

China's and Japan's Connectivity toward East Africa's Defragmentation

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Abstract: This article does not underestimate the development impact of China's Belt and Road Initiative in terms of transportation infrastructures in Africa, nor ignores the potential development role of Japan's Free and Open Indo-Pacific (FOIP) Initiative here assessed. The problem is that although both countries initiatives facilitate Africa's defragmentation through greater connectivity via the development of infrastructures if their connectivity is not adequately addressed, disruptive development effects may arise for the countries involved. It is argued that development cooperation through mixed hard-to-soft infrastructures leads to greater defragmentation, hence contributing toward deeper regional integration. Theoretically, it draws on the concept of defragmentation and the new regionalism approach as it best highlights the relationship between globalization and regionalization connectivity approaches. Qualitative analysis is used to compare the gaps between hard and soft aspects of representative infrastructure projects of China and Japan in East Africa. Eventually, better connectivity should result in better trade relations between both sides. It finds that though Japan has a better hard-to-soft approach than China, the latter has better regional connectivity in East Africa than Japan. Finally, both donors showed a similar asymmetric aid and trade pattern with East Africa with a disadvantage to the African side.

Keywords: Africa, connectivity, China, defragmentation, infrastructures, Japan

Introduction

At the sixth Tokyo International Conference on African Development in Nairobi, Kenya, on August 27, 2016, Japanese Prime Minister Abe Shinzo initiated the Free and Open Indo-Pacific Strategy, renamed Free and Open Indo-Pacific Initiative (FOIP Initiative, hereafter, FOIP). The fulfillment of the FOIP rests on three pillars. (1st) "The promotion and establishment of the rule of law, freedom of navigation, and free trade, etc.," are essential to (2nd) "the pursuit of economic prosperity". However, without the (3rd) "commitment for peace and stability" of all nations across the Indian Ocean and the Pacific, securing connectivity between Asia and Africa will be hard to achieve, if not impossible (MOFA – Ministry of Foreign

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Affairs of Japan 2021).

From a development perspective, the FOIP second pillar emphasis on “high quality infrastructure” is especially important for the Japanese government aim of increasing Asia-Africa “physical connectivity” through the construction of (hard) infrastructure, such as ports, railways, and roads, thus facilitating “people-to-people connectivity” through human resources development, and (soft) “institutional connectivity”, aimed at achieving inclusive, sustainable, and resilient growth (i.e., “quality growth”) in Asia and Africa (MOFA 2021, 3; MOFA 2018b, 3–5). Infrastructure connectivity has become an important part of Japan’s development cooperation with Africa, but also of China that complementary to the Forum on China-Africa Cooperation (FOCAC) has launched the Belt and Road Initiative (BRI) in 2013, previously called One Belt One Road (OBOR). Initially, with the exception of East Africa region, Africa was not important to the BRI. Gradually, Africa has become a significant partner within the BRI international cooperation as in addition to the 46 Memorandum of Understanding (MoU) signed between China and African countries, a Cooperation Mechanism was established between China and the African Union (AU) in December 2021 to deepen their partnership on jointly building the BRI (Yuxi 2021).

Given Africa’s present trade asymmetry with China and Japan, the question here is to what extent China’s and Japan’s development cooperation projects within the framework of the BRI and Japan FOIP initiatives are contributing to East Africa’s defragmentation to accelerate regional infrastructure connectivity, eventually rebalancing East African trade with China and Japan.

To answer the above question, the authors compare Japan’s official development assistance (ODA) projects and China’s ODA-like projects under the BRI to East Africa, specifically Kenya, Rwanda, and Uganda, assess their financing for the aforementioned projects and conclude with a brief analysis on their trade relations.

East African region was selected due to its geographic proximity to Asia and its regional development priority as an economic corridor both to China and Japan connectivity initiatives. This study is not aimed at analysing the strategic aspects of the FOIP and BRI and their competitive nature; rather, it compares Japan’s and China’s aid projects, their practical aspects, and their contribution to regional integration of Africa through the concept of “defragmentation” that is connectivity through development of infrastructures. Based on this concept the overall trends of Japan’s and China’s aid projects towards infrastructure development in East Africa are analyzed. It also includes a qualitative analysis of two concrete projects - the Mombasa Port Development Project by Japan, and the Standard Gauge Railway (SGR) from Mombasa to Nairobi by China. It is argued that development cooperation through mixed hard-to-soft infrastructures leads to greater defragmentation, therefore contributing toward deeper regional integration and sustainable development in Africa.

The article is organized as follows. Following the introduction, section two explains what defragmentation means and emphasizes the importance of Japan and China’s connectivity policies to enhance regional integration through infrastructure development, thus mitigating the negative impact of economic globalization as a

result of greater defragmentation in Africa. The third section analyzes the trends and actual performances of Japan and China's aid for connectivity in East Africa. The fourth section draws lessons from Japan and China's projects. The final section concludes with a note on both countries' trade relations with East Africa.

1. Conceptual and theoretical background: Defragmentation and connectivity in Africa

Célestin Monga (2017), the vice president of the African Development Bank Group, noted that the key to Africa's development is not just economic growth but also sustained economic development via a structural transformation of the economy through the expansion and diversification of its exports. Given Africa's dependency on exportation of primary products, which account for 62 percent of Africa's total exports, agribusiness can be an engine of structural transformation and, at the same time, increase labor and agricultural productivity, create nonagricultural jobs in the manufacturing sector, and alleviate poverty (Boly and Kéré 2017; Ndikumana 2011). To facilitate Africa's regional integration into the global economy, the promotion of greater connectivity through the development of infrastructure between regions is essential. According to the Commission for Africa (2005, 233),

Infrastructure is a key component of the investment climate, reducing the costs of doing business and enabling people to access markets; is crucial to advances in agriculture; is a key enabler of trade and integration, important for offsetting the impact of geographical dislocation and sovereign fragmentation, and critical for enabling Africa to break into world markets.

In principle, both Japan's and China's initiatives share the idea of connectivity. In order to promote economic growth in Africa, the BRI vows to connect the continent into global markets through infrastructure development, the shift of labor-intensive industries from China to Africa, and higher trade capacity (Lin 2018). Similarly, Japan's FOIP aims to promote economic prosperity by enhancing connectivity with quality infrastructure development to materialize the "potential of Africa as a global main player" (MOFA 2017, 9). However, globalization in Africa has not been working as an inclusive form of integration, but rather as a force of capitalist expansion, careless of geopolitical borders, and neoliberal in character (Guttal 2010, 70–76). As a result, boosting Africa's intraregional trade is critical to its integration into the global economy through trade facilitation and network services infrastructure to produce and move goods swiftly across African regions (World Economic Forum 2012). In this context, the new regionalism approach highlights the close relationship between globalization and regionalization with an emphasis on the consequences of asymmetric power relations in its various forms (Grant and Söderbaum 2003, 7–8). This approach embodies the fragmentation of traditional regionalism as a formal integration process into an informal regionalization process that, according to Bach (2003), may translate into a process of integration, which may be formally state-led (Taylor 2003).

To highlight the importance of intraregional and interregional connectivity

in promoting Africa's sustainable development, the authors draw on the concept of defragmentation. Bach (2016, 115) cites the World Bank to describe defragmentation as the idea of "promotion of 'deeper' regional integration through the removal of a range of non-tariff and regulatory barriers [that] ... raise transaction costs and limit the movement of goods services, peoples and capital across borders." The concept considers that "coherent regional economic spaces should emerge along with global integration on a less asymmetrical basis" (Bach 2016, 115). From this viewpoint, the significance of the FOIP and the BRI is that both take into account the impact of the globalization process in Africa and redefine the purpose of regionalism as no longer an institutional, formal, and overly political process, but rather an informal process aimed at regional cooperation and economic revitalization of regions through the development of infrastructures (Acharya 2012, 8; Office of the Leading Group for Promoting the Belt and Road Initiative 2017, 1; MOFA 2017). However, while China emphasizes the BRI as a policy instrument to advance "economic globalization" (Liu and Dunford 2016), Japan's FOIP highlights how globalization has marginalized Africa in the world economy and aims to upgrade the connectivity capabilities of all countries involved at the national, regional, and sub-regional scale to promote stability and prosperity through development cooperation (MOFA 2017).

Based on the above it can be assumed that for defragmentation to occur in Africa, connectivity through the development of infrastructures is vital. Hence, the development of hard infrastructures, such as mega transport infrastructures, as well as soft infrastructures, such as energy, transport, water, sanitation, information, and communication technology, and trade logistics are also critical. Moreover, to take advantage of the great potential of both (hard-to-soft) infrastructure towards economic growth and inclusive development, all stakeholders should focus on these two components (Bach 2016, 115; Ndikumana 2011, 212).

Deng (2013, 687) found that transport infrastructure in some cases had a positive impact on productivity and economic growth, but in other cases, the opposite was found, with the roads not always leading to prosperity. Hence, Bakker et al. (2014), with regard to connectivity, suggested that transport and infrastructure development should take a sustainable development-oriented approach rather than a growth-based approach. To this end, Brenton and Isik (2012) suggested upgrading hard infrastructure with improvements of soft infrastructure, including high-quality transport and logistics services, to improve connectivity.

In the case of the BRI, this connectivity is manifestly centered on transport "hard" infrastructures, such as railways, roads, shipping, aviation, pipelines, and integrated space information networks, to expand economic, trade, and financial cooperation (Office of the Leading Group for Promoting the Belt and Road Initiative 2019). China's "hard" infrastructure approach translates in faster extra-regional trade rather than that of intra-regional trade (Gomera and Khanapurkar 2019). In the case of Japan's FOIP, connectivity has implications and applications beyond transport (hard) infrastructures, as connectivity covers several domains, including soft infrastructures. Japan's connectivity focuses on three dimensions, as follows: economic diversification and industrialization; resilient health systems; and promotion of social stability toward sharing prosperity (MOFA 2017, 12). In contrast to the BRI, the FOIP indicates a better configuration of the new regionalism approach

in Southern and East Africa as Japan's hard infrastructures are coordinated with improvements in soft infrastructures (Rogerson 2001; Brenton and Isik 2012).

In sum, defragmentation contributes to Africa's sustainable development through regional connectivity. However, to attain this goal, both hard-to-soft infrastructures are essential. It is generally accepted that Japan's policy for promoting prosperity and stability in Africa (and Asia) appears to be consistent with the idea of defragmentation in terms of supporting infrastructure development. In this light, the following section analyzes Japan's and China's development projects in East Africa, to understand to what extent their policy connectivity contributes to Africa's defragmentation.

2. Japanese and Chinese Aid for Connectivity in East Africa

(1) Overview

From the perspective of connectivity and sustainable development in East Africa, this section reviews Japan's aid to Kenya, Rwanda, and Uganda and compares it with that of China. Based on the OECD Creditor Reporting System (OECD 2019) for Japanese ODA and on Dreher et al. (2017) for Chinese ODA-related and other official flows-like projects, aid data was analyzed from 2000 to 2014.

According to Dreher et al. (2017), from 2000 to 2014, China committed to 76, 68, and 81 ODA-like projects in Kenya, Rwanda, and Uganda, respectively. During this same period, China also provided US\$1,460.8 million, US\$657.5 million, and US\$1,006.9 million to Kenya, Rwanda, and Uganda, respectively.

As for Japanese ODA, in the same period, Kenya, Rwanda, and Uganda were provided with US\$2,121.7 million, US\$235.8 million, and US\$689.4 million respectively. Among the three East African countries, Kenya was the top recipient of aid from both Japan and China. Historically, Kenya has been one of the largest recipients of Japanese ODA, and a key player in the TICAD process (Raposo and Potter, 2010). In the same vein, China's historical diplomatic relations with Kenya evolved to a new stage of South-South Development Cooperation through FOCAC and BRI infrastructure projects, such as the Standard Gauge Railway (SGR) railway project, Mombasa port extension, and Lamu power plant, not without problems as this late project was cancelled by Kenya's National Environment Court as Chinese firms lacked environmental studies of the plant's impact on Lamu, a UNESCO heritage site (Wagner 2020, 104).

As Table 1 shows, from 2000 to 2014, both China and Japan share a similar pattern for sectoral aid allocation to Kenya, Rwanda, and Uganda. First, they both provided more aid to economic infrastructures, in particular, transport and the storage and energy sectors, than to social infrastructure and services. Second, their aid projects for transport and the storage sector, which directly aim to enhance connectivity between East Africa and the world economy as well as intraregional connectivity, tend to concentrate on Kenya rather than landlocked Rwanda and Uganda. Third, although they have different terms and conditions for concessional loans, Chinese loans have raised concerns of debt sustainability while Japan is

extremely cautious in extending new loans to prevent debt distress as the case of Ghana has shown where Japan halted the provision of loans (OECD 2020).

Table 1. China's and Japan's sectoral aid allocation to Kenya, Rwanda, and Uganda (2000-2014, percentage*)

Sector	Kenya		Rwanda		Uganda	
	China	Japan	China	Japan	China	Japan
100: I. Social Infrastructure & Services	23.20	20.06	5.78	35.56	22.53	26.22
110: I.1. Education	7.12	4.72	2.42	10.05	0.38	5.25
120: I.2. Health	9.00	4.92	0.71	0.41	5.29	11.81
130: I.3. Population Policies/Programmes & Reproductive Health	0.04	0.91	0.00	0.00	0.00	0.33
140: I.4. Water Supply & Sanitation	0.00	6.05	0.00	12.95	1.14	3.35
150: I.5. Government & Civil Society	6.94	2.72	2.63	7.80	14.98	4.09
160: I.6. Other Social Infrastructure & Services	0.09	0.75	0.01	4.35	0.74	1.38
200: II. Economic Infrastructure & Services	61.90	51.79	50.93	25.44	58.44	42.83
210: II.1. Transport & Storage	44.27	26.09	50.93	11.52	10.26	21.87
220: II.2. Communications	1.64	0.21	0.00	1.21	0.18	1.61
230: II.3. Energy	15.99	24.75	0.00	12.38	48.00	19.13
240: II.4. Banking & Financial Services	0.00	0.70	0.00	0.08	0.00	0.20
250: II.5. Business & Other Services	0.00	0.04	0.00	0.25	0.00	0.02
300: III. Production Sectors	0.42	11.45	3.59	16.14	5.06	8.14
310: III.1. Agriculture, Forestry, Fishing	0.21	10.60	1.23	15.34	5.06	7.24
320: III.2. Industry, Mining, Construction	0.21	0.62	0.00	0.56	0.00	0.79
331: III.3.a. Trade and Tourism	0.00	0.23	2.35	0.24	0.00	0.11
Others (1)	14.47	16.69	39.71	22.85	13.95	22.81

Note: 1) Others include multi-sector / cross-cutting, commodity aid / general programme assistance, action relating to debt, humanitarian aid, and unallocated / unspecified assistance.

* Percentage of total ODA commitments and Other Official Flows (OOF)

Source: Compiled by the authors based on Dreher et al. (2017) and OECD (2019)

China's flexible terms on loans might provide Kenya with quicker chances to economic growth via the construction of economic infrastructures. However, in October 2018, the IMF elevated the country risk of debt stress to moderate while landlocked Rwanda and Uganda are at low risk of debt distress (AEO – Africa Economic Outlook 2019). According to the Kenya Annual Debt Report, as of June

2018, Japan and China detained 4 percent and 22 percent, respectively, of Kenya's debt (Rotich 2018). Rwanda owes China only US\$289 million, in contrast with Uganda, which owes China US\$2.96 billion, and Tanzania US\$2.34 billion in loans. On the one hand, East Africa's debt exposure to China is increasing (Cyiza 2019), but on the other hand, Japan's slowness to implement its projects compared to China is a problem. Although Japan's aid projects are as much concessional as China's, the term conditions for its loans are more generous than China's, as will be discussed in the next section. This does not mean that both countries have overlooked the importance of grant aid to social development sectors in Kenya, Rwanda, and Uganda. The reason for the low amount of aid for the social sector is that the scale of grant aid in this sector is smaller than the economic sector, which is financed mostly with loans for the reasons stated above. Furthermore, it is widely known that both China's and Japan's development cooperation have always emphasized the central role of infrastructures for development, which demonstrate the root causes of connectivity in their development approaches, without neglecting the social sectors, as Raposo and Potter (2010) and Carvalho (2015) have shown.

Proportionally, both Japan and China have implemented almost as many projects for the social sectors as for the economic sectors in Kenya, Rwanda, and Uganda; education, health, government and civil society, and agriculture have been the priority social sectors in Japan's and China's aid to the three countries. However, Japan has more aid projects to water supply, sanitation, and agriculture, forestry, and fishing than China.

(2) Aid for Hard and Soft Infrastructures

This section focuses on Japan's and China's aid projects for connectivity in East Africa, including both hard and soft infrastructures. It should be noted that we used different sources to collect data regarding Chinese and Japanese projects and the data together range from 2000 to 2018 in slightly different periods. According to Dreher et al. (2017), from 2000 to 2014, China implemented 18 infrastructure projects in Kenya, Rwanda, and Uganda. In the case of Japanese ODA, the project data was collected from 2008 to 2016 from *Seifu Kaihatsu Enjo (ODA) Hakusyo Nihon no Kokusai Kyōryoku* (Japan's ODA White Paper, selected years) while the data from 2017 to 2018 was from the Ministry of Foreign Affairs of Japan (n.d.). According to these sources, Japan implemented 16 projects to construct hard infrastructures in the three African countries from 2007 to 2018.

Despite the limitations in the dataset, some similarities and differences can be observed in both China's and Japan's aid projects for hard infrastructure in the Northern Corridor, as follows. First, China tends to concentrate its projects on Kenya, while Japan's aid is more evenly distributed between Kenya, Rwanda, and Uganda. China emphasizes hard-infrastructure projects, such as the construction of roads and railways, whereas Japan features various hard-infrastructure projects, such as roads, bridges, ports, geothermal power pools, and sustainable smallholder irrigation. Second, Japanese projects, mostly roads, have concentrated on the capital city of each East African country (i.e., Nairobi, Kampala, and Kigali). Although these cities are an important gateway to the Northern Corridor, not only is the Japanese

contribution limited to these areas, but its aid scale is also smaller than the Chinese projects, which include roads and railways connecting major cities and borders. The Mombasa Port Development Projects and the SGR project between Mombasa and Nairobi are representative projects of regional connectivity in East Africa by Japan and China, respectively as the next section will show.

In addition to hard infrastructures, Japan has promoted connectivity in East Africa's Northern Corridor through soft infrastructure; it covers institutions in areas like tax policy, one-stop border post (OSBP), and customs administrations, necessary for successful regional integration, vital to reduce the trade transport costs (AEO 2019). At the project level, in fact, Japanese cooperation for enhancing connectivity in the Northern Corridor of East Africa can be divided into three categories: first, projects for constructing hard economic infrastructure; second, projects for developing institutions through soft infrastructure that includes capacity building and the development of institutional aspects; and third, projects for formulating a master plan for each economic corridor in Africa. In April 2017, the Northern Corridor Master Plan was completed with the support of the Japan International Cooperation Agency (JICA).

In contrast, China, in 2007, implemented technical cooperation with Kenya for port partnership between the Kenya Ports Authority (hereafter, KPA) and China's Tianjin Port. According to Dreher et al. (2017), the partnership aims "to improve trade, traffic, and services between the respective ports" by implementing "programs in port studies, staff training, and exchange of information." However, China's support for strengthening connectivity has concentrated on the construction of hard infrastructure, and few projects, except those discussed above, have focused on soft infrastructure for connectivity.

2. Japanese and Chinese Connectivity Projects in East Africa

Since the early 1960s that Kenya has been given privileged country status from the perspective of Japan's national interests. Its geostrategic location in East Africa along the Indian Ocean makes Kenya a priority country to Japan today as a promoter of FOIP as during the Cold War due to its capitalist orientation (Raposo 2014). Throughout time, Japan's interest in Kenya has not diminished as TICAD VI (2016) held in Nairobi has shown. The importance of Kenya Mombasa/Northern Corridor, the Nacala Corridor in Mozambique, and the Growth Area in West Africa is well emphasized at TICAD VI, as Japanese Prime Minister Abe (MOFA 2016) of the US\$30 billion allocated to Africa, US\$10 billion were pledged to catalyze private sector investment and strengthening connectivity within the quality infrastructure approach in this region.

Japan's assistance for the Northern corridor, in particular to the Mombasa port as a gateway to the Eastern Africa region intensified in 2007. Kenya's serious violations of Japan's ODA Charter during the 1990s, mixed with political and corruption scandals in the early 2000s, explain Kenya's difficulties in repaying its loan aid debts to Japan (Raposo 2014; Nyong'o 2009).

(1) Japanese Case: Mombasa Port Development Project

Under the request of the Government of Kenya, on November 20, 2007, Japan agreed to provide up to 26.711 billion yen (about US\$0.24 billion) to implement the Mombasa Port Development Project (JICA 2007). The objective of this project was to respond to a higher demand of container cargo volume to improve the efficiency of port management, thereby promoting trade and socioeconomic development in Kenya and the East African region (JICA 2007; MOFA 2018a, 23). The project included the construction of the second container terminal on the western side of the Port of Mombasa and the procurement cargo handling machinery (so-called cranes) (JICA 2007).

This project was funded through a Japanese ODA loan with a 0.20 percent interest rate (consulting services: 0.01 percent) and a 40-year repayment period, including a 10-year grace period (MOFA 2007). Furthermore, this project was the first under the Special Terms for Economic Partnership (STEP) project for Africa. The STEP project is tied aid and “was introduced in July 2002, with a view to raising the visibility of Japanese ODA among citizens in both recipient countries and Japan through best use of advanced technologies and know-how of Japanese firms” (JICA 2018). In implementing this project, Toyo Construction, a major contractor of this project, used the Prefabricated Vertical Drain method and heavy-duty anticorrosion treatment (House of Councilors 2013, 53). The Kenyan government considered untied aid more desirable, but given that this was a STEP project implemented with Japanese high technology, it accepted (Mitsubishi UFJ Research and Consulting 2014, 95). Furthermore, in March 2018, Toyo Construction became a major contractor of phase 2 of the Mombasa Port Development Project, which included the construction of Berths No. 22 and No. 23. The phase 2 project was also a STEP project. Toyota Tsusho (2017) and Mitsui Engineering & Shipbuilding (2017) won a bid for the procurement of two types of cranes (ship-to-shore gantry and rubber-tire gantry) both in the first and second phases of the project.

The development of the Port of Mombasa, also vital to the BRI, will improve regional connectivity and facilitate economic growth between the countries in the Northern Corridor, and its integration into the global economy. The port is the gateway from East and Central Africa (Uganda, Rwanda, Burundi, Eastern Democratic Republic of Congo, Northern Tanzania, Southern Sudan, Somalia, and Ethiopia), which are connected to over 80 ports worldwide (KPA n.d.). The Northern Corridor Transit and Transport Agreement, which was signed on October 6, 2007, stated in Article 12 that “the Government of the Republic of Kenya undertakes to provide or shall make provision for third parties to provide maritime port facilities to the contracting parties at Mombasa” and “shall, in addition, ensure that the port of Mombasa ... remains a competitive maritime port facility” (Northern Corridor Transit and Transport Coordination Authority 2007, 15).

Moreover, infrastructure development, including transportation, is one of the pillars of Kenya's Vision 2030 for long-term development. In his Jubilee Coalition Manifesto 2013, President Uhuru Kenyatta set several targets and key projects, including the construction of the SGR from Mombasa to Malaba on the Ugandan border, the increase of the share of rail in freight transport activities from 5 percent to 50 percent, and the modernization and upgrading of the Port of Mombasa

(Oxford Business Group 2014). According to Kenyatta, “the SGR will make the port of Mombasa more efficient and will enhance the performance of the facility” (Government of Kenya 2017). Because the Port of Mombasa is the only international maritime port in Kenya, its development and connection with the SGR is fundamental, given that the railways are limited and deteriorated (JICA 2015). Thus, Japan’s Port of Mombasa development project and China’s funding for the SGR rail are complementary and consistent with Kenya’s development policy.

The second terminal constructed by this project can handle container cargoes of 0.55 million TEUs, “making it the largest container port between Durban in South Africa and Port Said in Egypt” (Global Construction Review Staff 2017). Moreover, the completion of the second terminal allowed a 12 percent growth of Mombasa’s cargo traffic from January to June 2017 (Global Construction Review Staff 2017). Another positive impact was its contribution to local employment, with 4,000 workers hired during the construction phase (JICA 2017, 16). Toyo Construction employed 90 local people (including engineers), and some were hired from third countries (House of Councilors 2013, 54). However, the lack of Kenyan engineers meant that both JICA and Toyo Co. had to rely on foreign engineers, some from the Philippines for the harbor and ship construction (Yoshida 2013, 15).

The project was signed in November 2007, but the construction only started in March 2012. A Ministry Country Assistance Evaluation of Kenya in 2014, acknowledged and criticized the time lag problem of Japanese project through an evaluation, selection, and procedure of the Plan-Do-Check-Action cycle; Japanese projects are implemented upon request of the partner country and the completion of a preliminary survey, which applies the Five Development Assistance Committee (DAC) Criteria for Evaluating Development Assistance as laid out by the OECD-DAC and internationally accepted as an ODA evaluation methodology (JICA 2016). To be more competitive both in terms of private sector partnership for quality infrastructure, but also against Chinese bids, known for its fast pace on project management, Japan is trying to shorten the time lag between the feasibility study and construction to 1.5 years instead of the usual five years (OECD 2020).

(1) China’s Engagement with Kenya: The Standard Gauge Railway (SGR) from Mombasa to Nairobi

Similar to Japan, China established diplomatic relations with Kenya at the time of its independence in 1963. Although Chinese economic activities with Nairobi date back to the Tang dynasty between 618 and 907 AD, China’s interest in Kenya developed greatly with the FOCAC process after 2000, even more with the BRI as the Mombasa-Nairobi SGR is the largest infrastructure since Kenya’s independence, included in the country’s Development Vision 2030 (Abegunrin and Manyeruke 2020). The SGR project fits the BRI narrative of “mutual benefits” within the concept of win-win cooperation as not only connects Kenya to inland Uganda, Rwanda, and Burundi but also serves the BRI regional integration interests.

Given the mutual regional interests amongst the above three governments in June 2013, under the Uganda initiative, the First Infrastructure Summit of the Presidents of Kenya, Rwanda, and Uganda was held to create the mechanisms to

develop the SGR (Mustapha and Greenhill 2017, 12). As a result, the presidents signed a Tripartite Agreement for the development and operation of the SGR in August 2013 that was extended to the Republic of South Sudan in May 2014 (*ibidem*). The SGR was one of the key projects in the Northern Corridor Integration Projects (NCIP), which is a “multilateral development initiative established in 2013, aimed at spreading up development in the region, particularly through the improvement of infrastructure to connect the movement of people, goods, and services in the region” (Government of Kenya 2018).

The project was divided into two phases. Phase I connected 609 km through railway lines from Mombasa to Nairobi in 2014, and phase II is expected to connect Nairobi with Malaba in Uganda (Dreher et al. 2017; Tukic 2018, 59). The project was awarded to the China Road and Bridge Corporation (CRBC), a subsidiary of China Communications Construction Company (CCCC), and used Chinese track-laying technology instead of the British design standards that Kenyan engineers wished for (Kacungira 2017; Tukic 2018; Wu et al. 2019). Although questions about the CRBC's ability to complete the work arose because it was blacklisted by the World Bank in 2009 due to the failure of a project in the Philippines (Oxford Business Group 2014, 126), the project was completed in 2017 and SGR freight services started in January 2018. It seems that China's advantage to financing the SGR over traditional donor financing results from the lesser importance given by Chinese contractors to environmental issues, meant that if environmental DAC rules were to be safeguarded the project would have not been completed on time (Mustapha and Greenhill 2017).

Since the launch of the SGR freight trains, the volume of containers delivered by rail from the Port of Mombasa increased and the containers delivered by road have gradually declined (Kenya Ports Authority 2018a, 2018b). Moreover, the SGR not only is five hours faster than highway transport, but transportation costs fell from US\$12-17 to US\$7 (Kabecha 2018; Winston 2021).

The construction of the SGR created more than 30,000 (including indirect) jobs for both laborers and permanent employees (Kenya Association of Manufacturers 2017; Wambu 2018). The freight train of the SGR is run by Chinese locomotive drivers and Kenyan assistant drivers. As of July 2018, the SGR had employed more than 2,000 staff members and provided daily training for local employees (Kabecha 2018). The SGR was operated by a Chinese company for the first five years. Meanwhile, the company plans to train Kenyans to operate the SGR by themselves (Kenya Association of Manufacturers 2017). According to Kenyan Transport Cabinet Secretary James Macharia, 858 Kenyan students trained under the partnership with China started working for operations and maintenance of Madaraka Express, the SGR passenger service, in December 2017 (Wambu 2018).

Despite the SGR's short-and long-term economic benefits, as noted above, its high cost brings up the problem of economic viability of many BRI projects (Kacungira 2017; BBC - British Broadcasting Corporation 2017; Mustapha and Greenhill 2017). The total cost of the SGR project between Mombasa and Nairobi amounted to US\$3.8 billion dollars. China Exim Bank funded US\$3.2 billion, 90 percent of the total cost, with the remaining 10 percent provided by the Government of Kenya. Of US\$3.233 billion, US\$1.6 billion was funded through a concessional

loan with a 2 percent interest rate, 13 years for repayment, and a seven-year grace period. The remaining US\$1.633 billion was a commercial loan with 10 years for repayment and a five-year grace period (Dreher et al. 2017). In a short period of time, Kenya debt to China rose to about 6 percent of GDP (Kacungira 2017).

The cost of the SGR project between Mombasa to Nairobi was expensive compared to a similar project—Ethiopia’s 756 km Addis Ababa-Djibouti line (US\$3.4 billion) launched in 2016. In 2013, the World Bank stated that the SGR needs a significant increase in the volume of rail freight to justify the investment in the SGR (Kacungira 2017). Although the construction of the SGR created thousands of jobs, this was short term, and local suppliers were excluded. With the exception of cement and some steel purchased from local manufacturers, the CRBC imported all materials from China (Sanghi and Johnson 2016). Hence, from the perspective of the African private sector, the BRI did not offer any mutual advantages as they were excluded from the project outsourcing between Chinese and Kenyan governments.

The economic sustainability of the SGR depends in part on its financial feasibility in terms of attracting more tonnage of freight carried by SGR from inland countries to the Port of Mombasa and vice-versa. Given the lack of revenue to repay Chinese loans, China Exim Bank decided not to extend the loan to complete the SGR (Hairsine 2019; Mustapha and Greenhill 2017), forcing the Kenyan government to find other options to connect Kenya to the Uganda border to complete the regional connectivity (Kiruga 2019). Last but not least, according to a Kenya Parliamentary Budget Office Report for the 2021/22 financial year, the “cost of running the SGR far outweighs the revenues generated in its fourth year of operation”, and not even the increase of cargo volume in 2019 and movement of passengers compensate for financial losses, which means that the project is not economically feasible (Mwere 2021).

Conclusion

Through its regional initiatives, China and Japan emphasize the importance of connectivity in promoting prosperity and stability in Africa and Asia as well. This article compared how China and Japan have embodied this idea with focus on East Africa defragmentation aimed at deeper regional integration. Overall, both countries share a similar pattern in connectivity, which is complementary in the selected case-studies and focused on economic infrastructures. Yet, development aid to social infrastructures and services from both countries is not forgotten. Japan’s connectivity approach has a better hard-to-soft infrastructure path toward defragmentation than China’s. Although Japan cannot match China’s financial power, flexible lending, and speedy project implementation, it has more generous concessional terms, economic viability, and financial sustainability than China. However, Japan’s connectivity approach does not seem to represent an advantage over China’s one as the Kenyan government wanted the extension of Chinese loans, meanwhile refused by China Exim Bank given the difficulties of Kenyan government to make the payments. Specifically, three major findings are advanced. First, Japan has concentrated its aid projects on the construction of transport hard infrastructure in East Africa, particularly in Kenya. Such projects have aimed to increase Africa’s connectivity

with other regions, and one example of this is the Mombasa Port Development Project. Second, Japan implemented the project with its own technology or alternative techniques, and in accordance with the development strategy of Kenya (Vision 2030), for improving the effectiveness of the project. Third, Japan allocated well-balanced aid to the landlocked countries Rwanda and Uganda, and this aid was accompanied by support for institution building to boost intraregional trade and integration. These are exactly the pillars that comprise “quality infrastructure.” The comparison with China’s case highlighted these distinctive features, which supports the argument of the importance of global and regional integration through hard and soft infrastructures for connectivity, namely, defragmentation, as the significant element in supporting connectivity and sustainable development in Africa.

Hence, Japan’s cooperation for connectivity faces some challenges, and it provides implications for boosting defragmentation and sustainable development in Africa. First, compared to China’s projects, Japanese projects tend to be smaller and slower to be implemented, which is due to Japan’s smaller financial resources (when compared to China’s) and the more rigorous criteria of the DAC respectively. As a result, Japan’s impact on Africa’s regional connectivity and development may be weaker. For example, the economic impact of China’s SGR in the Kenyan economy through the creation of jobs is far greater than Japan’s. Second, Japan’s aid projects for the construction of hard infrastructure is still provided through loan aid. As Japanese loans terms are much more generous than Chinese loans, the level of debt distress to the partner countries is also lower. However, many partner countries with Japanese loan aid—for example, Kenya—overlap those of the Chinese. If a Chinese loan worsens the vulnerability of the partner country’s debt-level condition, this may influence the repayment to Japan by that partner country.

In sum, we should also note that the enhancement of trade is essential for Africa’s regional connectivity with itself and the world. Based on the authors’ research¹ both countries show a similar trade pattern with the three East African countries though with two differences (see Appendix 1-2). First, while both countries import mineral resources from East Africa, proportionally Japan imports more agriculture products (and fewer minerals) than China. Second, it seems that China’s trade asymmetry increased with the BRI as its exports far exceed imports limited to minerals (most of it) and agriculture. This suggests that the BRI is emphasizing the trade “corridor” with an advantage for China. Hence, our findings suggest that China does not seem to have serious intentions to integrate Africa in Global Value Chains. The same conclusion can be attributed to Japan whose total trade not only is much less than China’s but is also unbalanced to the East African side. Therefore, both countries need to show stronger emphasis towards production (mostly agribusiness) and manufacturing sectors away from their dependency on extractive industries.

Finally, although the value of East Africa exports has increased to both countries, the few imports of China and Japan are not sufficient to offset the structural loss that both Asian countries manufacturing exports are causing to East Africa. Ultimately, the marginalization of Africa (and East Africa) from the

¹ Based on data from Center for International Development at Harvard University (n.d.)

globalization process as a result of the stronger integration of markets reflects both the lack of adequate infrastructure and manufacturing industrial base and the inability to diversify exportations, provide food security, and reduce poverty. As the second challenge for enhancing connectivity in Africa, therefore, more development cooperation for the structural transformation in Africa and its diversification of trade is needed, and this could be the subject of future research.

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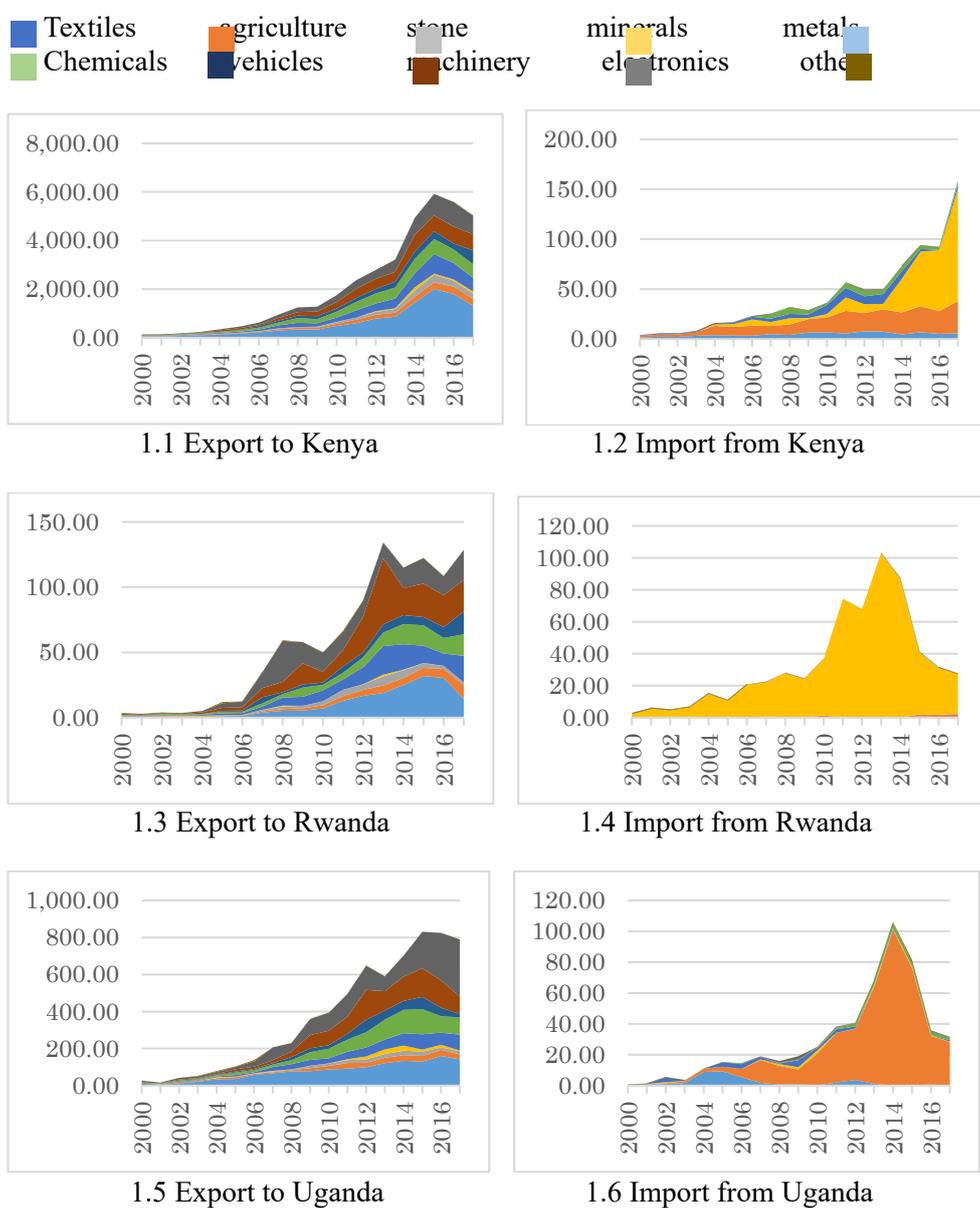
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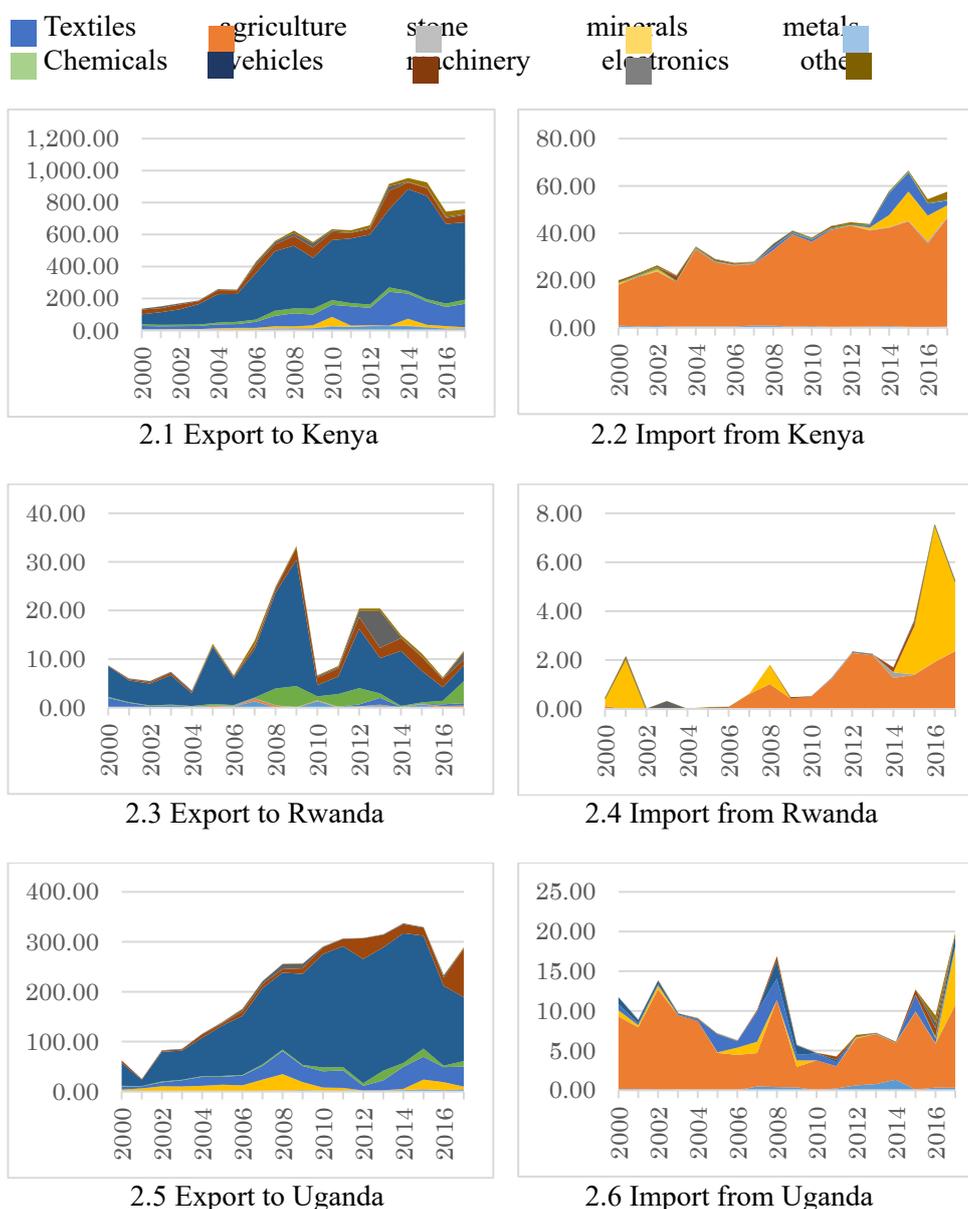
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Appendix 1. China's trade with Kenya, Rwanda, and Uganda by products (USD million)



Source: Data was collected from Center for International Development at Harvard University's "Atlas of Economic Complexity" <http://atlas.cid.harvard.edu/explore> (Accessed 22 April, 2022).

Appendix 2. Japan's trade with Kenya, Rwanda, and Uganda by products (USD million)



Source: Data was collected from Center for International Development at Harvard University's "Atlas of Economic Complexity" <http://atlas.cid.harvard.edu/explore> (Accessed 22 April, 2022).