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

# Meeting Africa's latest dam builders: The Indian ExIm Bank, 'entrepreneurial' companies and the outcomes of South–South cooperation

Barnaby Joseph Dye[1]

[1] Global Development Institute, The University of Manchester, UK

## FutureDAMS & India UK Development Partnership Forum

### Working Paper 016

September 2021

ISBN: 978-1-913093-15-0

Cite this paper as: Dye, B. (2021). *Meeting Africa's Latest Dam Builders: The Indian ExIm Bank, 'Entrepreneurial' Companies and the Outcomes of South-South Cooperation*. FutureDAMS/IUKDP Working Paper 016. Manchester: The University of Manchester.

www. FutureDAMS.org www.iukdpf.com

**Exectuive Summary**

India's premier development cooperation scheme in Africa, the Indian Development and Economic Assistance Cooperation Scheme-Lines of Credit (IDEAS-LoCs), has launched the country as a dam builder on the continent. This paper examines the first decade of the Lines of Credit (LoC) between 2004 and 2015 and traces how its decision-making process translated into practices in individual projects. Detailed analysis of the LoCs' policy making reveals that the Indian government chose against closely scrutinising each proposed LoC project and its developmental outcomes. Rather, the process to approve a line of credit squarely focused on the state-to-state relationship first, and feasibility of construction second. The rest was left to the recipient, who was also able to choose the contracted Indian construction company.

Empirical and case study analysis suggests these practices entailed two sets of negative outcomes. First, a lack of attention to the projects themselves allowed the rise of small, inexperienced and often start-up infrastructure companies who came to dominate Indian LoCs in Africa. They vigorously sought out potential contracts, accepting all types of infrastructure projects across the continent. Given the limited amount of Indian governmental engagement with African counterparts, these companies were effectively the main advertisers and initiators of the LoCs. While increasing the options, and lowering infrastructure costs, for governments in Africa, these companies lacked experience, affecting the quality of project planning and technical operation.

Second, the decision-making process for the LoCs entailed socio-environmental impacts. The LoCs rules did not mandate standards around participatory planning, compensation schemes, benefit sharing or impact assessment and mitigation. Rather, these subjects – and their translation into developmental impact – were left to the recipient governments and companies. This was an issue, given the dominance of infrastructure firms inexperienced in such measures and the weaknesses of many of the recipient government bureaucracies in Africa in delivering successful socio-environmental mitigation.

These conclusions are drawn from an important case study of Indian-financed infrastructure, the Nyabarongo Dam in Rwanda: It was the largest infrastructure project built by the Rwandan Patriotic Front (RPF) regime and also represents the first Indian-financed dam in the continent. Indeed, this dam became a flagship for the financier, the Indian Export–Import (ExIm) Bank, as it was one of the larger projects in the first decade of the key governmental LoCs development cooperation scheme, with a loan of US$80million.

The lack of mandated standards in Nyabarongo Dam's funding had consequences. Construction took longer, with sections of work needing to be re-done, while a lack of environmental impact studies led to unanticipated reservoir sedimentation and water shortfalls that affect the reliability and volume of future energy generation. Meanwhile, the dam's downstream impacts are unknown. Without the Rwandan government's mitigating appointment of a supervising owner's engineer (something not required by the LoCs and which many therefore forego), the project's quality control and technical functioning would probably have been affected. Moreover, only the Rwandan government ensured compensation for those displaced, even if this too was unequal.

This case study suggests that the IDEAS LoC programme does not meet India's lofty claims to be a benign development actor in Africa. A focus among Indian policy makers on state-to-state relationships came at the expense of attention to development outcomes. Thus South–South principles of win-win brotherhood appear only to extend to the recipient government and its interests, not those of average citizens. The paper demonstrates that India has financed controversial infrastructure projects with major negative, as well as positive, impacts for Rwanda. To some extent, this is inevitable. Given the socio-environmental change they entail, large infrastructure projects create winners and losers. What is key is therefore whether such negatives are studied, reduced and mitigated. The Nyabarongo Dam case suggests that the LoCs decision-making process engages little in such developmental concerns, consequently leading to greater, unequally distributed negative impacts, particularly where governmental and corporate actors with limited experience and capacity are involved. However, after 2015, the LoCs decision-making process changed and more research is therefore needed to understand its implications for this latest phase of development.

**Keywords**

Infrastructure, ExIm Bank, India–Africa relations, South–South cooperation, Lines of Credit, dams, electricity

**JEL Codes**

O13, O21, O55, P41, P48, Q48

**Acknowledgements**

I would first like to thank Udisha Saklani, who provided invaluable support as a research assistant collecting the statistical basis presented here. I also acknowledge the fieldwork support, introductions and advice given by key contacts, including Dr Renu Modi, Dr Emma Mawdsley, Dr Maan Barua and Professor Ricardo Soares de Oliveira, who was my doctoral supervisor when I first started this research. For my 2020 fieldtrip, I thank the logistical support provided by the Institute for Economic Growth, Delhi. Earlier drafts were greatly improved by comments from Dr Pritish Behuria, Dr Dan Large and Dr Pedro Seabra. The IUKDPF reviewers and Dr Emma Mawdsley then provided brilliant comments that greatly improved the argument's nuance and accuracy. The research behind this paper was conducted between 2014 and 2020 and supported by the UK's Economic and Social Science Research Council (ESRC) under a Grant [Grant No. ES/J500112/1] through 3+ Doctoral Scholarship, the FutureDAMS research (UK Research and Innovation–Economic and Social Research Council [ES/P011373/1]) project, and by the India–UK Development Partnership Forum. I do not believe there was any conflict of interest in the production of this paper.

## Contents

## 1 Introduction

India's premier development cooperation scheme in Africa, the Indian Development and Economic Assistance Cooperation Scheme-Lines of Credit (IDEAS-LoCs), has launched the country as a dam builder on the continent. This paper examines the first decade of the LoCs between 2004 and 2015 and traces how the decision-making processes of Indian governmental and corporate actors translated into practice in individual projects. It does this through an individual case study of a dam in Rwanda, the state-owned Nyabarongo Dam, which was the largest infrastructure project built by the Rwandan Patriotic Front (RPF) regime that has effectively ruled the country since the 1994 genocide. Nyabarongo Dam also represents the first Indian-financed dam in Africa. Indeed, this dam became a flagship for the financier, the Indian Export–Import (ExIm) Bank, as it was one of the larger projects in the first decade of the key governmental LoCs development cooperation scheme, with a loan of US$80 million. The project was also significant for the civil works contractor (ie the company that built the concrete dam wall, tunnel and powerhouse). It represented Angelique International's first leadership of civil works on any large project, let alone a dam.

Thus far, few empirical studies exist on the LoCs scheme. In contrast with the ever-growing number of case studies of China's presence in Africa, and with some exceptions,[1] the much scarcer literature on India has focused on understanding motivations for India's 21st century surge in relations with the continent and overviews of its key policies. As well as filling this gap, the paper makes an important contribution to debates on India's exceptionalism in Africa, to characterisations of it as different from 'Western' or 'traditional' aid and from other '(re)emerging powers' like China and Brazil who have also developed relations with the continent. The paper argues that, in this first round of the LoC scheme, there are large contrasts in the practices adopted by Indian government and private-sector actors regarding standards of construction, monitoring and the assessment of impacts. India also differs from other emerging powers in the degree to which companies independently built ties with African governments, entailing the rise of a group of inexperienced, generalist infrastructure firms engaging in an estimated 59% of infrastructure LoCs in Africa up to 2016. These differences mattered for Nyabarongo Dam. While not overlooking the Rwandan government's agency, given its responsibility for appointing contractors and deciding on the standards and studies involved in implementation, the paper demonstrates that the absence of standards and the inexperience of the companies had implications for construction quality, for the dam's efficacy in hydropower production and for its socioeconomic impacts.

The paper is based on extensive research carried out from 2013 to 2020. This involved trips to the dam site in 2013 and 2014, involving 39 semi-structured interviews, and participatory techniques like field walks and map drawing with local residents from three villages around the construction area. It also involved interviews with government officials, donors, consultants, the construction companies and politicians connected to decision making in Rwanda. Research was also carried out over two trips to India in 2016 and 2020, in which a total of 63 semi-structured interviews were undertaken with present and former civil servants and diplomats, company officials, researchers and private sector federations. Udisha Saklani provided crucial help in gathering statistical data used by the author for graphs and tables

[1] See, for example, Beri (2010) and Rahmato (2013).

here, although efforts to identify which companies were involved in LoCs were significantly hampered by the absence of transparency and data. However, there are limitations to what the researcher could access, something discussed in detail by Bhatia (2021), particularly in terms of materials released by the ExIm Bank: it has not made the Nyabarongo Dam project's assessment report or initial proposal available. The paper proceeds by outlining the literature debating India's exceptional status, then provides an overview of the LoC programme and the way it worked to support four relatively, or completely, new infrastructure companies. Finally, it examines the Nyabarongo Project as a case study in the early LoC era.

**2 The exceptional South–South partner or just another global power in Africa?**

One strand of literature, echoing the government of India's own narrative, presents India as Africa's brother. Authors here draw on founding Indian President Nehru, who espoused an ideology of South–South cooperation that involved engagement with other developing countries on the basis of equality, mutual respect and development cooperation (Mawdsley, 2011). Originally associated with the Non-Aligned Movement and framed by the cold war era, South–South cooperation has evolved. India used it in the 2000s to assert an absolute respect for sovereignty, meaning a strict doctrine of non-interference and the principle of demand-led development cooperation where the recipient plays the defining role (Mawdsley, 2019; Sullivan de Estrada, 2015). Nuanced analysis demonstrates the influence of South–South cooperation norms, for instance in multilateral negotiations (Narlikar, 2013) and development cooperation with Africa (Harris & Vittorini, 2018). India is not alone in this regard, with the rhetoric of South–South cooperation closely associated with China and Brazil, but some in Indian policy and academic circles claim it to be uniquely influential for the country.[2]

Another school of thought places India more cynically as just another external world power in Africa. This is not to imply that such powers are a singularly homogeneous group, as heterogeneity exists in the precise geopolitics and strategies of each state; rather it is to point to similar patterns of investment and similar economic interests. For example, many of India's motivations for increasing its Africa ties are shared by other 'Southern' powers. These range from a desire to secure oil supplies (Biswas, 2015) to an interest in gaining African votes "for a UN Security Council seat…and for India's articulation of…reform" of other multilateral fora, for instance on trade or climate.[3] This interpretation places India alongside other emerging powers like Brazil and China, who have pursued ties for these and other individual reasons (Carmody, 2013). Additionally, India's geostrategic concerns relating to the Indian Ocean are comparable to Brazil's interest in the Southern Atlantic. India's Africa push was also a response to a "sense that [it was] losing ground to China".[4] Taylor et al (2016) also point to the rationale of India supporting the internationalisation of its large corporations', just as other global powers have done. Indeed, some prominent Indian intellectuals advocate an increase in such activity (Raja Mohan, 2005). Moreover, India's trade and investment patterns on the continent appear to conform to the long-established predominance of exchanging raw commodities for finished or manufactured goods: two-

[2] See, for example, FIDC & RIS (2015), Rej et al (2015) and Dubey (2016).
[3] Interview, former Ministry of External Affairs (MEA) ambassador, 2020.
[4] Interview, former senior official, MEA, 2016.

thirds of exports from Africa to India are of oil, gas and metal ores (Wagner, 2019). Additionally, the majority of diamonds for India's lucrative industry come from the continent. In exchange, Indian exports to Africa are predominantly manufactured goods, whether automobiles, fertiliser and agricultural equipment or pharmaceutical products (Carmody, 2013; Wagner, 2019).

Such investment and trade can bring benefits to the continent, but these statistics suggest India's actions will continue to fuel extraversion, the pattern widely observed in African Studies whereby a state is locked into the export of its raw materials.[5] This pattern of positives and negatives is demonstrated, for example, in Ethiopia, where Indian private and state actors are involved in its agricultural and power sector. A $640 million governmental line of credit has supported the country's sugar industry through the building of two factories that will also have the potential to create 200 megawatts (Cheru, 2016). Additionally, up to 2012, Indian firms were involved in 70% of the land deals in the country, all of which are aimed at increasing Ethiopia's strategic exports and produce significant numbers of jobs (Carmody, 2013). However, large-scale employment has yet to materialise. For example, the largest deal, involving a floriculture venture by Karuturi Global, only used a fraction of the 100,000 ha allocated and created only 500 jobs. In total, Ethiopia's land deals have displaced an estimated 1.5 million (Carmody, 2013) and caused significant socio-environmental harm (Rahmato, 2013). Moreover, as a result of domestic political issues and corruption within the Ethiopian state-owned agency responsible, the country's sugar industry is not yet viable (Cheru, 2016; Kamski, 2016). In this instance, agricultural investments in Ethiopia appear to have fuelled inequality while causing significant negative impacts. Again, there is nothing remarkable here, with similar critiques made of the other emerging powers (Taylor, 2014), and indeed of the practices of corporations headquartered in Europe and America. Broad continuity with the practices and outcomes of other actors is further evidenced by India's development cooperation. Although with longer roots, dating back to the Nehruvian period, the Indian Technical and Economic Cooperation (ITEC) scheme (instituted in 1964), focuses on training, capacity building and scholarships, areas that Brazil and China also engage in (Bräutigam, 2011; Stolte, 2015). Just as China's ExIm Bank financed national stadia and presidential palaces, India's ExIm Bank supported Ghana's presidential office, Gambia's parliament and an international conference centre in Niger.

Thus, there is a strong body of evidence suggesting that India is far from exceptional with regard to relations with Africa: its motivation for strengthening ties with the continent, its pattern of economic activity and development cooperation largely fit with those of other established or (re)emerging powers. However, notwithstanding these findings of broad continuity, specific differences in India–Africa relations are worth recognising. One is the degree to which India's prominent service industry is reflected in its development cooperation, particularly in education, IT and healthcare; this strength has led to schemes like the $117 million pan-African E-Network (now evolved into the e-Arogyabharti and e-Vidyabharti schemes), which connects hospitals and universities in India and Africa for online training (Carmody, 2013). The most significant contrast, at least with other emerging powers, is the degree to which economic activity has been private sector-led. This trend began in the 1990s, when Indian companies used the easing of regulations, particularly

[5] This is specifically discussed by Harris and Vittorini (2018) and Taylor et al (2016).

around external investment flows, to expand operations internationally. Consequently, a number of firms began establishing themselves in Africa or expanding their operations on the continent without a state effort to enhance ties.[6] Arguably, the Confederation of Indian Industries (CII) and the Federation of Indian Chambers of Commerce & Industry (FICCI) provided the most support, setting up Africa desks from the mid-1990s and organising delegations of politicians and businesses from both sides of the Indian Ocean.[7] Government support came far later: the Focus Africa programme started in 2002 and primarily supported businesses, while overt high-level political engagement only began in 2008 with the India–Africa Forum summits. Additionally, India is notable for having a particularly large and long-established diaspora in Africa, which has its roots in British colonialism. Given the Indian government's increasing efforts to embrace its global diaspora since the 1990s, this legacy has important implications for India–Africa relations, providing a driver for trade with countries like Kenya, South Africa and Ghana, which have a sizeable population of Indians, and also potentially offering Indian businesses knowledgeable, integrated partners on the ground (Modi, 2010, 2011).

Narlikar (2010) asserts that these differences amount to a soft Delhi Consensus. She characterises India–Africa relations as embedded in African societies, driven by private actors rather than the state, and focused on development cooperation in education and training rather than on more controversial infrastructure projects. This is placed in contrast to the Beijing Consensus, which is far more state-led, overtly mercantilist – with a 'going out' policy for internationalising state-owned corporates – and a physical presence with large development projects (Bräutigam, 2011). In further contrast, the Washington Consensus is associated with the policy conditionality and interventionism of the 1980s Structural Adjustment Programmes. A Delhi Consensus also contrasts with Brazil's boom in African relations in the 21st century, initiated and led by President Lula through government trips, establishment of embassies and finance through the state's development bank, the BNDES (Dye & Alencastro, 2020). Although ending with the Worker Party's (PT) loss of power, this state-led push in Africa differs from the far more prominent role of the private sector in India–Africa relations. The following section examines the Indian Development and Economic Assistance Scheme (IDEAS) LoCs to assess the extent of India's exceptionalism and its consequences.

## 3 The ExIm Bank's IDEAS LoCs scheme: a brief history

In line with Nehru's advocacy of South–South cooperation, India provided its first concessional credit line to a developing country in 1948, with several more following in the 1950s. This programme of lending was institutionalised in 1966 but remained small, occurring on an ad hoc basis with just 83 loans made to 23 countries between 1966 and 2005, totalling $498.56 million (Saxena, 2016). Change started in 2003 with the decision to launch a standardised, subsidised LoC scheme for developing countries. The result, launched in 2005, was the Indian Development and Economic Assistance Scheme (IDEAS). It involves the Indian government paying a subsidy to reduce the ExIm Bank's interest rates

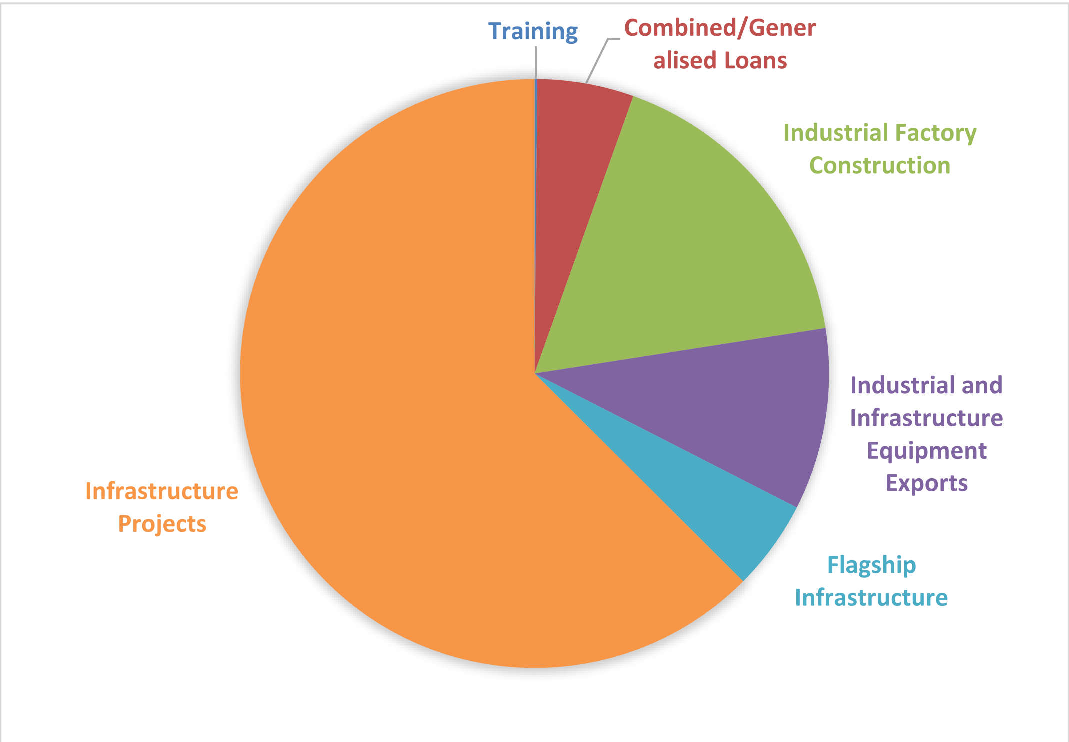
---

[6] These included Tata (beginning in Africa in 1977), Mittal, Reliance and Vedanta (Taylor et al, 2016).
[7] Interviews, senior officials, FICCI and CII, 2016, 2020. See also Dye and Soares de Oliveira (forthcoming).

on sovereign loans. Typically, this meant lending at around 1.5% for the least developed countries.[8] The rationale for the new scheme conformed to the wider strategic interests outlined above, with Africa seen as diplomatically important and increasingly economically strategic. Additionally, Saxena (2016) asserts that, in 2003 in particular, there was a desire to strengthen ties with developing countries after international disquiet over India's nuclear tests. Thus, the Ministry of External Affairs (MEA) controls the process, treating LoCs "as a diplomatic instrument".[9] Indeed, MEA won a battle over whether a new agency, the Development Partnerships Administration (DPA), should be independent or under its control. Inaugurated in 2012 the DPA was created to handle the growing number of IDEAS LoCs and other South–South cooperative projects.

The new LoCs were significant for India's infrastructure building in Africa as typically such projects (and particularly dams) require longer-term subsidised capital in order to pass economic feasibility tests. This is especially true in developing country contexts, where infrastructure investments underpin enablers of economic growth and therefore, any financial payoff will accrue over time. Overall, from 2004 to 2015, the IDEAS scheme lent approximately US$10 billion, of which $6.86 billion went to Africa.[10] Of the loans to Africa, most went to infrastructure projects, which received $6.72 billion (see Figure 1). Of this amount, the largest sectoral recipient of the loans was the power sector, comprising 42% of the share (see Figure 2). A number of these projects were dams, as shown in Table 1.

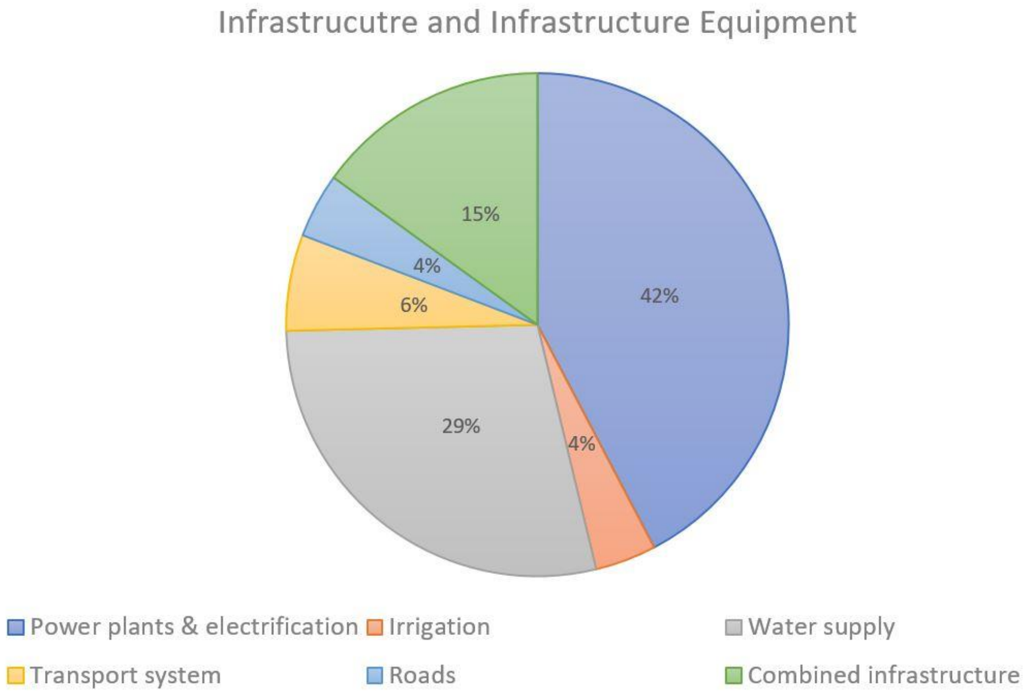
**Figure 1: Sectoral breakdown of ExIm Bank loans to Africa 2004–20**




*Source*: Statistics from ExIm Bank.

[8] A specific set of rates was set out in 2010 in line with the World Bank's categorisation of developing countries. Interviews, senior officials, MEA and ExIm Bank, 2016 and Saxena (2016).
[9] Interview, senior official, MEA, 2020.
[10] Author's statistics based on ExIm Bank data.

**Figure 2: Infrastructure and infrastructure equipment 2004–20**




*Source*: Statistics from ExIm Bank.

Thus, the IDEAS LoC scheme was a key enabler for India's arrival as an infrastructure builder in Africa. Indeed, before 2003, almost no Indian infrastructure firm had projects or permanent offices on the continent.[11] By 2015, this had changed, with India's largest infrastructure firms, such as Shapoorji & Pallonji, Larsen & Tourbro and Afcons, maintaining a number of offices there. This was deliberate, as a senior ExIm official explained: IDEAS "tied in procurement…to help [Indian] companies internationalise".[12] However, the dominance of four small and virtually unheard-of companies in India's infrastructure LoCs was unplanned. These companies were Angelique International, Overseas Infrastructure Alliance (OIA), Jaguar Overseas and Lucky Exports. Publicly available sources suggest that the first three companies were involved in 57.5% of the LoCs going to Africa up to 2016.[13] To understand how this happened and its consequences, we turn to an analysis of the process by which this scheme operated.

[11] BHEL were involved in supplying equipment for some power projects.
[12] Interviewed in 2016.
[13] Author's calculation by value of LoCs.

**Table 1: India's LoC-financed dams in Africa**

| COUNTRY | PROJECT (COMPLETION) | (EXIM LOAN/TOTAL CONTRACT) SIZE | COMPANY |
|---|---|---|---|
| **DEMOCRATIC REPUBLIC OF CONGO** | Kakobola Hydroelectric Project (2019) | ($42 million/$57.4 m) 10.5 MW (3 x 3.5 MW) | Angelique International |
| | Katende Hydroelectric Project (-) | ($250 million /$280m) 64MW | Consortium of BHEL and Angelique International |
| **BURUNDI** | Kabu 16 Hydroelectric Project (-) | ($80m) 20 MW (2 x 10 MW) | Consortium of BHEL (Voith from 2019) and Angelique International |
| **RWANDA** | Nyabarongo Hydropower Project (2014) | ($80m / $110m) 287.5 MW | Consortium of BHEL and Angelique International |
| **ZAMBIA** | Itezhi-Tezh (2016) | ($29.04m/ $239.5m) 120 MW | TATA Africa (joint venture 50:50 with ZESCO). LoC for parts supplied by Alstom India Limited |
| **CENTRAL AFRICAN REPUBLIC** | 2 Hydropower Projects | On Hold ($39.69m) | Jaguar Overseas (work halted partly by conflict) |

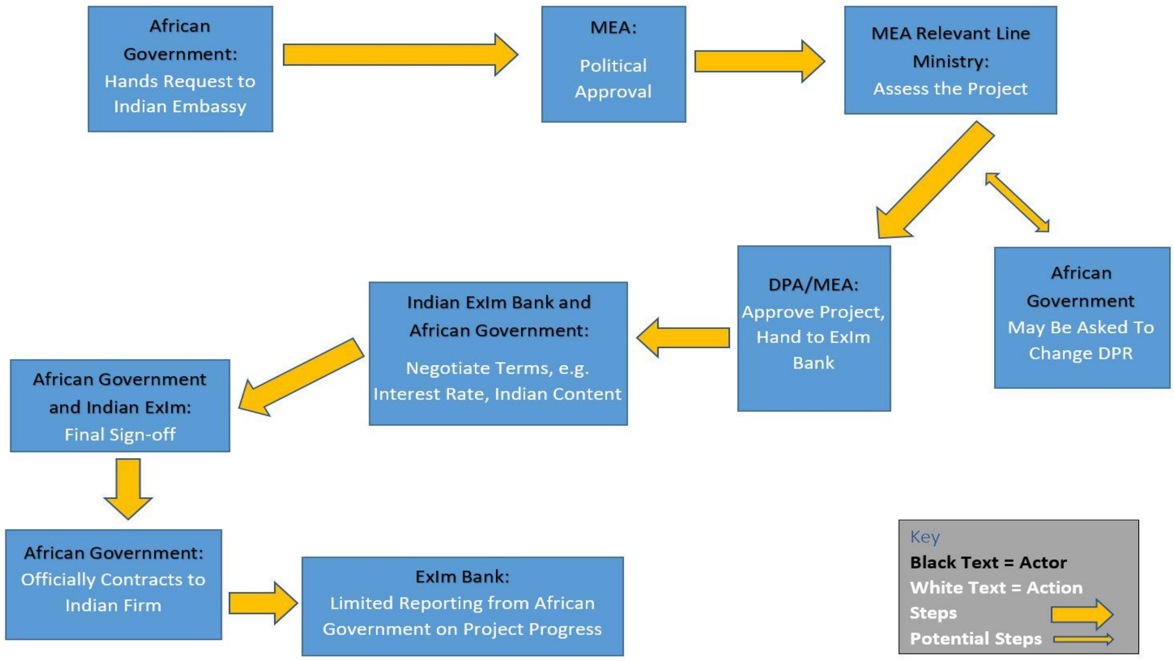
## 4 The operation of the LoCs scheme: the tale of four 'entrepreneurs'?

Officially, the process should have worked as depicted in Figure 3, a modality that would follow the rhetoric of South–South cooperation as being mutually beneficial but led by the recipient. Here the process starts with an African government handing a request to the responsible Indian embassy. In the "first instance, the political aspect" is reviewed,[14] meaning that the MEA then assesses these requests based on the relationship with that country and political priorities at the time. Next, the request is handed to a committee drawn from the MEA (later also including DPA representation), the Department of Commerce and a relevant line ministry, which assess the substance of the project proposal. The focus at this stage is on improving the feasibility and timeliness of the proposed project. As many of the plans were "sketchy" given some countries' "lack of capacity",[15] the Indian government could use its expertise to improve submitted plans. The back and forth of this might last up to a year.[16] Next, financial terms would be agreed with the ExIm Bank, including the percentage of Indian content (normally around 70% of the loan), the loan repayment period (typically 20 years) and other details. Crucially, then, the Indian state was not examining the impact of the projects, either in terms of their economic positives or potential socioeconomic negatives. A key principle underpinning this choice was a desire to build relations with recipient

[14] Interview, senior official, MEA, 2016.
[15] Interview, senior official, MEA, 2016.
[16] Interview, senior and junior officials, MEA and ExIm Bank, 2016, 2020.

governments, thus handing them power and respecting their sovereignty, in line with the principles of South–South cooperation. Several senior Indian officials asserted this, stating that the "government does try to not dictate…[there is] no deliberate policy or allocation towards sectors";[17]; the "priorities [are those] of partner countries…[we] let them determine" what the LoCs will be.[18] Additionally, apart from the repayment and Indian content terms, the LoCs would involve "no conditionalities" and "this was very appreciated" by the host/recipient government.[19]

**Figure 3: The official LoC process between 2004 and 2010**

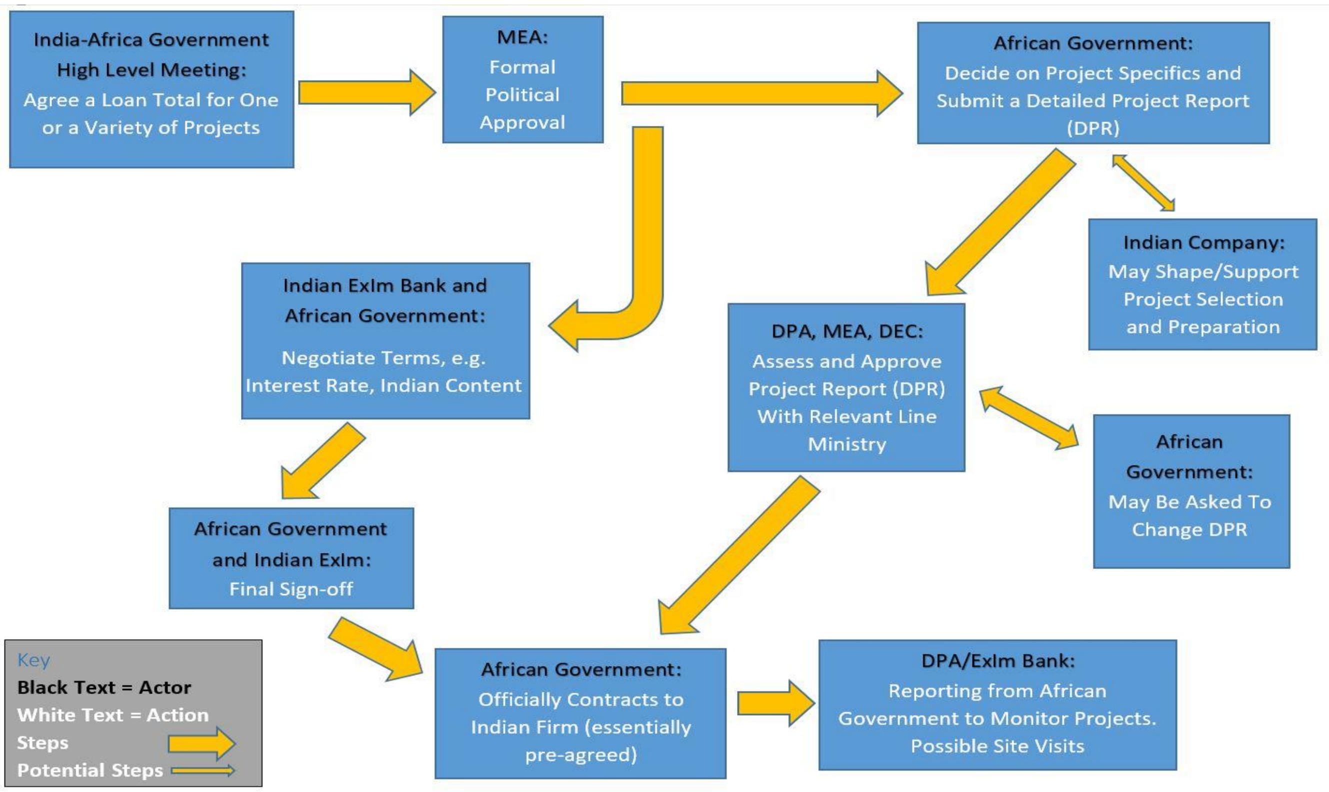



Such arguments could be used therefore to assert India's exceptionalism; its official process places the recipient in the driving seat and is not based on mercantilist interests, something which could be alleged in the case of Chinese and Brazilian state-led approaches. However, the official process has not always been followed. Another modality, as depicted in Figure 4, involved loan agreements at government-to-government meetings, which started to increase with the high-level 2008 and 2011 India–Africa Forum summits. Rather than being instigated by a host government, these projects were worked out between both states' officials. With this constituting the necessary political approval, these projects would then be passed onto the ExIm Bank and the aforementioned intra-governmental LoC Committee. Quite often the deals agreed here were vague, focusing on a total amount of credit (eg $100 million for agriculture), with the details of projects worked out by the committee and recipient later. It also appears that such high-level government-to-government engagement brought into being some of the 'flagship' schemes, such as the Ghanaian presidential office, Flagstaff House, and the Gambian parliament. In both, the government appointed one of India's most established and internationalised infrastructure firms, Shapoorji and Pallonji, given its

[17] Interview, senior official, ExIm Bank, 2016.
[18] Interview, former senior official, MEA, 2016.
[19] Interview, former senior official, MEA, 2016.

experience of international prestige projects.[20] These types of deal partly explain Bhatia's (2021) finding of unclear data in the public releases of LoC loans and projects.

**Figure 4: The process starting with high-level governmental agreement post-2919 LoC reforms**



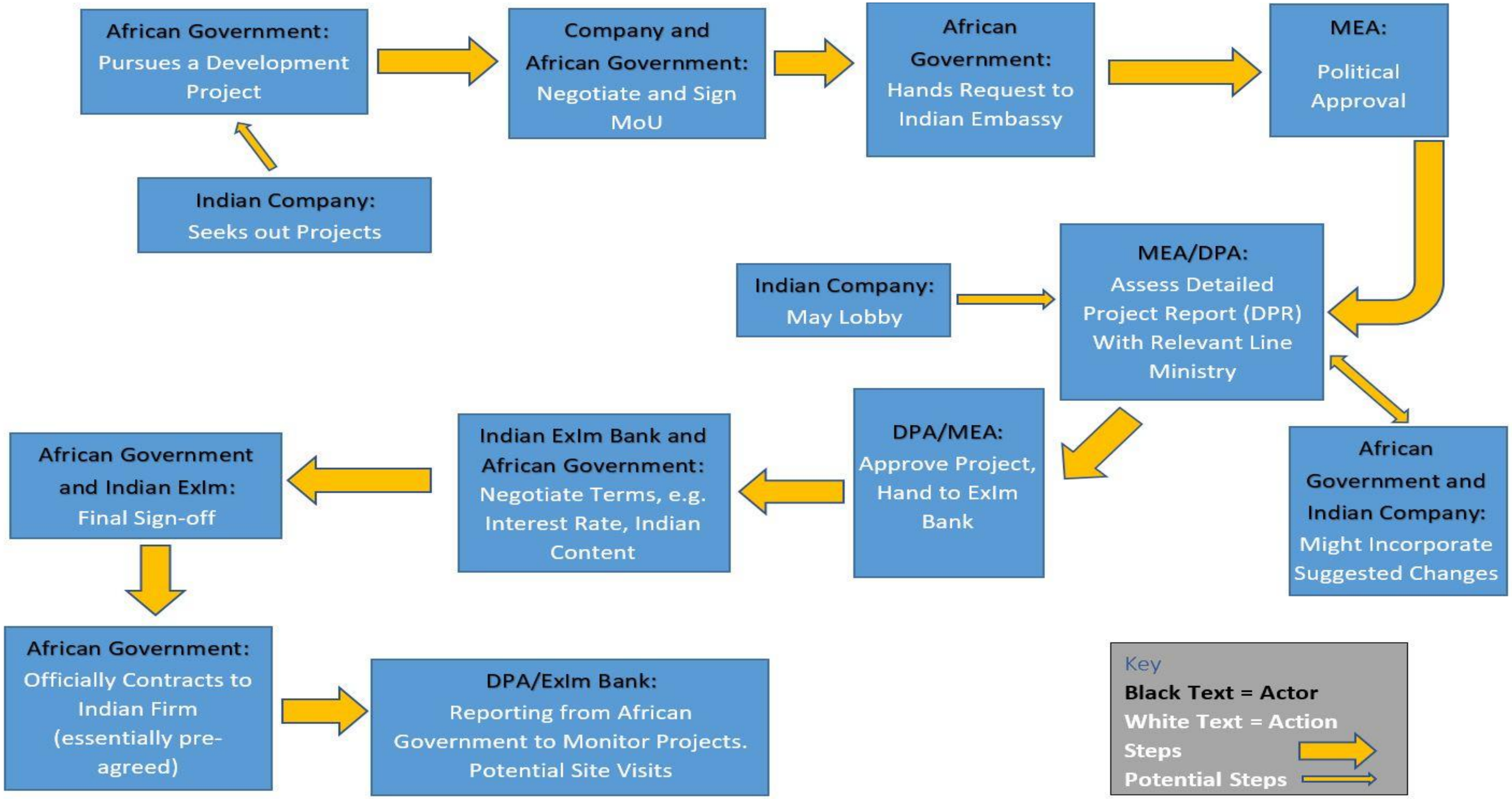

The most common modality, and the one followed in the case of the Nyabarongo Dam, started with an Indian company. As shown in Figure 5, this sees an Indian firm approaching an African government, effectively advertising the LoCs scheme. Again, this pre-eminent role of private companies differs from the way Brazil and China have acted. Here state-to-state diplomacy was often employed to initiate projects, especially in the 2000s and in countries where firms did not have a pre-existing footprint. This also reflects the Indian state's relative absence of high-level government-to-government engagements, whether through an expansion of embassies or state visits, and reveals the strained capacity of diplomats: in 2011, India had 750 diplomats in Africa, compared to China's 6000, and only 29 embassies compared to China's 53 (Taylor et al, 2016). As Figure 5 shows, the initial engagement would be cemented with a Memorandum of Understanding (MoU) before being submitted to an embassy. Indian firms sometimes went on to support preparation and planning and potentially lobbied the Indian government,[21] "getting projects presented that India would approve": they were "project developers and project doers".[22] Thus, if they used their own initiative, Indian companies were able to secure LoCs. LoC projects, particularly after the inauguration of the DPA in 2012, were then monitored, with final audit and completion

[20] Interview, senior officials, Shapoorji and Pallonji, 2019, 2020.
[21] Interview, senior official, FICCI, 2016.
[22] Interview, former ambassador, MEA, 2016.

reports made for larger projects like Nyabarongo. However, the detail and influence of these reports remains unclear, not least given that they are not publically released. This modality supported four, previously unheard-of firms engaging in the majority of the African infrastructure LoCs.[23] Two key elements enabled this activity. One was the underlying South–South cooperation norm; because the "priority…[was] sovereignty, the tendering was done by the borrowers".[24] Additionally, the Indian government approved essentially all requests that were handed to it. As intimated above, authorisation came from the MEA's political department. With strategic reasons to build ties across all of Africa, and with the LoC budget never having been used up, the MEA did not turn down requests: "we don't refuse [LOCs] frequently…our endeavour is to accept and if problems, work with [the recipient government to sort them out]";[25] it was "hard to say no…something we have struggled with".[26] Work by the author elsewhere (Dye, 2020a) also suggests that the four infrastructure firms had political backing, that Congress Party politicians in particular had invested in the companies and therefore wanted to ensure their success. This could have involved easing the approval process or pressuring civil servants in the MEA and the ExIm Bank to lend to them. However, as the contracting was done by the recipient, and given the diplomatic desire to build ties with African states, along with the very limited conditionality imposed by the IDEAS LoCs programme, such political pressure is not likely to have been significant in the decision-making process. Nevertheless, such political finance activity would not be without precedent in the country, where infrastructure and other development projects have often been used to raise political finance, the money needed to run campaigns and to maintain power (Vaishnav, 2017). We now turn to an analysis of two of the four companies – Angelique and OIA – in greater detail.

[23] Author's statistics, supported by interviews with former MEA and DPA researchers, 2016–20.
[24] Interview, senior offficial, MEA, 2020.
[25] Interview, official, MEA, 2016.
[26] Interview, senior official, MEA, 2020.

**Figure 5: The unofficial process for LoCs post-2010 reforms**



**5 Plucky entrepreneurs or crooked cowboys? Angelique International and Overseas Infrastructure Alliance**

## 5.1 Angelique International

Founded in 1996 alongside a textile-manufacturing firm,[27] the family behind Angelique reportedly got their breakthrough with a $5million contract to supply education equipment in UN-controlled Kurdistan, which led to later involvement in a few Indian LoCs before IDEAS was set up.[28] According to a senior executive, this established the company in the “niche where companies don’t want to go”.[29] With the operationalisation of IDEAS in 2005, Angelique started prospecting for work in Africa. As a senior executive explained, “[we were] interested in Africa when people did not even think…we realised the potential of Africa 10 years before anyone else did”.[30] While exaggerated, the point here is that Angelique recognised the growing demand for infrastructure among African governments, as symbolised by African Union initiatives like the New Partnership for Africa’s Development (NEPAD), and the ability of the LoCs to unlock this market, given infrastructure’s frequent need for subsidised loans. Angelique gambled that the ability to provide such subsidised finance would counteract any qualms over its inexperience with unsolicited bids. The company’s growth was supported by its generalist ‘aggregator’ business model:[31] within infrastructure “Angelique doesn’t over-expertise in one field”;[32] “our idea [is] to have so many sectors – to not be a single-project company”.[33] This pursuit of a large range of projects paid off, resulting in the firm’s involvement in a wide spectrum of projects listed in Table 2, including four dams, an IT business park, power transmission lines and agricultural initiatives.

[27] ‘Angelique International Limited’, *Economic Times of India*, 8 April 2020.
[28] For example, a refinery in Myanmar. See Embassy of India, Yangon, Myanmar (2020). *Development Cooperation Projects Undertaken by Government of India, Bilateral Relations*. Yangon: Ministry of Foreign Affairs.
[29] Interview, senior official, Angelique, 2016.
[30] Confirmed by others, eg CII and FICCI senior officials, 2016, 2020.
[31] Interview, former ambassador, MEA, 2020.
[32] Interview, engineer, Angelique, 2016.
[33] Interview, senior official, Angelique, 2016.

**Table 2: A selection of projects depicting the variety of those undertaken by Angelique, OIA and Jaguar**

| COMPANY | LOC ISSUE YEAR | COUNTRY | PROJECT DESCRIPTION |
|---|---|---|---|
| ANGELIQUE INTERNATIONAL | 2005-06 | Chad | Tractor and agriculture equipment assembly plant including supply of tractors and implements |
| | 2005-06 | Mali | Extension work of 150/30 KV Kalabancoro substation and renewal work of 30/15 KV Sotuba substation. |
| | 2011-12 | Swaziland | IT park |
| | 2011-12 | Togo | Supply of equipment and construction works for development of 1000 ha of rice, sorghum and maize |
| | 2011-12 | Mali | Mali - Cote d'Ivoire interconnection project (phase - III) |
| | 2014-15 | Tanzania | Potable water project (construction of water facilities in Nansio Town, Ukerewe, Tanzania (Ivwatsan-ii) |
| OVERSEAS INFRASTRUCTURE ALLIANCE | 2010-11 | Ethiopia | Tendaho sugar factory |
| | 2005-06 | Ethiopia | Design, manufacture, testing and supply of equipment's and material for 132 KV power, transmission lines, substation and distribution projects in Ethiopia |
| | 2011-12 | Tanzania | Lindi water supply and sanitation project |
| | 2011-12 | Tanzania | Rehabilitation of Chalinze water treatment plant, supply and installation of secondary and tertiary distribution network and construction of reservoirs in Chalinze Villages |
| JAGUAR OVERSEAS | 2005-06 | Benin | Completion of rural electrification project |
| | 2008-09 | Central African Republic | Setting up a modern dry process cement plant of 400 TPD capacity and procurement of 100 buses for internal transport |
| | 2008-09 | Mozambique | To finance IT park project which will comprise construction of building and (a) incubator facility, (b) research and learning centre and (c) technology park and administrative facility |
| | 2009-10 | Mauritania | Milk processing unit |

## 5.2 Overseas Infrastructure Alliance

OIA started from smaller foundations with less international experience. A former senior official remembers arriving in 2005 to find that it "[had] no business…only three people working there"; "Nobody had heard of it [OIA]".[34] However, like Angelique, OIA realised that IDEAS could act as a game-changer, since the "biggest fear of any project company to go and work in Africa was not being paid and the availability of capital";[35] the LoCs model of direct payment from the ExIm Bank circumnavigated this. Again, like Angelique, OIA's success stemmed from its generalist business model. It pursued "everything that is a project", according to a senior executive.[36] This is born out in the ExIm projects OIA was

[34] Interview, senior official, OIA, 2016.
[35] Interview, senior official, OIA, 2020.
[36] Interview, senior official, OIA, 2020.

involved in, listed in Table 2**.** Though much smaller, Lucky Exports and Jaguar Overseas had a similar approach. The latter, for instance, has taken on healthcare projects, delivery of a bus fleet, an electrification scheme, a cement plant, food processing and two hydropower dams (listed in table 1 as stalled).[37]

## 5.3 The entrepreneurial aggregators

As well as engaging in a wide range of infrastructure projects, the four companies adopted a similar practice of aggressively seeking new projects. Angelique described how it employed a network of agents in Africa who could scout potential projects being prepared by governments.[38] Both OIA and Angelique then employed former Indian ambassadors, given the respectability this conveyed, and businesspeople with experience in Africa,[39] to presented unsolicited funding bids. They would, alongside their "marketing guys, sniff the air [for new opportunities]" and then present their offer of construction and financing: the company would find out "what are their [the government's] requirements [and then based on that]…we offered them what we could give" .[40] You couldn't "take in all sectors…[so just engage in their] first or second priorities".[41] This process could also mean "suggesting solutions" in areas prioritised by respective African governments ("We were there to give them ideas"[42]), contrary to the demand-led principle in India's LoCs. This private-sector-led approach was especially necessary as India's own diplomatic service, particularly during 2005–15, did little to help Indian companies in Africa gain introductions to government counterparts or facilitate deal making. Rwanda's Nyabarongo Dam is a good example of this private-sector initiative. At first Kigali was engaged in negotiations with KfW, the German Development Bank (Minister of State & Government of Rwanda, 2007) and Infraco, a firm financed by Western donors.[43] As a senior Rwandan official put it, "[we were then] approached by an Indian company…[it] wanted to come and fund with an ExIm bank [loan]…they [said they] could handle the ExIm Bank".[44] Angelique's lower bid and promise of ExIm Bank funding won. Controversially, both companies' determination to secure projects led to corruption allegations and arrests.[45] One anonymous former official admitted that corruption was necessary to secure contracts in most places, even "in Ethiopia [where it was] hard because people won't tell you who [you need to pay]".[46] However, alongside other interviewees, this official stated that such corruption was initiated by the recipient governments. For example, one described President Museveni of Uganda inflating an agricultural contract. Nevertheless, because of evidence of corruption, Angelique is now barred by the World Bank.[47]

---

[37] Interview, senior official, Jaguar, 2020.
[38] Interview, senior official.
[39] It gives "'confidence' to the recipient government". Interview, former ambassador, 2020.
[40] Interview, senior officials, Angelique and OIA, 2016, 2020.
[41] Interview, senior official, OIA, 2016.
[42] Ibid.
[43] These were DfID (UK), the Netherlands Foreign Ministry and Switzerland's Economy Ministry.
[44] Interview, senior official, Rwandan Energy Agency, 2016.
[45] See Iyer (2015); 'India's aid diplomacy is worth $24 billion: but how well is the money being spent?'. *The Wire* (New Delhi), 16 June 2017; and 'ED raids former Indian diplomat on suspicion of "line of cred" fraud'. *Times of India*, 2 February 2016.
[46] Interviewed in 2020.
[47] 'Several Indian companies debarred by World Bank in 2018'. *Economic Times*, 8 April 2020.

Overall then, four inexperienced companies were able to build portfolio infrastructure companies through the aggressive pursuit of the full range of infrastructure projects and by presenting unsolicited bids with lower costs and near-guaranteed subsidised finance; the LoCs' minimal conditionality and record of almost no rejections meant the firms could confidently assert such finance would be forthcoming. We now turn to examine the impact of these companies' inexperience, and of the minimal standards set by the LoCs, with an analysis of the Nyabarongo Dam in Rwanda.

## 5.4 How did the IDEAS LoCs process affect projects on the ground? The case of Nyabarongo Dam

*The rush to scale-up for implementation*

Once projects were secured, the four firms needed to acquire implementation capability. OIA tended to use sub-contractors: for example, Baharat Heavy Electrical Limited (BHEL) built its Ethiopian biogas power projects.[48] Angelique, however, chose to work in-house. Nyabarongo Dam therefore represented a significant challenge for the firm. Simultaneously with Nyabarongo negotiations in 2006–07, it started work on the Indian-financed Salma Dam in Afghanistan, but here it was a joint partner:[49] it was not responsible for the main dam structure, but for the powerhouse and specific hydro-mechanical components.[50] Nyabarongo therefore represented the company's "first high value, high manpower project",[51] its first time as a turnkey contractor for a major infrastructure project, let alone a dam. "[Nyabarongo was] far bigger than what the company [initially] could handle...[which] shows the daring nature of management".[52] Thus, the company started a recruitment drive, but this proved challenging, with a turnover in engineers of up to 50% at first.[53] This left Angelique short of experience and cohesion. The Rwandan government mitigated this by appointing BHEL, the 45-year-old, large state-owned company and the contractor for Nyabarongo's electro-mechanical works (responsible for installing the power generation components), as overall project manager.[54] However, BHEL too had only delivered a handful of power projects internationally and had never managed dam construction. As shown below, this inexperience had consequences.

*National services and local-level benefits*

Nyabarongo Dam, though small if ranked by its installed generation capacity of 28 megawatts, is technically a large dam, with a wall of 50 m holding back a ~27-kilometre reservoir. It is also significant for Rwanda's power system, being the country's largest power plant and cheapest electricity source – the latter especially significant given prohibitively high tariffs (Dye, 2020b). It was one of the first large energy projects turned to by the Rwandan

[48] Interview, senior official, OIA, 2020; and CII, 2018.
[49] With WAPCOS and SSJV.
[50] Basically the installation of the hydro-mechanical components (the dam wall gates) and the penstocks. 'Angelique International Limited News of Salma Dam Project, Afghanistan, Asia'. *Angelique International News*, 14 May 2019.
[51] Interview, engineer, Angelique, 2016.
[52] Interview, engineer, Angelique, 2016.
[53] Interviews, engineer and senior officials, Angelique, 2016.
[54] Interviews, former senior official, Mininfra, Rwanda and senior officials, BHEL, 2016.

government after the first post-genocide elections in 2003. That Indian finance and two Indian firms were able to construct it at a lower cost than other contemporaneous potential financiers must therefore be considered a bonus for a country in the grip of regular power cuts and with demand for electricity expanding. However, this bonus must be set against significant social costs. For its size, Nyabarongo has had a large social impact, requiring acquisition of land and/or properties from over 4,000 households. Although a compensation scheme was established, fieldwork found that it missed many people and did not capture local estimations of land value. For comparison, the larger 80-megawatt dam downstream at Rusumo caused loss of housing and/or farmland for 685 households (Dye, 2020c).

The selection of the project was made by the Rwandan government, which designated it a priority from 2004. As the recipient government, it was also handed a wide scope of decision-making powers. However, the Indian contractors had a significant influence on the experience and implementation practices for the dam. Some of these were positive. One consequential decision was to keep the project area unfenced. This allowed farming on unused land within the project site. Easy intermingling with construction workers also supported the creation of shops and bars.[55] Importantly, the Indian construction workers were comfortable buying from these establishments. With few barriers, thefts of concrete and other materials occurred, producing an unusual number of concrete houses for the area.[56] Another decision made by the companies was to procure food for the canteens locally where possible.[57] These practices contrast with an enclave model of dam building. Mohan (2013) used this concept to describe the way in which the Bui Dam in Ghana was largely cut off from its surrounds, with much labour, food and everyday items imported from China. Nyabarongo's constructors, despite similar rules on Indian content, contrast with this.

The dam also bought another series of more typical benefits to the area. Some of these were inherent to the project, or were pushed by the Rwandan government. For example, the village nearest the site offices got electricity directly from the dam and President Kagame pledged to electrify the whole valley through the government's national electrification scheme. A bridge helped residents, as previously a dangerous coracle ferry provided the only connection. Local employment was also created. On average, during the course of construction, Rwandan officials stated that one-third of formal employees were Rwandan,[58] something echoed by an Angelique representative stating that 140–160 Indian workers were employed during the peak period,[59] when at this time a total of 200–250 were on site.[60] Local employment involved training, meaning that by the end of construction the majority of workers were Rwandan.[61] Additionally, both companies hired casual day labour, amounting to 250 people, or 300 at peak construction.[62] This had more local-level impact, although such labour was effectively confined to young and healthy men who were not needed for

55 Detailed in Dye (2016).
56 Interviews, on-site managers, Rwanda, 2013–14; and local-level interviews, Nyabarongo Dam site, 2014.
57 Cited by an Angelique engineer, 2016.
58 Interview, on-site engineers, 2013.
59 Interview, senior official, Angelique, 2016.
60 Interviews, on-site engineers, 2014.
61 Observation and interviews, on-site engineers, 2014.
62 Interviews, on-site engineers, 2014.

farming. Wider benefits were felt by the increase in economic demand in the valley associated with the spill-overs of local employment and procurement (Dye, 2016). However, all these benefits were spread unequally. Those nearer the main site offices had more opportunities, while only those with larger plots, pre-existing savings or in good health could take advantage. Additionally, non-local Rwandans took formal jobs and many of the new shops. Meanwhile, Angelique supported some corporate social responsibility efforts, donating to a local school and allowing Rwandans to use the on-site clinic.[63] Therefore, the dam did create some local-level benefits and certain Angelique and BHEL practices arguably increased these. As noted, however, the benefits were unequally spread and, for most, not fundamentally transformational. They may have increased household income but did not result in a substantively altered livelihood or set of socioeconomic opportunities.

*Construction quality issues and absent assessments*

The Indian contractors also caused negative impacts. This is arguably clearest in quality control. The Rwandan government managed largely to mitigate this by appointing a well established dam-building Canadian company as supervising owner's engineer.[64] This company's evaluation report on the project identifies Angelique's inexperience as a major issue, with the company not having instituted construction quality procedures and essentially learning on the job (Aecom, 2015). It labels the first Angelique manager (2010–11) incompetent and responsible for project delays, caused by sections of work having to be re-done because of low standards. On-site engineers responsible for ensuring standards remarked that quality enforcement was consistently "a challenge", because of the contractors' "lack of experience of any project types".[65] This did improve over time with the hiring of a quality control manager but contributed to a two-year delay, from the end of 2013 to 2015, as well as a budget overrun of 12.5%, from $97.7 million to $11.1, which the Rwandan government had to pay (it was not covered by an increase in the LoC). Inexperience also affected safety procedures. The appraisal report stated that "the consortium's approach to safety has overall been poor…it is clear that unlike Western contractors, safety was well down on their list of priorities" (Aecom, 2015). Officials interviewed reported frequent accidents, despite calls for standards and procedures to improve; two workers were killed during construction.[66] Arguably, these issues are not surprising, given Angelique's business model of undercutting rivals, as it leaves profit margins small.

Environmental standards were also affected. Angelique's adherence to protocols on handling soils and pollution was reportedly poor according to Rwandan authorities ("the construction companies are not environmentally sensitive"[67]), with soil dumping in the river and oil spills. An official from Angelique seemed to acknowledge this: "There was a concern that…if we are so [environmentally] conscious, Nyabarongo would not get built".[68] However, these environmental policy practices also relate to the IDEAS LoCs programme itself, as the

[63] Interviews, engineer, Angelique, 2016 and on-site managers, Rwanda, 2014.
[64] RSW Inc, then taken-over by Aecom.
[65] Interviews, officials and on-site engineers, 2014, 2015.
[66] Interviews, officials and on-site engineers, 2014, 2015.
[67] Interview, senior official with a governmental environmental organisation, 2016.
[68] Interview, engineer, Angelique, 2016.

latter does not stipulate the need for impact assessments or environmental plans, and to decisions made by the Rwandan government. While the government could have commissioned environmental and other assessments in line with international norms, it merely engaged engineering consultancy CIMA to undertake a resettlement study, preferring to speed the project forward. Thus, the IDEAS LoC conditions meant that planners "did not do an EIA [environmental Impact assessment] before the start of the project".[69] Consequently, there was no assessment of Nyabarongo's downstream impacts, despite important floodplain farming areas downstream. On-site engineers justified this in terms of the run-of-river design (meaning one that maintains the river's constant flow), but this is contradicted by the hydropower station being run for evening peaks,[70] rather than with a consistent flow (Dye, 2016, 2018). The absence of assessments also mattered for future hydropower production and social impacts. For example, regarding sediment, although engineers on site insisted that there would be "no [sediment] maintenance issue [because of] flushing [through the sluice gates] and fine sediment",[71] officials reported that the reservoir had "filled up with sediment" within two years of completion.[72] While sluice gates have some ability to clear sediments, especially immediately behind the dam walls, their effectiveness depends on the dam's operation,[73] which does not match Nyabarongo's management for electricity.[74] Thus, by 2016 authorities were considering deploying a dredger,[75] and an erosion-management plan was underway by 2017 to decrease the volume of sediment in the reservoir.[76]

The LoCs' lack of a mandate for planning and construction standards, combined with the Rwandan elite's preference for speed and low cost, limited bureaucratic capacity and inexperience in dam construction also affected topographic studies. Government officials blamed the absence of studies for the reservoir being several kilometres longer than estimated: "When they started (filling the reservoir), the distance flooded [increased. It was supposed to be]…22km but goes up to 25km";[77] "Topography studies [were] not very accurate...normally when well done, then [it is] very easy to know when the flood [ie the reservoir] will reach".[78] This resulted in an additional emergency compensation process in 2014–16 for those suddenly losing agricultural land.[79] Hydrology studies were also queried by Rwanda's environmental management authority,[80] and by some engineers,[81] as Nyabarongo Dam's reservoir ran low in the dry season, with electricity generation during this

[69] Interview, official, governmental environmental organisation, 2016. This was confirmed in other interviews with Mininfra and the governmental environmental organisation, 2016.
[70] At least in the dry season (Hakizimana et al, 2020).
[71] Interview, senior on-site engineers, 2014 (and reiterated by others).
[72] Interview, official from a dam investor, 2016. This was confirmed by others in the Utilities Ministry (2014) and Mininfra (2014).
[73] Correspondence with experienced dam civil engineer, June 2018.
[74] Interviews, senior on-site engineers and senior officials, Mininfra, 2014.
[75] Interview, senior offficial, Utilities Ministry, 2016. It was something seemingly confirmed at a public presentation. See Eng Kalisa, 2019.
[76] RNRA (2017).
[77] Interview, official, governmental environmental organisation, 2016.
[78] Interview, senior official, governmental environmental organisation, 2016.
[79] Interview, official, governmental environmental organisation, 2016.
[80] Interview, senior official, governmental environmental organisation, 2016.
[81] Interviews, former and current senior and junior officials, Mininfra and Utilities Ministry, and with a project engineer, 2015–16.

period halving. A dataset existed for the Sogreah studies in the 1990s, but further recordings were only taken after construction started between 2010 and 2014 (Aecom, 2015). Hydrological data are normally important for informing dam design and operation. It is thus plausible that the lack of recent updated studies meant that the dam's did not account for ongoing climate change in the region, or at least did not mitigate against such changes occurring. The lack of studies before the dam's construction, or their poor quality, therefore affected the technical function of the dam and its social outcomes.

**6 Analysis and conclusion**

> [Nyabarongo Dam is a] narrative of hope, conjoining one African nation's drive for resurgence with the technical expertise of India…Nyabarongo Hydropower Project…has proved a game-changer for Rwanda's quest for economic rejuvenation and a better life for its people. The importance of the power-station for the development of the country cannot be overstated.
> (Arora & Chand, 2015, p 85)

This paper's conclusions about Nyabarongo Dam contrast with this quote. Evidence here suggests that a far more critical appraisal of the processes and outcomes of Indian development cooperation in African is needed. To be clear, the Rwandan government held the power to decide on the dam's implementation processes, to decree which studies were undertaken and appoint contractors; we shouldn't overlook its agency. Moreover, 'Western' firms were also involved. Australia's Snowy Mountains Corporation (SEMC) redesigned the dam while different Canadian firms supervised construction and undertook the rapid resettlement appraisal. The IDEAS LoCs also clearly demonstrate the significant agency of the private sector in India's development cooperation. Individual companies were key to the programme spreading across the continent and to the securing of contracts. Given the lack of scrutiny, they also had a large say over projects' standards and impacts.

However, this paper demonstrates that the *laissez faire* approach behind India's LoCs, and the inexperience of the Indian companies which came to dominate its infrastructure building between 2005 and 2015, also had consequences. International comparisons underline this. At the peak of Brazil–Africa relations around 2011, the country's major infrastructure firms were comprised of long-established companies which dominated domestically and have, to some extent, integrated into global norms (Dye, 2021). While also justifiably criticised for corruption and certain projects' socio-environmental impacts (Dye & Alencastro, 2020), this integration is visible in their projects' socio-environmental mitigation practices. For example, Odebrecht is well versed in Brazil's dam-building reforms (Burrier, 2016) and deployed them in the Lauca Dam (Angola), where it instituted benefit-sharing measures alongside compensation for the displaced. Further, in preparatory work on Tanzania's Stiegler's Gorge Dam project studies, Odebrecht used the International Hydropower Association's (IHA) assessment framework,[82] – a protocol that partially adopts the stringent World Commission on Dam's recommendations. China's major dam-building firms have also strongly engaged with the IHA, sponsoring its annual conference, for example. Sinohydro, the world's largest dam group, also engaged with International Rivers, the major anti-dam campaign group, to

[82] Dye (2018, p 322). To clarify, it used their rose diagram framework rather than adopting the full methodology to assess the planning processes' sustainability.

improve its practices (Qui et al, 2018). The firms which came to dominate India's infrastructure LoCs in Africa strongly contrast, lacking (at least at first) internal quality-control architecture and  awareness, or rhetorical adoption, of global socio-environmental norms.

In addition, the Indian government chose not to closely scrutinise a LoC project's developmental outcomes. With the process to determine LoCs squarely focused on the state–state relationship first, and feasibility of construction second, this was left to the recipient. South–South cooperation justified this approach, underlining conclusions by others about the conceptualisation of accountability in South–South relations (Waisbich, 2021), and on the influence of these norms  (Harris & Vittorini, 2018; Sullivan de Estrada, 2015) on India's development-cooperation policy. However, other countries using the rhetoric took a different approach: China started requiring quality-control regulations on its outward investments in 2008, including environmental impact assessments from 2013 (Tan-Mullins et al, 2018, p 91). The biggest contrast is with the World Bank's standards. As demonstrated by the downstream Rusumo Dam, the Bank typically requires multi-year studies, far greater levels of compensation and benefit sharing, alongside significant socio-environmental mitigation in a dam's design and construction (Dye, 2020c). Rusumo Dam involved Indian and Chinese contractors, but harsh penalties follow from deviation from the Bank's standards, as demonstrated by Lom Pangar Dam in Cameroon (Chen & Landry, 2018). This comparative absence had consequences for Nyabarongo Dam: construction took longer, with sections of work needing re-doing, while reservoir sedimentation and under-studied hydrology may affect the reliability and volume of future power production, and downstream impacts are unknown. Without the Rwandan government's mitigating appointment of a supervising owner's engineer (something many dam and infrastructure projects go without) the project's quality control and technical functioning would doubtless have been affected. Moreover, only the Rwandan government ensured compensation for those displaced, even if this too was unequal.

Thus, based on this case study, it appears that the IDEAS LoCs programme more widely does not meet the lofty claims of India as a benign development actor in Africa. Underlying these findings is the focus among Indian policy makers on state-to-state relationships: South–South principles of win-win brotherhood relations appear only to extend to the recipient government and  interests, not to those of average citizens. This contrasts with Narlikar's (2010) conceptualisation of a softer Delhi Consensus, partly as it records the financing of a controversial infrastructure project but also as it suggests that the private sector's pre-eminent agency was not all positive. Rather than allowing integration into African contexts and local-level benefit spreading, it underpinned the rise of inexperienced companies which caused negative, as well as positive impacts for Rwanda. To some extent, this is inevitable. Large infrastructure projects, given the socio-environmental change they entail, are violent and create winners and losers. What is key is therefore whether the violence created by such projects is understood, whether it reinforces existing inequalities and whether it is mitigated. The Nyabarongo Dam suggests that the LoCs decision-making process engaged little in such developmental concerns, translating into greater, unequally distributed negative impacts, particularly when combined with governmental and corporate actors with limited experience and capacity. The LoCs characteristics are changing, however, with new stringent tendering, planning and monitoring regulations introduced in 2015. The consequences of these changes are still emerging, and their significance means more research is needed, most importantly on how they translate into implementation ‘on-the-ground’.

## References


Aecom (2015). *Final Appraisal Report for the Completion of Nyabarongo Hydro-Electric Project*. Markham, Canada: Aecom.

Arora, M. and Chand, M. (eds) (2015). *India–Africa Partnership: Towards Sustainable Development*. New Delhi: Forum for Indian Development Cooperation (FIDC) and Research and Information Systems for Developing Countries (RIS).

Beri, R. (2010). 'Prospects of India's energy quest in Africa: insights from Sudan and Nigeria'. *Strategic Analysis 34*, 897–911.

Bhatia, J. (2021). *Understanding Indian Development Finance: The Data Complexities of EXIM Bank's Lines of Credit*. Cambridge: India–UK Development Partnership Forum.

Biswas, A. (2015). 'India's energy security issues and African oil'. In Beri, R. and Institute for Defence Studies and Analyses (eds), *India and Africa: Common Security Challenges for the Next Decade*. New Delhi: Pentagon Press in association with Institute for Defence studies & Analyses.

Bräutigam, D. (2011). *The Dragon's Gift: The Real Story of China in Africa*. Oxford: Oxford University Press.

Burrier, G. (2016). 'The developmental state, civil society, and hydroelectric politics in Brazil'. *Journal of Environment & Development 25*, 332–358.

Carmody, P.R. (2013). *The Rise of the BRICS in Africa: The Geopolitics of South–South Relations*. London: Zed Books.

Chen, Y. and Landry, D. (2018). 'Capturing the rains: comparing Chinese and World Bank hydropower projects in Cameroon and pathways for South–South and North–South technology transfer'. *Energy Policy 115*, 561–571.

Cheru, F. (2016). 'Emerging Southern powers and new forms of South–South cooperation: Ethiopia's strategic engagement with China and India'. *Third World Quarterly 37*, 592–610.

Confederation of Indian Industries (CII) (2018). *Project Implementation by Indian Companies in Africa*. Delhi: CII.

Dubey, A.K. (2016). 'India–Africa relations: historical goodwill and a vision for the future'. In Dubey, A.K. and Biswas, A. (eds), *India and Africa's Partnership: A Vision for a New Future*. New Delhi: Springer.

Dye, B.J. (2016). 'The return of "high modernism"? Exploring the changing development paradigm through a Rwandan case study of dam construction'. *Journal of Eastern African Studies 10*, 303–324.

Dye, B.J. (2018). *The Politics of Dam Resurgence: High Modernist Statebuilding and the Emerging Powers in Africa*. Doctoral Thesis submitted to the University of Oxford, Oxford.

Dye, B.J. (2020a). *Uneven Convergence in Development? The Case of India's Lines of Credit to Africa*. FutureDAMS & India UK Development Partnership Forum Working Paper 15. Manchester: The University of Manchester.

Dye, B.J. (2020b). 'Ideology matters: political machinations, modernism, and myopia in Rwanda's electricity boom'. *Energy Research & Social Science 61*. doi:10.1016/j.erss.2019.101358

Dye, B.J. (2020c). 'Continuity or change in the infrastructure turn? Reform of the technicians' realm in a World Bank dam'. *European Journal of Development Research 32*, 627–651. doi:10.1057/s41287-019-00232-4.

Dye, B.J. (2021). 'Brazil's boom and bust in Tanzania: a case study of naivety?'. In Alencastro, M. and Seabra, P. (eds), *Brazil–Africa Relations in the 21st Century*. Cham, Switzerland: Springer. doi:10.1007/978-3-030-55720-1_6.

Dye, B.J. and Alencastro, M. (2020). 'Debunking Brazilian exceptionalism in its Africa relations: evidence from Angola and Tanzania'. *Global Society 34*, 1–22.

Dye, B.J. and Soares de Oliveira, R. (forthcoming). 'India–Africa relations under the UPA government'. In Laskar, R.K. (ed.), *'Forging New Partnerships, Breaching New*

*Frontiers: India's Diplomacy during the UPA Rule (2004–2014)*. Oxford: Oxford University Press.

Eng. Kalisa, J.C. (2019). 'Challenges in hydro-power production in Rwanda'. Paper presented at the IWRM Water Conference. Kigali: Rwanda Water Portal.

Hakizimana, E., Wali, U.G., Sandoval, D. and Venant, K. (2020). 'Environmental impact assessment of hydropower plants in Rwanda: Nyabarongo I Hydropower Plant (NHPP I)'. *Energy and Environmental Engineering 7*, 27–37.

Harris, D. and Vittorini, S. (2018). 'Taking "development cooperation" and South–South discourse seriously: Indian claims and Ghanaian responses'. *Commonwealth & Comparative Politics 56*, 360–378.

Iyer, P.V. (20, 10, 2015). 'Exim Bank's red flag: why most Africa deals go to so few firms?' *Indian Express*.

Kamski, B. (2016). 'The Kuraz Sugar Development Project (KSDP) in Ethiopia: between "sweet visions" and mounting challenges'. *Journal of Eastern African Studies 10*, 568–580.

Mawdsley, E. (2011). 'The rhetorics and rituals of South–South development cooperation: notes on India in Africa'. In Mawdsley, E. and McCann, G. (eds), *India in Africa: Changing Geographies of Power*. Cape Town: Pambazuka Press.

Mawdsley, E. (2019). 'South–South cooperation 3.0? Managing the consequences of success in the decade ahead'. *Oxford Development Studies 47*, 259–274.

Minister of State in Charge of Energy and Communications, Albert Butare and Government of Rwanda (2007). 'Energy status of the country 2007'. Presentation given at the 2007 Government of Rwanda and Development Partners Retreat. Rubavu, Rwanda.

Modi, R. (2010). 'The role of India's private sector in health and agricultural sectors in Africa'. In Cheru, F. and Obi, C.I. (eds), *The Rise of China and Africa in India: Challenges, Opportunities and Critical Interventions*. London: Zed Books in Association with the Nordic Africa Institute.

Modi, R. (2011). 'Offshore healthcare management: medical tourism between Kenya, Tanzania and India'. In Mawdsley, E. and McCann, G. (eds), *India in Africa: Changing Geographies of Power*. Cape Town: Pambazuka Press.

Mohan, G. (2013). 'Beyond the enclave: towards a critical political economy of China and Africa'. *Development and Change 44*, 1255–1272.

Narlikar, A. (2010). 'India's rise to power: where does East Africa fit in?' *Review of African Political Economy 37*, 451–464.

Narlikar, A. (2013). 'India rising: responsible to whom?' *International Affairs 89*, 595–614.

Qui, Y., Mang, G. and Bosshard, P. (2018). 'Benchmarking the environmental and social management policies and practises of Chinese overseas dam builders'. In Siciliano, G. and Urban, F. (eds), *Chinese Hydropower Development in Africa and Asia: Challenges and Opportunities for Sustainable Global Dam-Building*. London: Routledge.

Rahmato, D. (2013). 'Up for grabs: the case of large Indian investments in Ethiopian agriculture'. In Cheru, F. and Modi, R. (eds), *Agricultural Development and Food Security in Africa: The Impact of Chinese, Indian and Brazilian Investments*. London: Zed Books.

Raja Mohan, C. (2005). *Crossing the Rubicon: The Shaping of India's New Foreign Policy*. New Delhi: Penguin Books.

Rej, A., Ngangom, T. and Observer Research Foundation (eds) (2015). *Common Futures: India and Africa in Partnership*. New Delhi: Observer Research Foundation.

Rwanda Natural Resources Authority (RNRA) (2017). *Upper Nyabarongo Catchment Rehailitation Plan*. Kigali: Integrated Water Resources Management Department, RNRA.

Saxena, P. (2016). 'Lines of credit: policy matrix revisited'. *International Studies 53*, 44–58.

Stolte, C. (2015). *Brazil's Africa Strategy: Role, Conception and the Drive for International Status*. New York: Palgrave Macmillan.

Sullivan de Estrada, K. (2015). 'India’s ambivalent projection of self as a global power: between compliance and resistance'. In Sullivan de Estrada, K. (ed), *Competing Visions of India in World Politics: India’s Rise beyond the West*. Palgrave MacMillan, Basingstoke, UK

Tan-Mullins, M., Urban, F. and Mang, G. (2018). 'The political ecology of rising China: case study of Chinese hydropower dams in Africa and Asia'. In Siciliano, G. and Urban, F. (eds), *Chinese Hydropower Development in Africa and Asia: Challenges and Opportunities for Sustainable Global Dam-Building*. London: Routledge.

Taylor, I. (2014). *Africa Rising? BRICS – Diversifying Dependency*. Oxford: James Currey.

Taylor, I., van der Merwe, J. and Dodd, N. (2016). 'Nehru’s neoliberals: draining or aiding Africa?'. In van der Merwe, J., Taylor, I. and Arkhangelskaya, A. (eds), *Emerging Powers in Africa*. Cham: Springer. doi:10.1007/978-3-319-40736-4_6.

Vaishnav, M. (2017). *When Crime Pays: Money and Muscle in Indian Politics*. New Haven CT: Yale University Press.

Wagner, C. (2019). *India’s Africa Policy*. Stiftung Wissenschaft und Politik Research Paper. doi:10.18449/2019rp09.

Waisbich, L.T. (2021). *The ‘Measurement Politics’ of South–South Cooperation*. Report. Cambridge: India–UK Development Partnership Forum [available at https://www.iukdpf.com/iukdpf-report-the-measurement-politics-of-south-south-cooperation/].