COMPARATIVE ANALYSIS OF INDONESIA-CHINA HIGH-SPEED TRAIN AND KTX KOREA-FRANCE: A SUSTAINABLE DEVELOPMENT FOR LOCALS OR RECONFIGURING OTHER INTERESTS

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Abstract

This study undermines a recent development of joint-cooperation between Indonesia and China regarding the high-speed railway and its supporting constructions. New dedicated railway, train technology, and Transit-Oriented Development (TOD) are part of the initial project planned concurrently along the projected area. All of these new railways and TODs are new and distant from already built residences and business centers. This study breaks down how the Indonesia-China High-Speed Train project was initiated and explained the vital factors. Reflecting on how Korea and France dealt with KTX (Korean Train Express) project, the TODs, railways, and train technology compare to the Indonesia-China High-Speed Train project, the Indonesia-China project appears not sustainable and driven by another political and economic will.

Keywords: China; High-Speed Train; Indonesia; Korea; France; Cooperation.

I. INTRODUCTION

Jakarta-Bandung High-Speed Railway (JBHSR) is one of Indonesian President Joko "Jokowi" Widodo's aspiring framework improvement plans. This venture, which is supported primarily by an advance from China, will cut travel time between the two most significant urban communities in Java (Jakarta and Bandung) from around three to five hours by car or by customary railroads to only 40 minutes. On October 6, 2015, Jokowi issued Presidential Regulation (Peraturan Presiden [Perpres]) No.107/2015 on the acceleration of framework and offices and assigned the Indonesia-China High-Speed Rail Consortium (PT Kereta Cepat Indonesia China [PT KCIC])—a cooperation between the Pilar Sinergi BUMN Indonesia Consortium (PBSI) and the China Railroad Worldwide Co.Ltd. (CRI) to implement the project [1].

PBSI itself is a combination of four Indonesian state-owned enterprises (SOEs), namely PT Wijaya Karya (WIKA), PT Kereta Api Indonesia (KAI), PT Perkebunan Nusantara VIII (PTPN VIII), and PT Jasa Marga [2]. Sutianto [3] stated that at the start of the agreement, the CRI had a 40-percent stake, whereas PBSI had a 60-percent stake. In PBSI, WIKA had a 38-percent stake, KAI and PTPN VIII each had a 25-percent stake, and Jasa Marga had a 12-percent stake.

Additionally, Jokowi signed Perpres No. 3/2016 [4] on January 8, 2016, which included the JBHSR venture to accelerate 12 vital national projects. He also went to the ground-breaking ceremony of the JBHSR project in Walini, West Java, on January 21, 2016. This move astounded the public, as most of the essential licenses, such as the development permit and concession license, had not been obtained when the ceremony was held.

Although Jokowi had marked two Presidential Regulations to accelerate the JBHSR venture's processing, high-speed railroads' development remains hampered due to the long land-clearance issue. The JBHSR development was planned from 2016 to 2018. Simultaneously, the operation arrangements were scheduled to in 2019 with roughly 50 years of the concession period. However, in March 2019, or more than three years after the groundbreaking ceremony, only 94% (134 kilometers of a total of 143 kilometers) of land had been acquired.

The sluggish land-clearance was not without a consequence, mainly when it came to the credit payment from the China Development Bank (CDB). CDB initially agreed to sign the advance assertion after 100 percent of the land has been legitimately acquired. Nonetheless, CDB compromised to proceed although the land had not been wholly cleared after Jokowi changed the Government Regulation (Peraturan Pemerintah [PP]) No. 26/2008 [5] to incorporate the JBHSR project within the National Spatial Arrangement (Rencana Tata Ruang Wilayah [RTRW]). After Jokowi's attendance at the Belt and Road Initiative (BRI) Summit in Beijing, CDB disbursed US$500 million in May 2018 as the first stage of credit, followed by US$274.8 million in September 2018.

According to KS PusLit BKD [6], The slow progress of the JBHSR was also in-separable from the controversy over the issuance of the environmental permits and the outcomes of the Environmental Impact Assessment (Analisis Dampak Linkungan [AMDAL]) in 2016. Furthermore, the JBHSR venture had abused various Indonesian environmental, spatial, transportation, and business laws in its development, like production and protected forest that had been misuse into included in the development of railways and stations.

Thus, similar developments by Korea and France in KTX cooperation invited curiosity to conduct this

study. KTX TODs were developed by joint-cooperation between the Korean government and France's company, Alstom. In their masterplan, Korean and French cooperation renews and revamping old stations to oblige KTX train rather than make a few new stations or committed railroads that are difficult to completely incorporate with the previously existing frameworks or offices example, free transportation or business focus. Thus, JBHSR developments choose to build another way. JBHSR cooperation decided to make entirely new rails, new stations, and far from a population center, like Tegalluar, in outskirt Bandung regency, West Java.

Considering the number of laws violated in the development process of the JBHSR venture but then continuing and building new stations that far from the population and transportations center, how does this project sustainably benefit local people who live surrounding the transit-oriented developments (TODs) and the train tracks? This study argues that the development of the JBHSR and the TODs will not bring significant sustainable benefits, politically and economically, for the locals and the benefited partners due to the lack of feasibility study and the number of laws violated yet still proceed. Therefore, this study aims to compare the sustainability benefit of two similar projects involving foreign partners, yet the differences mainly about the sustainability benefits of the projects are highlighted.

II. LITERATURE REVIEW

Furthermore, previous studies such as Jin Kim's [7] work showed that the "value premiums from better accessibility to station seem to exist, but they decay with in-creasing distance from the center and correlate with the development densities around station areas." It means that better access to a TOD with a tremendous amount of density provides a better outcome in terms of profit and investment that make property value higher.

Moreover, Jaimu Won [8] said that functional, economic, and multi-criteria evaluations could inform sets of various transportation systems and urban settlements, especially in Korea. Cadena et al. [9] said, "today, the rise of emerging-market cities is significant because these urban centers are proving to be the world's economic dynamos, attracting workers and productive business." It means that emerging market cities, if being developed and given the correct management could be a motor of growth and locomotive of change, and thus promoting the cities to be more advanced. Jasjit Singh [10] also said, "Geographic localization of knowledge spillovers is a central tenet in multiple streams of research." Therefore, the location and localization are essential for planning a development that encourages sustainability and spillover from the development process's technology.

Furthermore, an integrated urban transport, a combination of long-range train and LRT, is an encouraging business model yet not further researched in the feasibility studies of TODs. Lavery and Kanaroglou [11] said that "LRT as a means for encouraging real estate development in the vicinity transit stops. Due to its real and perceived advantages over buses, LRT is also seen by public transportation providers as an opportunity to increase public transportation's modal share. Integrated Urban Model (IUM) which characterizes the relationship between land use, transportation, and activities in order project what impacts the LRT line will have".

Then, Yang and Pojani [12], Falconer and Richardson [13], Renne [14], Huang and Shuai [15] deliberately explore what kind of needs for a city to be a transit-oriented city in Australia, the US, and China. A transit-oriented city involves in-tense, mixed development around transit nodes. Similar to Yang and Pojani [12] said that "The level of concentration of population, dwellings, and jobs in rail-based TOD nodes—as opposed to areas that are unserved by the train network." Meanwhile, Chang and Chang [16], in their research, conduct an elaborate discovery for deciding market-share for a high-speed train, "variable time value, for estimating the market share of high - speed rail (HSR) in the northwest-southeast (NW – SE) corridor of Korea currently served by air, conventional rail and highway modes." Then, Robertson [17] research "utilizing a 'bottom-up' approach, the projected effect on CO2 emissions of a modal shift from short haul air travel to high-speed rail (HSR), based on projected passenger movements".

To sum up, collected previous research indicated no research about comparing two similar projects in one coherent framework about complementarity, relation, and spatial connection. Therefore, this study trying to fill the gap in that particular field. Hence, comparison analysis between two projects becomes imminent for this study. The new way of comparing could be a new filling for conducted in this kind of study further.

III. METHODS

This paper will be conducted through comparison analysis by qualitative desk study with secondary data sourced from official documents or statements, news, and other studies resources. Therefore, with comparison analysis, this paper will compare Indonesia China High-Speed Train Project with KTX Project in terms of how the project benefits local people who live surrounding the transit-oriented developments (TODs) and the train tracks. Furthermore, are these benefits sustainable and visible to the project? Thus, in comparing the cases, this paper will use Sung-Hoon Lim variables as a framework concept that will be discussed in later parts of this paper.

In order to analyze the comparison, this article will use the paradigm that Sung-Hoon Lim has used in his paper titled "How Beneficial Would the Construction of a Ra-son-Hunchun Sub-Regional Economic Cooperation Zone in the Northeast Asian Border-lands Be?" as a base paradigm for comparing how a development area could be prosperous. Sung-Hoon Lim [18] ex-

plained three primary conditions for development: economic complementarity, political harmonization, and spatial proximity. There-fore, economic complementarity, political harmonization, and spatial proximity used as variables in the comparison method between ICHST and KTX TODs.

Economic complementarity is a scheme for complementarity in the economic sector. In a broader meaning, economic complementarity can also be defined as the complementarity effect of the development project to current infrastructures and facilities to induce more benefit to a more significant amount of people that will utilize the development project and to complete each current infrastructures or facilities to sustain the efficiency of the whole system. Good development gives benefit to one partner, but both partners and the entire stakeholders in the development project. In terms of the JBHSR project, this article will analyze Indonesia and China's economic complementarity and its impacts on the local economy in both countries. Complementarity and competition levels are also examined briefly in other areas such as foreign direct investment, capital flows, energy, and other primary products.

Political harmonization is a perspective of harmonizing relations and synchronizing all policy between two countries regarding development, from the national and local levels. In the Rason-Hunchun SECZ project between China and North Korea, political harmonization can be seen in the national policies regarding economic relations be-tween them. There were mutual efforts between China and North Korea to ensure the success of the Rason-Hunchun development project. In 2005, China's State Council passed a bill about the Chang Ji-Tu project, a joint Rason Free Economic Trade Zone within three provinces around it. Meanwhile, the North Korean government drafted more than 78 laws such as Economic District Law, Foreign Investment Law, and Joint Work Law to regulate the development project. Therefore, concerning the economic complementarity of cooperation and development, policy harmonization between governments is of the utmost importance. This article will examine the political harmonization between China and Indonesia in the JBHSR project using this paradigm.

Spatial proximity can be defined as a distance between two countries to the project site or the distance between the project site to the nearest city or business center. Spatial proximity also includes the demographic of the development project location. Be-fore a development project takes place, the developers have to plan and know how people commute and live, whether the project site is close to the city or business center, and what kind of existing infrastructures and facilities are available in the area. If a development project location was located far from the already existing infrastructures, facilities, or business centers, a loss could occur in the future and jeopardize the project budget and expenditure. The profit, investment, environment requirement, permission clearness, law, and other added values are essential for a development project since they can benefit and multiple effects even for the neighboring societies.

IV. Results and Discussion

A. Economic Complementarity of KCIC & KTX

According to PT Kereta Cepat Indonesia China (PT KCIC) [19], the Jakarta-Bandung HSR (JBHSR) was built with at least five expected socioeconomic benefits in mind: a) job creation (direct employment) especially to local workers; b) local content development; c) transit-oriented development (TOD) around the railway's four stations; d) traffic congestion alleviation and cut in travel cost and time; and e) government income increase from taxes (PT Kereta Cepat Indonesia China, n.d.). Although more of a spill off of the JBHSR construction, to which China is not part of its development, the TOD alone is forecasted to have a total valuation of IDR 362 trillion (USD 26.8 billion), of which is expected to generate profit around IDR 95-100 trillion (USD 7-7.4 billion). As a comparison, the total investment for HSR and the TOD area building is USD 6.071 billion. Additionally, China's cooperation scheme also includes land acquisition, no funding from the state budget, no underwriting, and no tariff subsidy worth USD 5.13 billion. These offers catered to the Government of Indonesia's demands and were not in Japan's—China's contender—proposal.

Although at face value, China seems not to generate many economic benefits from the project, Syailendra [20] said it is more of indirect benefits. If successfully implemented, it would open up opportunities for other projects in Indonesia. Other benefits, among others, are to accommodate China's excess capacity—of workers and manufacturing; to utilize and perchance develop their products for the Chinese companies, such as drilling machine for the JBHSR construction; to gain more understanding and experiences of conducting business and/or investing in a diverse context, both geographically and socioeconomically; and to receive firsthand information regarding business opportunities, e.g., in the four TOD areas [21].

KTX Project is a high-speed train project from South Korea that originated from the French National Railway Company's (SNFC) research in 1972-1974. This project links Seoul in the northern part to further south of the peninsula in Busan to ease congestion between the two cities. The construction was started in 1992, and a year later, the TGV Consortium was selected to be the supplier of the trainset and engineering supports for rolling stock and railways. Sunduck [22] added that "regarding rolling stock, the TGV consortium was selected as a priority negotiation partner in August 1993, and after almost one year, the contract for rolling stock procurement was signed in June 1994."

South Korea and France jointly conducted the project by a consortium led by Eukorail (now Alstom Ko-

rea) and Alstom. The consortium structure also includes Hyundai Rotem, Samsung, Hanjin, Daewoo, LGIS, and CSEE of France. This consortium funded 55% of the total budget of the KTX, whereas the South Korean Government funded the remaining 45%. KTX is unique because it uses a combination of new and existing railways. KTX is also a unique project because it allows many technology transfers schemes from France to South Korea. Cho Nam-Geon and Chung Jin-Kyu [23] said that the usage of new and existing railways was attributed to the identical tracks of the new and existing railways. Moreover, South Korea has already used this gauge (1,435 mm) for railways since 1899.

Unlike China and Indonesia in the KCIC project, the complementarity of South Ko-rea and France in the KTX project is more visible. South Korea received the technology used for the second development of the KTX train, in which local components were used. Sunduck [22] stated, "The South Korean Ministry of Science and Technology and the Ministry of Industry and Resources played a big role in developing technology transfer schemes." Meanwhile, France almost gained a hefty profit since Alstom Korea was established. On the Alstom website, Helen Conolly [24] said, "Eukorail is a Kore-an-based subsidiary of ALSTOM, established in 1994 to manage Franco-Korean consortium for rail projects. The total contract value for ALSTOM was 1.5 billion euros". Furthermore, DoDo [25] from the European Tribune said that "It (KTX) turned a profit in 2007, and it began to be seen as a success by enough people for calls for extensions to be heard". Therefore, the economic complementarity is visible, even until now, and cooperation between South Korea and France was achieved.

B. Political Harmonization of KCIC & KTX

China's HSR proposal offered financial incentives more than Japan's. It became the main reason Indonesia chose to partner with China. Politically, the project is something of a double-edged sword for the Jokowi administration. Partnering with China to con-duct such a large-scale project amid the uncontrolled spread of hoaxes and fake news, widespread divisive issues, and increasing anti-China sentiment in Indonesia would be somewhat unfavorable Jokowi, who was looking for his second term. However, the financial incentives offered might as well align with Jokowi's infrastructure and industrial development plans.

It is important to note that the project was met with a hail of criticism from local NGOs and also violated several domestic laws such as environment, transportation, spatial, and business laws, to the extent that several local spatial plans and environmental permits had to be altered and/or expedited to meet the set deadlines. For instance, as of early July 2019, the local government in Bandung Barat has yet to grant permission for PT Wijaya Karya (Persero) (hereafter PT WIKA) to develop Walini Station's TOD area—Walini Station is one of the JBHSR's four stations. The project continues and is expedited despite the many hurdles. The GOI seems to put a high expectation on its forecasted benefits.

Meanwhile, for China, the project conveniently comes as an opportunity to increase its economic and political leverage in Indonesia and, internationally, to build credibility and rebrand its image as a technology and innovation powerhouse. This also works in line with China's visions through the Belt Road Initiative (BRI) project, albeit the JBHSR itself—at least initially—is not part of it.

KTX project was initiated by the South Korean government and received mixed re-actions, especially from the environmental specialists, yet the project was still fully sup-ported by the government. The media labeled a court session between the government and the environmental specialists as "Salamander vs. KTX." The environmental special-ists were concerned that the development of the KTX near Ulsan would destroy the ra-re salamander habitat. DoDo [25] said that the government won the case because "the High Court did not recognize the salamanders as a legal person, and construction proceeded according to original plans. Be it due to fortune or because builders paid extra attention to avoid negative publicity, no aquifer was drained". Apart from the salamander case, the policy issued by South Korea and France regarding the KTX project was planned carefully and almost without hustle.

C. Spatial Proximity of KCIC & KTX

On the spatial ground, Indonesia might be seen as the only one to gain the most advantage from the project. However, the cartography of the world can be understood in three ways. In addition to geographical demarcations and political boundaries, there is also the imaginative space that transcends both. In this latter term, especially now with the massive BRI project and its outward-looking visions, China has a stake in it—that is, to broaden its sphere of influence in the region.

In terms of the KTX project, Sunduck [22] said, "For KTX operation, two new stations were built, two stations were renovated to function as a retail and cultural center in the cities. Other stations were also expanded to accommodate the KTX operation." This particular statement is critical for a spatial reason because KTX is revitalizing and renovating old stations to accommodate KTX train instead of making several new stations or dedicated railways that are hard to fully integrate with the already existing in-restructures facilities such as public transportation or business center. With revitalizing and renovating stations and railways, the KTX project saved much budget to develop-op localizing high technology trains from TGV France. Hisung Lee and Dae-Sop Moon [26] said, "During KTX project of 12 years, Korea high-speed railroad technology had overcome many technical difficulties and acquired many precious experiences in terms of interfaces of R/S and infrastructures. Those things were adapted and integrated to develop the next generation of KTX, which has a technically compatible system for existing

infrastructures." It means that compatibility is the key-word to enhance and provide sustainable technology that can adapt to local needs with localizing values.

Thus, geographical demarcations, political boundaries, and imaginative space could overlap to create a joint country project's better spatial proximity. Therefore, the geo-graphical demarcations that occurred in the JBHSR Project proved in such a wasting way to build new stations that far from business and transportation hubs in each region or city that crossed by this project. Contrast with what Korea and France have done in KTX Project that was previously explained in this article.

Then, from political boundaries, Indonesia and China's relations are dynamics. From 'Anti-China' sentiment to the Chinese Belt and Road Initiative debt scheme, many Indonesians tend to suspect Beijing's movements. Moreover, even though Indonesia unsure of China, contemporary Indonesia's inward-looking style of government undoubtedly matches with Chinese presence and growth in investment that Jokowi' is looking for developing infrastructures. Matched with Mercy A. Kuo [27] has said, China's Belt and Road Initiative has coincided with Jokowi's domestic infrastructure building focus, which has strengthened China-Indonesia ties has historically been comparatively more relaxed than others in Southeast Asia. While China's influence and in-vestment have risen, it has given rise to strong nationalist economic responses.

We could comprehend that values and profits from the JBHSR Project are not sustainable and profitable in imaginative space. One indication is that this research has found that the JBHSR is not environmentally friendly because of the misusage of production and protected forest incorporated into railways and stations' development. Moreover, the fast diminishing water catchment areas along the indicated forest inside project areas become a concern in how JBHSR Project could benefit people economically and environmentally, for some experts like Bagus Prasetiyo [28] reported this particular issue to become a crucial thing to think about.

D. Comparison Reflection

Following the comparison above, we can conclude that JBHSR Project was un-prepared and hurried to achieve the target. Economic-wise, the JBHSR Project could generate profit, but bad building transit management, lack of government synchronization, and environmental issues have such negative impacts on Indonesia. Sustainability should be pushed forward rather than only instant economic profit. Transfer of technology and city planning become additional factors that lack in JBHSR Project.

V. CONCLUSION

Based on the analysis, it can be concluded that the JBHSR project under KCIC may not gain its maximum sustainability benefits for both China and Indonesia. From eco-nomic complementarity perspective, even though it was projected that the JBHSR would bring socioeconomic benefits, particularly for the local people, this is unlikely to happen because of environmental and spatial issues. Especially environment-wise, this project is had to misuse production and protected forest area.

The development of the TODs will also alter the geographic and ecological functions of the areas currently used for community farms and rice fields. It means that the local people, who are mostly farmers, will likely lose their job, and there is no guaran-tee that they will be suitable to work in the industrial and transportation fields. There-fore, there are no apparent benefits for the local Indonesian. As for the political harmonization, it is clear that the development of the JBHSR had violated the Indonesian environmental, spatial, transportation, and business laws. The lack of political harmonization can jeopardize the sustainability of the project.

In terms of spatial proximity, the JBHSR development was built without adequate environment and spatial studies. Unlike the KTX, KCIC did not integrate the already existing infrastructures and facilities into the JBHSR project. The TODs and railroads planned and built for the JBHSR are not close to big cities or business centers. A light rail line needs to be built to connect the TODs to more strategic places. It means that the JBHSR will require more budget without guaranteeing that the project will profit from a funding perspective.

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