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A Suspicious opportunity: a huge belt and road initiative (BRI) of the PRC

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Abstract. The Government of the People's Republic of China (RRC) under Xi Jinping has launched multilateral cooperation between countries in Europe, Africa, and Asia in a collaborative project called Belt and Road Initiative (BRI). BRI is a reconstruction along the old silk road by building infrastructure and increasing the openness of China's economy and politics. The project has gained support from many no less than 65 countries involved in BRI. The huge infrastructure development that connects these three continents allows civilization to grow even further. However, a close observation of the characteristics of the PRC's infrastructure development shows neglect of ecological and environmental sustainability. Utilizing the qualitative method which allows the authors to get the data with literature study, this paper argues that in addition to providing opportunities for extensive infrastructure development, BRI also carries the risk of ecological damage and environmental issues. Considering ecological and environmental risks, BRI is a very extraordinary opportunity but also a suspicious project.

1. Introduction

This paper investigates the potential of environmental issues caused by Belt and Road Initiative (BRI). The BRI is the multilateral cooperation with countries in three regions including Europe, Africa, and Asia initiated by the People's Republic of China (RRC) under Xi Jinping in 2013 [1]. The initiation of the policy according to the PRC government is a systematic project that must be built together through consultation to meet the interests of all parties, as well as continuous efforts to integrate the development strategies of countries along the historical Old Silk Road [2]. Also, Infrastructure development and economic cooperation under the BRI is an excellent opportunity for many countries to participate. However, those vast projects are dilemmatic as it also remains potential threats for the environment.

BRI is the main focus of China's foreign cooperation under Xi Jinping's Government. The BRI is expected to provide connectivity between the three regions through infrastructure development [1]. It is a policy carried out by the National Development and Reform Commission which is part of the PRC's Ministry of Foreign Affairs and the Ministry of Trade. The significance of the Chinese Government in initiating BRI was proven by infrastructure funding under the BRI framework of US \$ 1.4 Trillion [3]. BRI has two financing assistance schemes, namely the Asian Infrastructure Investment Bank (AIIB) and Silk Road Fund (SRF). The AIIB is a bank financing Chinese infrastructure projects that are open to all countries that want to be involved, whether they are in or not on the Silk Road. In the AIIB, China has a prominent position and great bargaining position because it has the highest contribution and voting rights [4]. While the SRF is an institution formed explicitly by the Chinese Export-Import Bank, the Chinese Investment Company, the State Administration of Foreign Exchange and the Chinese Development Bank [5]. Both financing schemes are used to finance infrastructure projects under the BRI cooperation framework.

Nevertheless, looking at the characteristics of China's infrastructure development so far, aside from



being an opportunity, BRI also carries risks. Those are such as financial, sovereignty and environmental issues [6]. This paper identifies, in particular, the potential environmental problems that might generate along with the development of a large-scale BRI project initiated by China.

2. Methods

This work used a literature study method that uses secondary data as a source of study. Data collecting process refers to existing information from other research results that are considered most relevant to the issue or phenomenon to be analyzed. Regarding the type of data, this study uses secondary data. The data is obtained through books, periodical reports, journals, articles, and various other factual information contained on mass media [7].

3. Results and Discussion

Before discussing the environmental issues caused by the BRI, we need to elaborate what the BRI is. The Chinese government held the Belt and Road Forum (BRF) in Beijing on May 14, 2017. The forum was attended by at least 57 state representatives and representatives from international organizations, such as Antonio Guterres as a UN Secretary-General, Jim Yong Kim as a World Bank President and Christine Legarde as an IMF Managing Director (8). On this occasion, China has signed 76 forms of agreement with other countries from various regions which in practice around 270 cooperation projects are covering five cooperation sectors. The five cooperation sectors are divided based on BRI's action plan which includes policy coordination, infrastructure, trade, finance and also inter-community connectivity (9).

BRI has two main parts, namely the land silk route known as the Silk Road Economic Belt (SREB) and the sea lane known as Maritime Silk Road (MSR). Both BRI components have six economic corridors. The open corridors cover six lines, connecting large and small countries on the three continents. As shown in Table 1, BRI has economic corridors as a mechanism for collaboration with countries that join the Road. Later, the infrastructure development project initiated through BRI will pass through these routes. Although infrastructure development projects pass certain member states, the involvement of countries outside the Route are welcome in financing development through AIIB.

Table 1. Economic Corridor in BRI

Economic Corridor	Roads
China - Pakistan	SREB
The new Eurasian land bridge	SREB
China - Central Asia - West Asia	SREB
China - Mongolia- Rusia	SREB
Bangladesh – China – India - Myanmar	MSR
China - Indochina Peninsula	MSR

Source: Repaving the ancient Silk Routes [10]

The size of the BRI has received significant support from many countries worldwide. Countries in those three continents, event outside the BRI lines, provide support for the implementation of BRI. The project is huge where the PRC has succeeded in convincing and gaining support from many countries to be involved in the BRI. Therefore, it is not difficult to see that this project received political support as shown in the following Table 2. The table shows that many countries has accepted BRI and infrastructure development programs.

The Table 2 consists of four elements. The first column is the countries that accept BRI and have involved in a joint agreement. The second and third columns are the countries involved in BRI funding. The fourth column shows that India is the only country that has an open objection of economic corridors in the silk route. India rejects the China - Pakistan economic corridor because it may threaten its territorial integrity (11).

Table 2. the countries revenues contribution to BRI

States supporting BRI	Regional States involve in Financing BRI	Non-regional states involve in Financing BRI	State Rejecting Roads
China, Czech, Kazakhstan, Kyrgyzstan, Philippines, Turkey, Uzbekistan, Vietnam, Cambodia, Malaysia, Slovakia Myanmar, Sri Lanka, Belarus, Russia, Fiji, Serbia, Argentina, Chile, Kenya, Switzerland, Latvia, Ethiopia , Mongolia, Greece, Italy, Spain, Hungary, Poland, Kuwait, Bulgaria, Laos, Turkmenistan, Croatia, Lithuania, Macedonia, Romania, Indonesia, Pakistan, Serbia.	Kyrgyzstan, Australia, Kazakhstan, Azerbaijan, Brunei Darussalam, Cambodia, China, Fiji, India, Indonesia, , Saudi Arabia, Jordan, Laos, Maldives, Myanmar, Oman, Pakistan, Philippines, Qatar , Samoa, Mongolia, Tajikistan, Thailand, Turkey, Malaysia, United Arab Emirates, Vanuatu, Vietnam, Singapore, Afghanistan, Bangladesh, Iran, Israel, Russia, Sri Lanka, Nepal, Timor Leste, Uzbekistan.	Hungary, Portugal, Iceland, Denmark, Egypt, Ethiopia, Finland, Luxemburg, Germany, Malka, Norway, Spain, Switzerland, United Kingdom, Austria, Netherlands, Canada, France, Ireland, Sweden, Italy.	India

Sources: China Government publication [9] and publication of *the Asian Infrastructure Investment Bank*.

BRI's political and economic revenue will undoubtedly have an impact on infrastructure development for the countries that are passed by BRI. The AIIB as an infrastructure development financing institution continues to increase project development financing. Until 2018, AIIB has funded 31 infrastructure projects (12).

However, the BRI Infrastructure Development has problems in several countries that are of concern to the world. The first is the Jakarta-Bandung high-speed train. This project is funded through the AIIB funding scheme which is part of BRI. There is criticism that the Chinese and Indonesian cooperation projects are running without a clear Environmental Impact Assessment (EIA) (13). Secondly, the BRI project in Myanmar also received the objection because it was considered to be harmful to natural capital including forests, rivers, and biodiversity that was passed by the BRI development project. Another thing that needs to be observed in the case of Myanmar is that there are no clear rules regarding the environment and development standards in this country so that this can create vulnerability to the environment (14). Those lead to the concerns of the possible environmental impacts caused by BRI.

There are also concerns about this program from the World Wild Fund (WWF). The WWF reported that the six economic corridors that were built would have five problems with the country included in the BRI. First, BRI corridors overlap with an area inhabited by 265 species, including 81 endangered species and 39 critically endangered species. Second, corridors of the BRI overlap with 1,739 Key Biodiversity Areas or Important Bird Area. Third, there is potential damage of 32% of the total protected forest area passed by BRI corridors. Fourth, there is the potential to damage the ecosystem of water resources in the area passed by BRI corridors, to reduce water supply and high potential for flooding. Fifth, infrastructure development in the area can affect wilderness characteristics [15].

The concern of environmental issues become severe as the PRC government has not been able to resolve environmental problems inside its country. Carbon emission and water pollution in the country raised the concern of the possible inability of the PRC to handle the environmental issue in the line of the BRI. As the Chinese government has problems with its environment that cannot be resolved, the building of the BRI also leads to the concerns of environmental problems beyond the PRC territories.

The air pollution is the most PRC's environmental issue. From 2008 to 2014, China's carbon emissions, as shown in Figure 1, underline the significant increase from year to year. From that Figure, it can be explained that until 2014, the Chinese Government has been seemingly unable to overcome

the increase in carbon emissions produced in its country. This is proven by the continued increase in carbon emissions in China from 2008 to 2014[16].

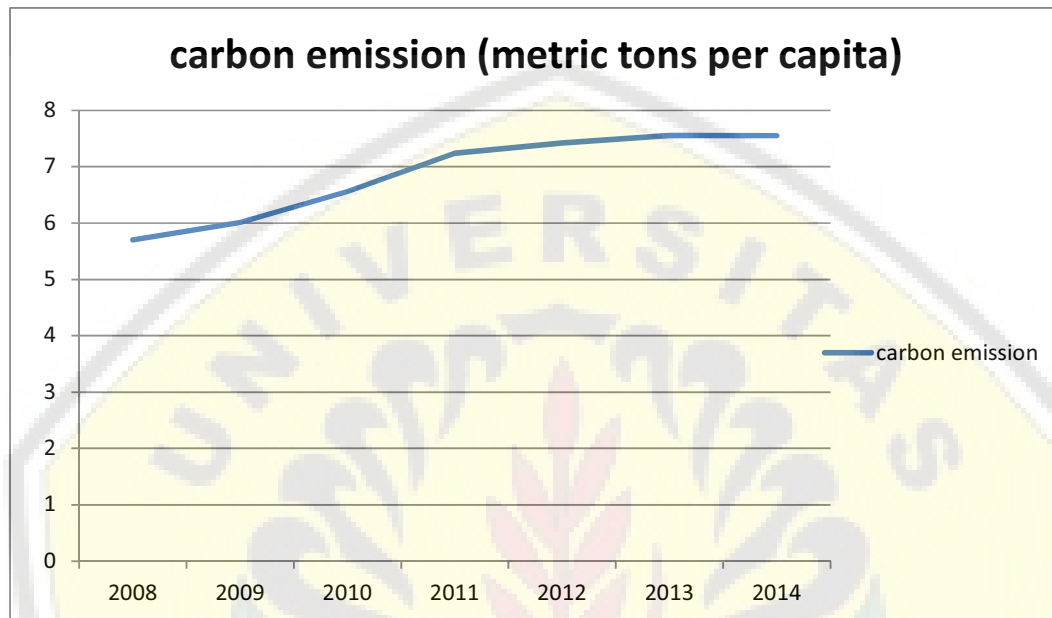


Figure 1 China CO2 emissions (Source: The World Bank 2014)

In addition to air pollution problems, China has been incapable of overcoming its greenhouse effect. China is a world leader of greenhouse gas emissions. Greenhouse gases are one of the elements that contribute to global warming. Greenhouse gases absorb solar energy and heat emanating from the earth's surface to prevent it from going out into space. As shown by Table 3, in compared to other four big countries, PRC is the highest producer of the total carbon dioxide emissions.

Table 3 Country Rank of Total Emissions

Country	Total carbon dioxide emissions from fuel combustion (2015) (million metric tons)
China	9040,74
India	2066,01
Japan	1141,58
United States	4997,50
Russia	1468,99

Source: Union Concerned Scientists. 2015[17]

Similarly, PRC also has difficulty in solving water pollutions. Here are the data about water pollution in China:

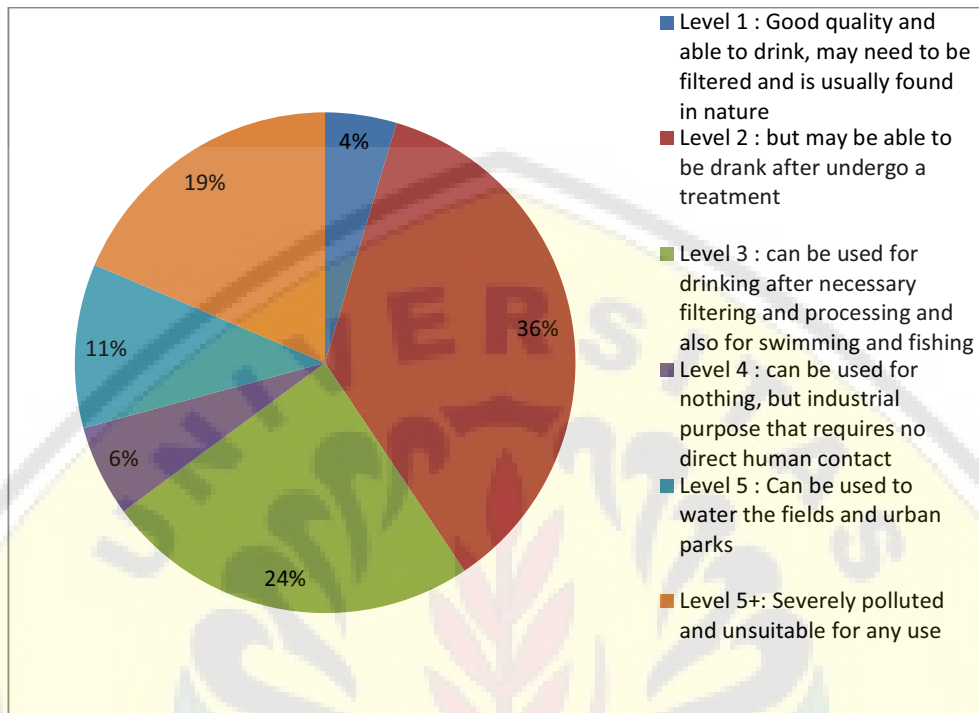


Figure 2 Water Pollution Levels of China's Seven Major Rivers (18). (Source: Future Directions International,2016)

The figure 2 shows how the level of water pollution in China is dangerous. At least 19% out of the seven major in China is in the 5+ level. That level is also known to be the worst of water pollution which also means that the water can not be used for anything. On the other hand, the water that can be utilized in day-to-day life is only 4%.

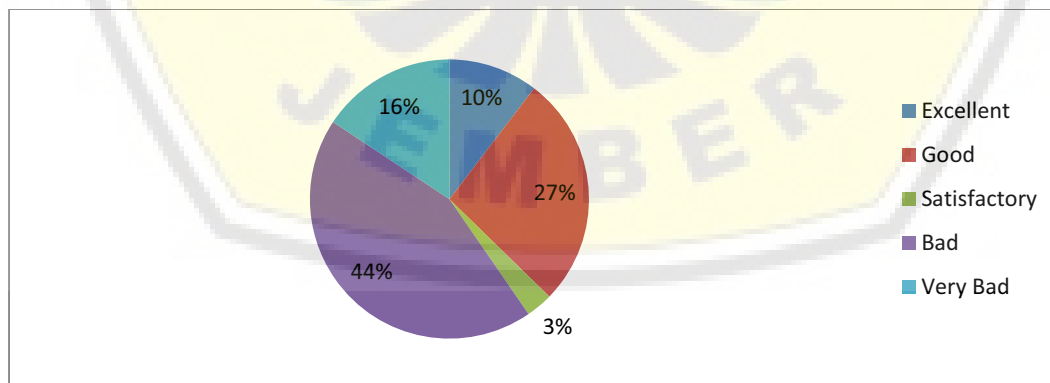


Figure 3 Water Pollution Levels of China's Groundwater Sources [18]. (Source: Future Directions International, 2016)

Figure 3 shows that 56% of China's groundwater sources can be used, while 44% other is bad. The two Figures (1 and 2) above explain that at least 95 percent of rivers in China and 90 percent of groundwater in China are contaminated with pollution. This fact shows that the Chinese government still has severe problems with water problems in its country.

Based on the findings, it is safe to say that BRI has been helping its member countries when it comes to infrastructure funding. Nevertheless, the findings also show us that PRC's BRI project has environmental issues. The problems have been worrying the BRI member countries and have been their primary concern since the beginning of the corporation by looking back at the previous projects sponsored by China. These problems also raise a discussion about how PRC may give those countries the help that they need with their infrastructure or the nightmare that they want to avoid by destructing their nature.

4. Conclusions

BRI which was initiated by the Chinese Government is a massive project that will pass through countries in Africa, Europe, and Asia. The realization of cooperation in infrastructure development through BRI has been widely carried out in countries that are included in the BRI route. However, domestic environmental problems that have not been resolved by the Chinese Government raise questions about China's ability to deal with environmental issues. The profits prospect for countries that join BRI is indeed quite high. However, considering the unresolved environmental problems in China and several BRI projects such as in Indonesia and Myanmar, it seems that BRI is a suspicious opportunity for the countries involved. The countries involved are expected to be able to raise awareness of environmental impacts related to infrastructure development projects under the BRI flag. Thus, the calculation of costs and benefits must be considered by the countries supporting BRI.

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