Harrigan J, Toye JFJ (1995) *Aid and power: the World Bank and policy-based lending*, 2nd ed. Routledge, London ; New York
- Mthembu P (2018) *China and India's development cooperation in Africa: the rise of Southern powers*. Palgrave Macmillan, Cham, Switzerland
- Namkwahe J (2019) No Backing Down On Stiegler's, Govt Vows. *The Citizen (Tanzania)*. 27th January 2019, <https://allafrica.com/stories/201901280145.html>.
- Odebrecht (2013) *Stiegler's Gorge HPP: Presentation of Report and Proposal*
- Oxford Analytica (2018) *Controversy may mire Tanzania's Stiegler's Gorge Dam*. Oxford Analytica, Oxford, UK
- Pierson B (2017) U.S. judge approves \$2.6 billion fine for Odebrecht in corruption case. Reuters. 17th April 2017, <https://www.reuters.com/article/us-brazil-corruption-usa/u-s-judge-approves-2-6-billion-fine-for-odebrecht-in-corruption-case-idUSKBN17J1A7>
- Power M, Mohan G, Tan-Mullins M (2012) *China's Resource Diplomacy in Africa: Powering Development?* Palgrave Macmillan, Houndmills, Basingstoke ; New York, NY
- Reuters (2018) UPDATE 1-Petrobras to sell stake in Africa unit to Vitol-led group for \$1.5 bln, Reuters. 31st October 2018, <https://uk.reuters.com/article/petrobras-divestiture/update-1-petrobras-to-sell-stake-in-africa-unit-to-vitol-led-group-for-1-5-blm-idUKL2N1XB2CR>
- Seifert J (2016) *New Dynamics or Old Patterns? South–South Cooperation Between Brazil and Angola*. In: van der Merwe J, Taylor I, Arkhangelskaya A (eds) *Emerging Powers in Africa*. Springer International Publishing, Cham, pp 129–157
- Showers KB (2009) Congo River's Grand Inga hydroelectricity scheme: linking environmental history, policy and impact. *Water History* 1:31–58. <https://doi.org/10.1007/s12685-009-0001-8>
- Singh S (2017) *The BRICS Model of South-South Cooperation*. The University of Johannesburg Confucius Institute, Johannesburg, South Africa
- Soares de Oliveira R (2015) *Magnificent and beggar land: Angola since the Civil War*. Hurst & Company, London
- Standard Bank (2017) *BRICS 2017: poised for new relevance*. Standard Bank
- Stolte C (2015) *Brazil's Africa strategy: role conception and the drive for international status*. Palgrave Macmillan, New York City

- Stolte C (2012) *Brazil in Africa: Just Another BRICS Country Seeking Resources?* Chatham House, London
- Stratfor (2017) *Brazil and Africa Bridge the South Atlantic*. Stratfor. 27 July 2017, <https://worldview.stratfor.com/article/brazil-and-africa-bridge-south-atlantic>
- Taylor I (2014) *Africa rising?: BRICS - diversifying dependency*. James Currey, Oxford
- teleSUR (2019) *Brazil Closes 5 Caribbean Embassies Citing Costs and Staffing*. 5th June 2019, <https://www.telesurenglish.net/news/Brazil-Closes-5-Caribbean-Embassies-Citing-Costs-and-Staffing-20190605-0023.html>.
- The World Bank, IPEA (2012) *Bridging the Atlantic: Brazil and Sub-Saharan Africa - south-south partnering for growth*. World Bank, Washington, D.C
- UNCTAD UNC on T and D (2017) *Key Statistics and Trends in International Trade 2016: A Bad Year for World Trade?* United Nations, Geneva
- UNESCO WHC (2018) *UNESCO expresses concern over the state of conservation of Selous Game Reserve*
- United Republic of Tanzania M of E and M (2013) *Power System Master Plan 2012 Update*. Ministry of Energy and Minerals, Dar es Salaam, Tanzania
- United Republic of Tanzania M of E and M (2016) *Power System Master Plan 2016 Update*. Ministry of Energy and Minerals, Dar es Salaam, Tanzania
- Verhoeven H (2016) *Briefing: African dam building as extraversion: The case of Sudan's dam programme, Nubian resistance, and the Saudi-Iranian proxy war in Yemen*. *African Affairs* 115:562–573. <https://doi.org/10.1093/afraf/adw036>
- Watts J (2018) *Brazil raises hopes of a retreat from new mega-dam construction*. *The Guardian*. 4th January 2018, <https://www.theguardian.com/environment/2018/jan/04/brazil-raises-hopes-of-a-retreat-from-new-mega-dam-construction>
- Whitfield L (2018) *Economies after Colonialism: Ghana and the Struggle for Power*, 1st edn. Cambridge University Press
- Whitfield L, Fraser A (2009) *Negotiating Aid*. In: Whitfield L (ed) *The politics of aid: African strategies for dealing with donors*. Oxford University Press, Oxford ; New York
- Willis EJ (1995) *Explaining Bureaucratic Independence in Brazil: The Experience of the National Economic Development Bank*. *Journal of Latin American Studies* 27:625–661
- Zarfl C, Lumsdon AE, Berlekamp J, et al (2015) *A global boom in hydropower dam construction*. *Aquatic Sciences* 77:161–170. <https://doi.org/10.1007/s00027-014-0377-0>