

Defining Chineseness in Chinese Infrastructure Projects in Africa:

The Case of Ghana

I PAOLA PASQUALI

is an independent researcher associated with the UMR 8504 Géographie-cités, 5, cours des Humanités, 93322 Aubervilliers, France, and the Centre for Asian Studies, University of Ghana, Department of Political Science, Ebenezer Laing Rd, Accra, Ghana (paola.pasquali@parisgeo.cnrs.fr).

I COSTANZA FRANCESCHINI

is a postdoctoral researcher at the Institute of Cultural Anthropology and Development Sociology of Leiden University, Faculty of Social and Behavioural Sciences, Pieter de la Court Building, Wassenaarseweg 52, 2333 AK, Leiden, The Netherlands (c.franceschini@fsw.leidenuniv.nl).

ABSTRACT: This paper discusses and conceptualises the notion of Chineseness as related to infrastructure projects in Ghana and Africa more generally. Based on fieldwork in Ghana and secondary literature, our study combines two aspects. On the one hand, we undertake a nationality and origin-based analysis of all the elements (ownership, financing, design, consulting, construction standards, materials and equipment, labour practices) making up Chinese infrastructure projects in Ghana. On the other hand, we include perceptions of such projects as Chinese. Our analysis identifies different degrees of Chineseness in Ghana's infrastructure projects, what we also describe as "diluted Chineseness." We find that even projects perceived as "fully Chinese" are populated by other international and local actors. Our study further reveals how portrayals of such infrastructure projects as "fully Chinese" are used by different actors to push different agendas – at times expressing opposite views about the Chinese presence in Africa.

KEYWORDS: Chineseness, Ghana, Africa, China, Chinese companies, infrastructure projects.

Introduction

Over the last two decades, China's role in Africa's infrastructure development has risen steeply. The case of Ghana is exemplary in this respect. While large infrastructure in Ghana has historically been financed by European or American institutions and built by European companies, since the 2000s, infrastructures in sectors such as transportation, telecommunications, energy, and water treatment as well as government buildings, stadiums, and hospitals have instead increasingly been financed by Chinese institutions and built by Chinese companies. These projects have been commonly labelled as "Chinese" in press reports and academic literature: however, a closer look at Chinese projects in Ghana reveals different degrees and modalities of Chinese involvement. As scholars have observed in other African countries, contemporary Chinese infrastructure projects on the continent are actually involving a wide range of non-Chinese actors and stakeholders¹ (Pairault 2014, 2020; Han and Webber 2020; Goodfellow and Huang 2021). Our study seeks to bring more

clarity to this matter by examining in greater detail the structure and components of some Chinese infrastructure projects in Ghana, to better define their "Chineseness."

While "Chineseness" has been widely discussed in relation to the individual or collective identity of the Chinese diaspora (Chun 1996, 2017; Kuehn, Louie, and Pomfret 2013; Tan 2013; Guo 2019; Gao and Wang 2021; Shih 2022) and in relation to the Chineseness expressed by Chinese migrants in Africa (Hodzi 2019, 2020; Yan, Sautman, and Lu 2019), this notion is still largely unexplored in relation to infrastructure. A paper by Goodfellow and Huang (2021) introduces the notion of Chineseness as associated with infrastructure projects rather than personal or collective identities. Dittgen and Chungu (2019) similarly evoke Chineseness in relation to African

1. Thierry Pairault, "Une pluralité d'acteurs importants pour le port de Lekki - autres que la Chine" (A plurality of important stakeholders for the port of Lekki – other than China), 2023, <https://pairault.fr/sinaf/index.php/2483> (accessed on 1 November 2024).

urban spaces. In their discussion of Chineseness, Goodfellow and Huang further posit that Chineseness can be diluted by the presence of other non-Chinese actors, suggesting different degrees of Chineseness in Chinese financed or built projects. This paper draws and expands on the question of on what basis and to what degree an infrastructure project can be described as Chinese. The answer to this question ranges from the most visible presence of Chinese workers and Chinese characters on banners and flags on construction sites, to aspects such as financing, labour practices, and the use of Chinese-made equipment and goods, to the sometimes overlooked architectural designs and construction standards. Our study attempts to analyse each of these aspects in more detail in order to enrich and refine the notion of Chineseness of infrastructure projects in current literature. It combines two aspects. On the one hand, we undertake a nationality- and origin-based analysis of all the elements typically making up a large infrastructure project (financial, material, technical, procedural, and human resources). On the other hand, we also include the dimension of people's perceptions of infrastructure projects as Chinese. Beyond the study of Chineseness, the analytical framework proposed by this paper could be used to unpack other national "identities" (Italianness, Frenchness, etc.) of large infrastructure projects.

This paper draws on fieldwork research, participant observation, informal conversations, and 20 in-depth interviews regarding several completed and ongoing Chinese and non-Chinese infrastructure projects carried out in Ghana between November 2020 and December 2022.² We conducted research with Chinese and non-Chinese actors, such as company managers, engineers, and workers, Ghanaian ministries officers, local authorities, local communities, and other stakeholders involved in infrastructure projects in Ghana. Our study further draws on examples from non-Chinese infrastructure projects in Ghana, by way of comparison. Evidence from Ghana will be further supported with examples of Chinese infrastructure projects in other African countries reported in the existing literature. The case of Ghana has been selected because it is representative of many features and trends characterising Chinese-built infrastructure in Africa.

The article is structured as follows. In the first section, we provide a background to the Chinese presence in Ghana's infrastructure development. In the second section, we unpack the structure of infrastructure projects, examining in detail each component, namely: ownership, financing, design, consulting, construction standards, materials and equipment, and labour practices. For each of these components, we discuss the question of Chineseness, drawing on our fieldwork as well as examples from other African countries. This analysis lays out the basis for our discussion, in the last section, of "Chineseness" in relation to infrastructure projects in Ghana and elsewhere. Our account incorporates the perception of Chineseness of projects by different actors. We note that, insofar as the financing, design, construction standards, materials, and equipment are not of Chinese origin, sometimes the Chineseness of a project is more a perception than a reality. We speak of "diluted Chineseness" to indicate different degrees of Chinese involvement as related to the different components of a project. This brings us to the final part of the paper, which discusses the issue of "full Chineseness" of an infrastructure project – real or perceived – and who may benefit from it.

Chinese presence in Ghana's infrastructure development

In its immediate post-independence era (1957), Ghana, like other African countries, underwent a boom in infrastructure development, which was seen as laying the foundation for the country's modernisation. From the 1960s till around the 2000s, large infrastructure in Ghana was financed by Western institutions and routinely built by European companies (Laryea and Mensah 2010). For example, this was the case of the Akosombo dam, built between 1961 and 1965 with loans from the World Bank, the US, and UK governments. The Ghanaian government appointed an American engineering firm to carry out the feasibility study, and later design and supervise the construction, undertaken by an Italian consortium. Although Ghana birthed many indigenous private and public construction firms since the 1950s, none of them has to date reached the capacity (in terms of capital, machinery, equipment, and finance mobilisation) of foreign firms. As a result, indigenous companies are mainly involved as subcontractors in Ghana's large infrastructure projects (*ibid.*). The first Chinese involvement in Ghana's large infrastructure development – the Ghana National Theatre in Accra – dates back to the early 1990s.³ The theatre was built with the aim of advancing friendly relations and economic cooperation between the two countries (Cheng and Taylor 2017: 86). It was sponsored by Chinese foreign aid (a USD 15 million interest-free loan, later turned into a grant),⁴ designed by a Chinese architect, and built by two Chinese companies (*ibid.*). Almost all the materials used to build it were imported from China, including the cement; and about one fourth of the labour force was Chinese (Roskam 2015). This project's features echoed the TAZARA railway project connecting Tanzania and Zambia.⁵ Several elements of the Ghana National Theatre (design, construction, supervision, materials, and labour) are characterised by their Chinese origin. It should be noted that financing for these projects was not provided in monetary loans, but rather by sending engineers, technicians, and craftsmen as well as materials to build the projects (Zhang 2020). Together with the TAZARA railway, the Ghana National Theatre could be described as an example of "old-style" Chinese infrastructure projects, because of the Chinese origin

2. Covid-19 had a partial impact on access to fieldwork within Chinese state-owned construction companies. Even when there were no strict rules to prevent the spread of Covid-19 in Ghana, Chinese workers were required to follow precautionary measures in accordance with the rules imposed by the Chinese government on all its citizens, including Chinese workers in Africa. Despite these restrictions and the feeling of anxiety about the possibility of contracting Covid-19, the adoption of an ethnographic research methodology and the long stay in the field have allowed the creation of relationships and bonds of trust. Over time, this has enabled the collection of interviews and informal conversations with Chinese workers employed at various levels in Chinese state-owned enterprises, both within and outside the workplace.
3. The very first project built by a Chinese company in Ghana was the Chinese Embassy in Accra, commissioned by China's Ministry of Foreign Affairs in 1985.
4. Cancellation of interest-free loans to African countries has happened a number of times over the last two decades or so, in line with debt suspension initiatives. Differently from concessional loans, interest-free loans are treated like grants in China's government annual budget, which accounts for their full value (Acker, Bräutigam, and Huang 2020).
5. Completed between 1970 and 1975, the railway was financed by a Chinese interest-free loan of USD 500 million. The loan consisted of the massive allocation of Chinese workforce, expertise, materials, and equipment. The project was thus underpinned by a "socialist" vision of development and employed more local workers (60,000) than Chinese one (30,000-40,000) (Monson 2011).

of most elements, as opposed to contemporary Chinese projects on the continent, which are characterised by the non-Chinese origins of many elements, as will be seen in detail below.⁶

China's transition to a socialist market economy was gradually reflected in the evolving Chinese presence in infrastructure development in Ghana and in Africa generally. Chinese state-owned enterprises (SOEs) began to enter African markets in the 1980s, as they gradually obtained rights for doing business overseas. In the 1990s, major reforms in China's aid policy and the 1999 "Going out policy" (*zouchuqu zhengce* 走出去政策) provided the impetus for many Chinese construction companies to explore business opportunities in Africa. China's economic success translated into an increase in China's foreign aid budget. In parallel, starting from the 1990s, the Chinese government implemented policies that increasingly merged the country's economic diplomacy with the internationalisation of its companies (Bräutigam and Tang 2012). This has also been described as an "aid-contracting nexus" (Zhang 2020). According to such a model, grants or loans (interest-free, concessional, and non-concessional) are given to third countries to finance the construction of their infrastructure, on the condition of their employing Chinese firms, goods, and equipment. Through such a scheme, many Chinese companies entered the Ghanaian market since the early 2000s with projects sponsored by Chinese policy banks in the form of interest-free loans and/or concessional loans to the Ghanaian government. Chinese financing enabled the Ghanaian government to realise projects for which Western funding had been denied. For example, in 2007, Chinese bank loans enabled the Ghanaian government to execute a decades-old plan to build a hydropower dam at Bui, using a Chinese company as a contractor (Lam 2017). At the same time, the "aid-contracting nexus" has greatly supported the internationalisation of Chinese firms. By obtaining preferential access to tender for projects, Chinese companies have been able to win projects, gather international experience, and learn new skills. Ghana, and the African continent more generally, have become a land of opportunity, especially for Chinese provincial SOEs from less affluent provinces in China, which may struggle to compete in the internal market (*ibid.*: 17). For some of these companies, African markets are now an essential part of their business (*ibid.*). Nowadays, many Chinese companies have established a reputation in African markets and often win tenders for projects financed by non-Chinese institutions. Over the last two decades, Chinese companies have thus won about one-third of all World Bank contracts on the continent, challenging the traditional dominance of European firms.⁷ While Chinese companies compete for large projects with each other as well as with European firms, cooperation and alliances have also emerged between Chinese companies and old actors. For example, in Francophone African countries, most Chinese infrastructure projects involve cooperation with French companies (Pairault 2014, 2020). Such cooperation is part of a growing globalisation of African infrastructure projects, which are increasingly transnational in nature (Nugent and Lamarque 2022). While African governments are normally the main investors and owners of the projects in question, the various components of infrastructure projects – financing, design, execution, supervision – are nowadays extremely diversified.⁸ By working on projects with non-Chinese actors, Chinese companies have joined broader global assemblages, accumulated experience,

and aligned their *modus operandi* with that of other members of the assemblages (Han and Webber 2020). Consequently, Chinese participation in infrastructure development on the African continent has profoundly changed the structure of their projects in Ghana and in other African countries. As we illustrate, current Chinese projects in Ghana and elsewhere are quite different from those of the past, in terms of financing and also in their composition and structure.

The following section unpacks and explains the different components typically characterising an infrastructure project. For each component, we provide examples from our fieldwork in Ghana, complemented with examples from other African countries. The analysis of the various components of a project lays out the basis for the discussion, in the third section, of the "Chineseness" of Chinese projects in Ghana.

Unpacking the different layers of "Chinese construction projects" in Ghana

Regardless of how big a project is, the first aspect a project owner – whether a government or a private individual – needs to sort out is the question of financing (Clough et al. 2015: 2). In large public infrastructure projects, governments are normally unable to provide all the money upfront, and thus need to secure financing from a bank or another financial institution. The latter will ask for a feasibility study, based upon which it will decide whether or not to sponsor the project. The feasibility study, together with the design of a construction project, is undertaken by an architect-engineering company. Subsequently, the project design is implemented by a contractor, which builds the infrastructure with its own labourers and equipment. The construction of any infrastructure is always supervised by an architect-engineering consultant company. Sometimes, the feasibility study, the design, and the construction of the project are done by the same company. Other times, these different tasks are shared among different companies.

The different ranges of involvement of companies in a project are reflected in the International Federation of Consulting Engineers (FIDIC)⁹ standardised contracts that underlie large infrastructure projects.¹⁰ The architect-engineering company is tasked with daily

6. Scholars further distinguish two eras of Chinese project financing in Africa: before the mid-1990s, when Chinese sponsored projects consisted mainly of grants and interest-free loans, and after the mid-1990s, when projects are characterised by a mix of concessional and/or commercial lending (Morgan and Zheng 2019).

7. "World Bank: Borrower Countries' Contracts to Businesses in the U.S. and to Entities Potentially on U.S. Sanctions or Other Lists of Concern," *United States Government Accountability Office*, 10 May 2023, <https://bit.ly/3p3pkuA> (accessed on 12 May 2023).

8. The Western Railway Line project in Ghana provides a telling example in this regard. The railway is owned by Ghana's Ministry for Railways, with different sections financed by different lenders, and designed, constructed, and supervised by companies of different provenance. For instance, the Tema-Akosombo Railway Line was financed by India's EXIM bank, designed and supervised by an Italian company, and built by an Israeli company.

9. The "Fédération Internationale des Ingénieurs-Conseils" (FIDIC, International Federation of Consulting Engineers) has developed different contract templates that are widely used in the construction industry worldwide.

10. For example, the FIDIC Red Book contract provides for contract terms where the contractor is only in charge of construction, while the design is completed by the client/employer. The FIDIC Yellow Book contract is used for projects where the contractor is also in charge of the design.

supervision of the construction, such as making sure that the contractor complies with the designs and standards agreed upon in the contract between the government and the company. Other aspects to be considered when assessing the nationality of a project, in this case its “Chineseness,” include the equipment and materials used to realise it, as well as the employment of locals and the labour practices on site. This section discusses each of these components in greater detail.

Ownership and financing: African ownership with company-driven financing

An often-unknown matter is how large infrastructure projects take off. African governments are often the ideators and owners of large infrastructure projects in their countries. They are thus the employers (the clients) when it comes to their relationship with the engineering and construction companies implementing the projects. While most government infrastructure all over the world is built by governments through loans, access to the large financing amounts usually needed to build infrastructure is particularly challenging for African governments.¹¹ The African Development Bank estimates a yearly infrastructure financing gap in the amount of USD 100 billion.¹²

Our fieldwork shows that African governments normally have priority lists accessible online or at the ministries indicating the type of infrastructure they would like to build. Sometimes the financing is sought by the government at the government-to-government level, but more often this part is taken care of by the company that wishes to become the contractor for a specific project. As explained to us by the business development manager of an Italian company with a presence in several African countries, the business starts by looking at the development plans of different African governments and their lists of projects (interview, Accra, 30 May 2022). Normally, both Chinese and non-Chinese companies pick projects off these lists and approach the relevant ministries with proposals to build them, having informally secured access to financing from development agencies or private or policy banks. Our fieldwork complements what was observed by Gambino (2021) regarding Chinese SOEs in Kenya, showing that Chinese companies at times do their own feasibility studies on projects even before the government issues a tender. Companies’ feasibility studies serve the purpose of identifying the level of financing that they should look for, before approaching the government with a proposal (ibid.).

Our findings corroborate the notion of a strong African state agency in infrastructure development (Corkin 2013; Mohan and Lampert 2013; Mohan and Tan-Mullins 2019; Soulé-Kohndou 2019; Wang and Wissenbach 2019; Chiyemura, Gambino, and Zajontz 2023). It could be thus argued that while all large infrastructure projects are both planned and owned by African governments, heavy reliance on foreign financing to realise them puts the order of implementation of such infrastructure at the mercy of foreign companies’ initiative and funding availability. Another key element is the connection between contractor and financing. On the one hand, the literature on Chinese projects in Africa highlights the connections between Chinese financing and the obligation for African governments to select from a list of Chinese state-owned companies to execute the work (Mohan and Tan-Mullins 2019). While this has often been presented as a peculiarly Chinese characteristic of these projects, our fieldwork with

non-Chinese companies in Ghana shows a pervasive connection between the nationality of the financing and the nationality of the company contracting the project. For example, in the case of the Takoradi Market Circle redevelopment, the Italian financing for the project was premised on hiring an Italian company as the main contractor. Similar dynamics characterised the Koforidua Hospital project in Ghana’s Eastern Region, financed by a British loan, where the contractor for the project was likewise a British entity.¹³ As we illustrate elsewhere, it is not uncommon for a construction company from Country A to open a branch in Country B, C, or D and then to use the Country B, C, or D legal identities to access funding available to companies in those countries for infrastructure projects in Ghana (Franceschini and Pasquali 2024). The distinction between the de jure and de facto nationality of a company further complicates the analysis.

Design: Building styles vs. technical construction outputs

Another key component of infrastructure projects is their design. In the case of certain types of buildings, architectural styles and forms may be visible to a non-expert eye. For example, in Ghana, scholars have remarked on similarities between architectural forms in China and the architectural style of several Chinese-designed and constructed buildings in Ghana, including ministries, universities, and the Ghana National Theatre (Amoah 2021). This often translates into architectural impositions that have changed the landscape of cities such as Accra, and have set the seal of Chinese presence in the country (Amoah 2016, 2021). While certain architectural features might be more visible in certain types of buildings, this aspect is less apparent if not invisible to a non-expert eye in the case of infrastructure such as roads and bridges, which tend to follow construction standards. In the case of Ghana, our fieldwork found that construction has normally followed British or Ghanaian standards. In this case, the Chinese origin of works can only be perceived by the expert engineer during the construction process, or appreciated in very technical construction outcomes, such as the thickness of roads.

Our fieldwork in Ghana further revealed that several Chinese-built projects were in fact based on designs by European companies. This confirms a trend observed in several Francophone African countries, where a division of labour between the design and supervision vis-à-vis construction has characterised many projects (Pairault 2020). While the design and supervision are normally undertaken by French companies, the Chinese company oversees construction. This was the case with the dam for the Soubré hydroelectric power station, in Ivory Coast, completed in 2017 with Chinese financing. The dam

11. While industrialised economies’ governments often turn to their domestic financial systems and capital markets for financing, African governments are unable to do so due to the small size of their financial markets and constrained public budgets. Their needs are thus partly covered by multilateral development institutions, as well as from foreign commercial borrowers.

12. “African Development Bank Sets Course to Close Infrastructure Gap with Board Approval of its First Public Private Partnerships Strategic Framework,” *African Development Bank*, 2 February 2022, <https://bit.ly/49KVJY8> (accessed on 24 April 2024).

13. “Construction of a Regional Hospital in Koforidua,” *Ellipse Projects*, <https://bit.ly/3Uzy1d2> (accessed on 26 April 2024).

was built by a Chinese company, but its design and supervision were undertaken by a French company (*ibid.*). This division of labour is most often driven by African governments, with the idea that European companies are more experienced at design, and will plan the project according to the technical standards African governments are familiar with, while Chinese companies will carry out the construction at a cheaper and faster rate (*ibid.*).

Our research also found that in many cases, companies that execute the design for an infrastructure project are later hired by governments to supervise the construction of the project. For example, in the Ghana Coastal Fishing Ports and Fish Landing Sites project (hereafter, GFPLS project), the feasibility study and the design were undertaken by a Dutch company. However, the plan fell through, as the company did not manage to secure financing. Some years later, when the government of Ghana secured financing from China Development Bank, the same Dutch company was employed for the design and consulting, while a Chinese state-owned company was hired for the project's construction. Reliance on the same company to undertake design is a feature that we observed in Chinese and non-Chinese projects alike.

The pivotal role of the architect-engineer consultant company

A key role in the realisation of infrastructure projects is played by the architect-engineering consultant company, which can be an individual or a company that supervises a project on behalf of the client (in this case, the government) and is selected by the latter. As a Ghanaian engineer consulting for one of the Chinese projects in Ghana remarked, the outcome of the project comes down to supervision:

To me it is about supervision. If they do something that you do not like, you tell them you do not like it. At the end of the day, they will bring their final payment certificate to you, to the consultants, to check and pay. To check and approve that they should be paid. So, if you are not satisfied with what they have done, you don't have to approve that. So, it is simple, so that is what we do. And they know it. So, if they are doing something and we point out to them that "this is wrong, we don't want it this way," they will do the correction. Because they know that finally, they will come back to us to approve the documents for the payments. (Interview with an engineer working for a Ghanaian consulting firm, Takoradi, 28 November 2022)

The importance of the consultant's role was highlighted to us on various occasions during our interviews at the construction sites of Chinese-built projects. An engineering consultant gave us the example of two infrastructure projects constructed by the same Chinese company. In one case, the project was well-built and very successful, while in the other case, the project encountered a lot of criticism. The responsibility for such problems, according to several individuals involved in the project, was attributed to both the design and the supervision work of the consulting company (interview with an engineer working for a Chinese construction firm, Accra, 6 November 2022). Apart from ensuring that the contractor follows the designs, consultants also monitor the construction to ensure that it is executed according to the standards decided by the client and

as stipulated in the contract. For example, in our interviews with the Ghanaian consultant for the Koforidua Hospital in Ghana's Eastern Region, we were told that a lot of work consisted of making sure that the Chinese subcontractor complied with the required British standards for this project.

Whose construction standards?

In the construction industry, standards on various aspects of a project (structures, building materials and products, energy performance and sustainability, fire safety and firefighting) are in place to ensure that buildings and other structures are safe and fit for their purposes.¹⁴ Standards exist at both the international and national level. They can apply to both a result (technical requirements, measurements) or a process (the way in which something is built, environmental standards, etc.). Standards serve as a common reference and a quality marker, guaranteeing the interoperability of products across geographic areas (Deron 2020: 3). In the construction industry, they guarantee the safety and durability of infrastructure. Construction standards are decided by the project owner and stipulated in the contract during the negotiation phase of a project.

Construction companies are used to building according to the national standards in their own countries. When abroad, companies often must change their way of operation to meet the demands of project owners. Different standards can be learned, but this process might entail a cost of adaptation and learning for the company. At times, different standards may translate into different costs for the same infrastructure. For example, as explained by a Chinese engineer in the case of the Chinese-financed and built Kribi Port in Cameroun in the 2010s, Chinese construction standards mandate a certain thickness of cement for certain types of roads, which is thinner than French standards, translating into the use of less cement than in French projects.¹⁵

In the African context, out of convenience (interoperability), governments tend to follow the standards of their former colonial masters. Most Ghanaian construction standards are based on British standards, while many former French colonies follow French standards. But over the last decade, China has been increasingly active in international standard-setting and underwent a domestic reform that culminated in the 2017 revision of the Standardisation Law.¹⁶ The diffusion of Chinese standards worldwide is now encouraged within Chinese policy documents,¹⁷ news reports, and

14. International Organization for Standardization, "ISO and Construction: Great Things Happen when the World Agrees," October 2017, <https://bit.ly/3QgxES6> (accessed on 12 May 2023).

15. "La France en Afrique vue par un entrepreneur chinois [Interview 1]" (France in Africa seen by a Chinese entrepreneur [Interview 1]), 28 March 2017, <https://bit.ly/3JxQ0Kx> (accessed on 24 April 2024).

16. Standing Committee of the National People's Congress 中華人民共和國全國人民代表大會常務委員會, "中華人民共和國標準化法(2017修訂)" (*Zhonghua renmin gongheguo biao zhun hua fa* (2017 *xiuding*), Standardisation Law of the People's Republic of China (2017 Revision)), 11 April 2017, <https://lawinfochina.com/display.aspx?id=24182&lib=law> (accessed on 1 November 2024).

17. General Office of the Leading Group for Advancing the Development of the "Belt and Road" 國家推進"一帶一路"建設工作領導小組, "標準聯通共建'一帶一路'行動計畫(2018-2020年)" (*Biaozhun liantong gongjian "yidai yilu" xingdong jihua* (2018-2020 *nian*), Action plan for harmonisation of standards for jointly building the Belt and Road (2018-2020)), 22 December 2017, https://srcic.org/upload/newsletter/16/pdf_zh/5bf0ba90de69.pdf (accessed on 24 July 2024). It is stated that the pace of standards "heading overseas" shall be strengthened.

articles,¹⁸ and is even framed as a “battle against Western standards” by some Chinese executives working on African infrastructure projects (Pairault 2017). While the diffusion of China-set technical and infrastructural standards and classifications may be facilitated by China-sponsored infrastructural projects, the project standards are always negotiated on a case-by-case basis with the project owner. As a matter of fact, in all of the cases of Chinese-built infrastructure that we examined in Ghana, British and/or Ghanaian standards had been adopted. However, reports and anecdotal evidence show that in other cases, Chinese standards were adopted after African clients were persuaded of their reliability. This was the case with Kenya’s Standard Gauge Railway, which the Kenyan government originally envisaged being built according to American railway standards (Fei 2024: 480). The Chinese contractor organised workshops and study tours for Kenyan officials to visit high-speed railways in China, and finally persuaded the Kenyan government to adopt Chinese railway standards for the project (ibid.). Similar stories have been reported for other projects, such as the Juba International Airport in South Sudan, the Areti Building Materials Industrial Park in Ethiopia (ibid.), and the infrastructure connected to the Kribi Port in Cameroun (Pairault 2017). As some reports further show, construction standards are not only defined during the contract negotiation phase, but might at times be negotiated during the implementation phase (ibid.). Our fieldwork with non-Chinese companies in Ghana, and more specifically our interview with a project manager of an Italian firm (Takoradi, 8 November 2022), further confirms this trend.

Materials and equipment: Locally sourced or imported

Another aspect that is normally regulated by contract is the choice of materials and equipment employed to realise a project. In Ghana, we found that the nature of financing often determines the origins of the materials and equipment used. For example, in the Takoradi Market Circle project, a project largely sponsored by Italy’s Export Credit agency, the project manager explained that most of the materials, services, and equipment (including, for instance, generators and welding machines) had to be bought in Italy as per the terms of the loan. Similar contract clauses exist for some Chinese financed-projects. This logic has also characterised much international development aid, which has been often “tied” (de jure or de facto) to sourcing goods and services from the donor nation. In some cases, however, contractors may choose where to source materials and equipment based on economic considerations.

Due to cost efficiency, in the projects we examined, materials such as cement and bricks are normally sourced locally. We found a mix of sourcing of materials and equipment in Chinese and non-Chinese projects alike. For example, in the Chinese-built Takoradi Interchange project, all the materials, including steel bars, cement, sand, and gravel, were locally sourced in Ghana, while the steel strands for the bridges were imported from China, as was most of the construction machinery and equipment. This aspect differs from “old-style” Chinese projects, when most materials and equipment were imported from China (Chen, Goldstein, and Orr 2009). In certain domains, such as the mining sector, local content regulations in Ghana mandate that certain inputs be sourced locally.¹⁹ In South Africa, recently issued regulations make it mandatory for government project contractors to use locally manufactured cement products.²⁰

In Ghana, we found that cement was mostly sourced from local companies (the largest producer in the country being a joint venture between the Ghana government and a German company). However, given a growing trend of Chinese companies manufacturing materials in African countries (Bräutigam 2009; Corkin 2012; Li, Kopyński, and Taylor 2022), locally sourced materials might still be characterised by some degree of Chineseness, insofar as they are manufactured by Chinese companies *in loco*. An accurate analysis of their “Chineseness” would have to take into consideration the legal status of the company (whether the company is registered as foreign or as local). It could be argued that the quandary over assessing its “Chineseness” mostly arises when the company, Chinese or non-Chinese, holds a certain nationality *de jure* that does not coincide with the nationality of most of its employees. This brings us to the next element of infrastructure projects, namely, employment and labour practices.

Local employment and labour practices in Chinese construction sites: A debated field

In large infrastructure projects, foreign contractors normally hire locals for unskilled labour and expatriates in management positions. Local content laws regulate the percentage of local workers in skilled and unskilled positions in different industries. For example, Ghana’s oil and gas sector regulations mandate giving preference to qualified local workers. In countries such as Nigeria, a labour clause is compulsory in all contracts above USD 100 million, mandating a minimum percentage of Nigerian labour.²¹ In China-Africa literature, Chinese firms are often perceived as bringing “their own” workers and not hiring locals (Sautman and Yan 2015). Our research shows that in Ghana, Chinese construction firms employ a majority of local labour in these projects, but only in unskilled or semi-skilled positions. It is very rare to find locals in managerial positions, and only after the company has established itself in the area for some time. The rationale behind this choice is that Chinese bosses and supervisors can better understand and comply with the company’s managerial and business strategies and culture, in respect to both project management and hierarchical employment relations within the company. This is also due to the temporary nature of construction

18. Reports on the completion of the first high-speed rails according to Chinese standards in various African countries attest to the relevance of the matter. See for example Wang Xiaopeng 王小鵬, “中國影響力在非洲: 從‘中國標準’到‘肯尼亞標準’! 在非洲, 中國這樣授人以漁” (Zhongguo yingxiangli zai Feizhou: Cong “Zhongguo biaoazhun” dao “Kenniya biaoazhun”! Zai Feizhou, Zhongguo zheyang shou ren yi yu, China’s influence in Africa: From Chinese standards to Kenyan standards! How China is teaching people how to fish), *Cankao xiaoxi* (參考消息), 3 September 2018, <https://baijiahao.baidu.com/s?id=1610568890493562167&wfr=spider&for=pc> (accessed on 19 September 2024); Zeng Guangyan 曾廣顏, 2017, “‘一帶一路’讓中國鐵路標準‘走出去’” (“Yidai yilu” rang Zhongguo tielu biaoazhun “zouchuqu,” Belt and Road Initiative enables Chinese railway standards to be exported), *Lilun shiye* (理論視野) 6: 67–8.

19. “Local Content and Local Participation in the Procurement of Goods and Servicing in the Mining Industry: The New Procurement List (5th Edition),” *Minerals Commission of Ghana*, 22 December 2020, <https://bit.ly/3WgWPba> (accessed on 24 April 2024).

20. “Cement Has Now Been Designated for Local Production and Content in Government Tenders,” *Leads2Business*, 5 October 2021, <https://bit.ly/3xPkKEi> (accessed on 24 April 2024).

21. Nigerian Government, “Nigerian Oil and Gas Industry Content Development Act,” art. 34, 22 April 2010, <https://ncdmb.gov.ng/nc-act.pdf> (accessed on 29 April 2024).

jobs, which are on a project-by-project basis. In this context, Chinese companies hire local workers for short periods of time before moving to another location, or even to another country. Employment of non-Chinese management or supervisory staff is considered risky, insofar as it takes time for new employees to familiarise themselves with the company system and practices. Our fieldwork revealed that conversely, Chinese companies operating long-term in other sectors (energy, hospitality, manufacture) in Ghana adopt entirely different employment strategies, hiring Ghanaians in managerial positions.

In Ghana, controversy characterises not so much the percentage of local labour employed by Chinese projects, but rather, labour practices and salary levels for local staff. Like all foreign companies, Chinese companies need to comply with minimum wages legislation in their sector. According to the fieldwork one of the authors conducted in Chinese construction sites in Ghana between October 2021 and December 2022, local workers earned on average 30-40 Ghana cedis (GHS) per day (equivalent to approximately USD 5 per day based on the exchange rate in January 2022),²² ranging from GHS 900 to 1,200 per month (approximately USD 150-200 per month in 2022). Such amounts were above the daily minimum wage in Ghana.²³ Some of the most skilled workers, or those who had been with the companies for the longest time, earned around GHS 2,000-2,500 per month. The highest-paid workers were the excavator drivers, who received between GHS 3,000 and 5,000 per month, depending on the amount of work. Salaries could vary considerably from month to month, depending on the number of days and hours worked. This was dependent on both the workers themselves and on how many days and hours they worked at the construction site. As this was mostly informal work, workers had no days off, sick leave, or paid holidays. Local workers also did not receive severance pay or contributions at the end of their employment with the company. While these working conditions are typical of Ghana's construction sector in general, some local workers at Chinese construction sites felt they earned less than they would have with other foreign companies in the same sector. Nonetheless, our findings that most workers employed in the projects are Ghanaian and are paid more than the country's minimum wage is in line with what others found in other Chinese-built projects in Ghana, such as the Bui Dam project (Kirchherr, Disselhoff, and Charles 2016).

Aside from salary levels, Chinese labour practices in African projects also differ when it comes to work culture, management styles, and hierarchical relations (Wu 2021). When investigating such matters, it is important to highlight that a worker's interpretation of hierarchical and interpersonal relationships in the workplace is deeply rooted in their cultural context of origin (Giese 2013; Giese and Thiel 2014, 2015; Wu 2021). For instance, in Ghana, trade unions have historically played a key role in the country's struggle for independence, and in certain sectors (both formal and informal) are a well-organised and important voice for workers. Conversely, unionisation and collective bargaining are not a routine part of labour practices in China.²⁴ In the perception of local workers, the Chineseness of projects was associated with their first-hand experience of different labour practices, and often, more specifically, with a work ethic of "eating bitterness," overwork, and a top-down way of relating with local employees. Our fieldwork further revealed that over time Chinese companies tend to adapt

to the local environment and local labour practices, by authorising the unionisation of workers for instance, as other studies have also observed (Kirchherr, Disselhoff, and Charles 2016).

Perceptions and dilution of Chineseness in Ghana's infrastructure development and beyond

Perceived Chineseness

The previous section introduced what we described as the "perceived Chineseness" of a project by actors on the ground. The latter is unrelated to the technical and structural aspects of a project. Rather, it has to do with the perception of such projects as Chinese. In our fieldwork and informal conversations with residents, government officials, and workers employed by Chinese construction companies, we found different perceptions of Chineseness deriving from different levels of interaction with Chinese actors during these projects, from residents who see the tangible signs of Chinese companies' presence (Chinese workers, Chinese banners and flags),²⁵ to locals working on these projects. The perceived Chineseness and the judgement of it depends also on informants' knowledge of these projects derived from their varying roles in them. For example, among manual workers for Chinese companies, the perception of Chineseness – associated with workers' first-hand experience of different labour practices and hierarchical and intercultural relations – typically brought about a high degree of perceived Chineseness, with a generally negative connotation. This differed from the Chineseness perceived by Ghanaian engineers and technicians working for the government or its agencies, who had rather positive perceptions of Chineseness based on other aspects: namely, the fact that the Chinese contribution had made such projects financially possible and more affordable, yet of good quality. Interestingly, government officials and politicians did not refer to these projects as Chinese, but as "government" or "ruling party" projects. At times, this perception existed also among residents, especially when these projects were highly controversial.²⁶ Apart from actors on the ground, we should mention that "perceived Chineseness" exists also in the imaginaries of actors far away from

22. Since the fall of 2022, Ghana has been facing a serious economic crisis and high inflation.

23. As of 2022, the daily minimum wage in Ghana was 13.53 Ghanaian cedis (approximately USD 2.25), roughly equivalent to GHS 352 monthly (USD 58.6). Iddi Yire, "National Daily Minimum Wage for 2023 Increased by 10 per cent, now GHS 14.88," *Ghana News Agency*, 16 November 2022, <https://gna.org.gh/2022/11/national-daily-minimum-wage-for-2023-increased-by-10-per-cent-now-gh%C2%A214-88/> (accessed on 18 September 2024).

24. In China, unionisation of workers and related activities have to be approved by the All-China Federation of Trade Union (ACFTU), which is characterised by a non-confrontational approach vis-à-vis employers.

25. This also happens for non-Chinese projects. For instance, in the case of the abovementioned Takoradi Market Circle project in Ghana, sponsored with Italian loans and given to a de jure Italian (but de facto Brazilian) company, the "Italianness" was distinctly marked by Italian flags at the entrance of the site and by all workers on site wearing uniforms with Italian and Ghanaian flags.

26. This was for example the case on a project involving the construction of some marine infrastructure along the Ghanaian coast. Although it was a Chinese-financed and built project, it was ultimately perceived and criticised as a project that the Ghanaian government had long promised and ultimately failed to deliver. In particular, the government's inability to address the issues raised by local communities has been highly criticised and has become a source of discontent, bringing local politics rather than Chinese participation at the forefront of criticism.

these projects, in local and global media spaces. In the latter, “made by China” infrastructure projects are often associated with negative and stereotyped perceptions linked to the “made in China” label (Farrell 2016), in particular, low quality, cheapness, and the exploitation of labour and natural resources.

Diluted Chineseness

While perceptions of an infrastructure project as Chinese, or as we suggest “perceived Chineseness,” contribute from different angles to enhancing the Chineseness of an infrastructure project, they are to be integrated with a more analytical examination. Namely, as mentioned above, the Chineseness of an infrastructure project is to be assessed in relation to the national origin of all the elements composing the project: ownership, financing, design, construction, supervision, construction standards, materials and equipment, as well as labour. Drawing on the work of Goodfellow and Huang (2021), it could be argued that a dilution of Chineseness might entail an absence of some such elements. As a matter of fact, the level of Chineseness deriving from the analytical description above can sometimes be at odds with the “perceived” Chineseness of a project. This is the case with the GFPLS project: from an analytical perspective, its “Chineseness” is very much diluted. However, as our fieldwork revealed, from a “perceived Chineseness” angle, the Chinese presence is particularly visible and cumbersome, due to the absence of Dutch personnel and lack of tangible identification of the project as partly “Dutch.”

One could further apprehend the dilution of Chineseness of a project from the perspective of the construction and technical standards in use. As already mentioned, it is up to the project owner to decide which standards to adopt. It could be argued that a higher degree of Chineseness exists in any case when Chinese construction standards are implemented. The same applies to the aspect of materials and equipment used to build a project, which normally depend on economic considerations by the contractor as well as their contractual obligations. When sourced from China or from a Chinese company, a higher level of Chineseness may be said to characterise a project.

An exception to the dilution of Chineseness described in this paper are Chinese aid projects sponsored with grants, where typically a Chinese company is appointed for the design, construction, and supervision of the projects. In the case of small projects, the Ghanaian government will not be involved in negotiations:

You only see it when they are commissioning it. And which is good. As long as it is a development project, we like it. (Interview with Government Official, Ministry of Finance, Accra, 2 August 2022)

In the case of larger Chinese aid initiatives, such as the construction of the Jamestown Fishing Port in Accra, the government will instead be involved in talks with local communities regarding land acquisition and compensation but will not involve itself in the project’s procurement. It could be argued that like “old-style” Chinese projects, Chinese grant-sponsored projects are characterised by higher levels of Chineseness, insofar as the financing, design, construction, and supervision are Chinese. Such projects however represent a small part of Chinese companies’ activities in Africa, in terms of both extent and financial weight.

Who benefits from the “fully Chinese” label?

The different aspects and degrees of Chineseness – analytical or perceived – in infrastructure projects in Ghana and Africa in general raises the question of who benefits from perceptions of these projects as exclusively Chinese. In the case of the GFPLS project mentioned above, it could be argued that the perceived “full Chineseness” of the project enabled the Dutch company to avoid blame for the project’s highly debated outcomes, especially in relation to the design of the infrastructure (Franceschini 2024). At the same time, this project was also praised as a major achievement of Sino-Ghanaian cooperation by the then Chinese ambassador in his inauguration speech.²⁸ It could therefore be argued that perceptions of a project as “fully Chinese” may serve the desire of Chinese officials and media outlets to emphasise China’s positive contribution to African infrastructure development. Similarly, lists of Chinese-built projects in Africa – regardless of the degree of Chineseness of such projects from an analytical perspective – in White Papers and embassy communiqués, as well as in Xinhua press releases,²⁹ become concrete evidence of China’s engagement in Africa’s development. Interestingly, the same “fully Chinese” labelling of projects is used in Western contexts and by local and Western media to evoke anxieties around China’s presence in Africa, supporting the diffusion of an anti-Chinese narrative that depicts China as a new colonial presence on the African continent, taking over markets, resources, and land, and which the West should counter.

Finally, the “full Chineseness” label may also benefit African governments in their international dealings for financing in infrastructure. Leveraging Western anxieties about Chinese companies taking over African infrastructure markets might work to their advantage when negotiating deals with Western actors (Pairault, Soulé-Kohndou, and Zhou 2023; Pairault 2024). The availability of large amounts of Chinese financing has indeed enabled African governments to realise projects that Western institutions had previously refused to finance. Remarkably, such projects were rarely described as Chinese in our interviews with Ghanaian government officials, or in local press releases or inauguration speeches. In fact, while Chinese and other foreign actors are normally acknowledged and thanked as relevant partners in commissioning speeches for these projects, the infrastructure is typically presented by local officials as their own. This claim of ownership should be seen in the context of Ghana’s bipartisan party politics, where infrastructure development is a key source of political legitimisation for governments. To sum up, “full Chineseness” can be an analytic reality or just a perception. Adopted by different actors to refer to Chinese engagement in African infrastructure, the “full Chineseness” label for projects serves to push different agendas and say different, at times opposite, things about such engagement.

28. Embassy of the People’s Republic of China in the Republic of Ghana, “H. E. Ambassador Shiting Wang Attends the Ground Breaking Ceremony of AXIM Fishing Port,” 7 August 2019, http://gh.china-embassy.gov.cn/eng/sgxw/201908/t20190807_6146466.htm (accessed on 20 December 2022).

29. See, for instance, State Council Information Office of the PRC, “China and Africa in the New Era: A Partnership of Equals,” 26 November 2021, <https://bit.ly/3JA1Q8P> (accessed on 30 November 2021).

Conclusion

This paper proposed a detailed definition of Chineseness in relation to (Chinese) construction projects in Africa and the narrative of Chinese presence in African infrastructure development. This notion is still largely unexplored in the literature. We define the notion of Chineseness both as an analytical category to unpack the Chinese presence in a specific infrastructure project and as a perception, an implicit category adopted by different actors. This paper unpacked the structure of infrastructure projects into their different components, including financing, design, consultant, construction, construction standards, materials and equipment, local employment, and labour practices. Drawing on examples from our fieldwork and existing literature, we demonstrated that from an analytical perspective, Chinese companies are embedded in global assemblages, and as with all contemporary infrastructure projects, “Chinese” projects are actually populated by multiple international and local actors. This fact points to a discontinuity from the past, when in most Chinese projects on the African continent, financing, design, construction, supervision, and materials were of Chinese origin, and no partnership existed with other international actors. As we show, however, this is no longer the case except for Chinese grant-sponsored projects. Our analytical perspective was complemented with what we described as “perceived Chineseness,” as an implicit category that plays a key role in the narrative of the Chinese presence in Ghana’s infrastructure development and beyond. When considering the technical and analytical aspects of these projects, we noticed different degrees of

Chineseness in African infrastructure projects, what we described as “diluted Chineseness.” Our nationality and origin-based analysis of all the elements (financial, material, technical, procedural, and human resources) making up infrastructure projects contributes to reframing the Chinese presence in the African infrastructure sector as a presence among and together with others. While our analytical unpacking of these projects made the dilution of Chineseness apparent, depictions of the “full Chineseness” of many such projects persist, and are used by different actors to push different agendas, often expressing diametrically opposite views about the Chinese presence in African infrastructure development.

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