



Northern Java Industrial Development Refers to Sustainable Development Goals

Ghefra Rizkan Gaffara (✉) , Arief Suwandi , M. Derajat Amperajaya ,
Nofi Erni , Surya Kurniawan , and Wa Ode Nurhaidar 

Esa Unggul University, Jl. Arjuna Utara 9 A, Duri Kepa, Kebon Jeruk 11510, Indonesia
ghefra@esaunggul.ac.id

Abstract. Indonesia is an archipelagic country which is divided into development corridors. The development corridor has been stipulated in the MP3EI development master plan, including Java Island. Java is the center of the country's development activities with nearly 60% of the population living on this island. There are 5 metropolitan cities, one of which is the State Capital, namely Jakarta. Through this paper, it will be studied regarding the study of the existing condition of the Java development corridor, namely Jakarta - Surabaya, the challenges and opportunities as well as the development plan. Java well known as developed into industrial center such as electronic, automotive and big scale industries.

Keywords: corridor · development · industrial · opportunities

1 Introduction

The government aims to increase its economic growth and contributes to solving global challenges in the future. For this reason, it deployed the initial masterplan in 2011, which contained strategies to improve national competitiveness. Indonesia was categorized into several corridors, including Sumatra, Java, Kalimantan, Sulawesi, Bali-Nusa Tenggara, and Papua-Maluku islands. This division was based on potential development and diverse characteristics among islands and provinces (Berawi et al., 2020). These strategies also attempt to improve the connectivity of the supply chain and increase the accessibility of people and goods. Despite the government efforts to cope with global challenges, the economic landscape of Indonesia shows unsteady growth. As a result, there is a need to evaluate this masterplan and consider the current situation. Limited publications dealing with regional development and national economic perspective were found in public records. The purpose of this study therefore is to assess Indonesia's economic corridor by considering Northern Java Industrial Corridor as the case studies. The findings provide recommendations for policy makers and academics researching in similar fields (Handayani, 2012). In this Fig. 1 We can see about Java Industrial Corridor refers to SDGs.

Based on the SDGs Sustainable investment in infrastructure and innovation is an important driver of economic growth and development (Berawi, 2019). Today more than half of the world's population lives in cities, therefore mass transportation and renewable

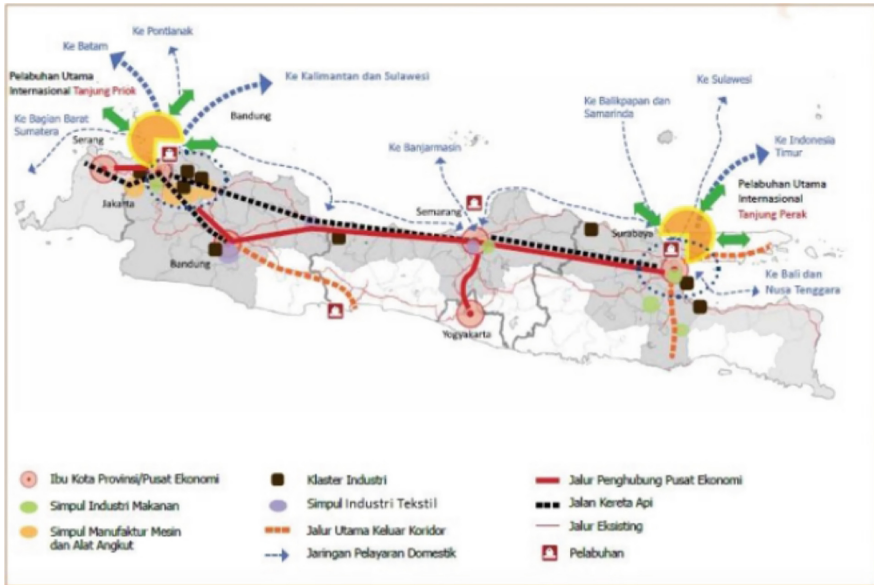


Fig. 1. Java Industrial Function Existing.

energy are very important, as well as the growth of new industries and information and communication technologies. Technological advances are also key to finding long-term solutions to economic and environmental challenges, such as providing new jobs and promoting energy efficiency. Promoting sustainable industries as well as investing in scientific research and innovation are important ways to facilitate sustainable development. Investment in infrastructure and innovation is one of the 17 Global Goals set out in the 2030 Agenda for Sustainable Development. And an integrated approach is critical to progress across all of the goals. This research will discuss the existing conditions of the industry in Northern Java, its obstacles and also its development.

2 Methods

2.1 Data Collection Methods

Data resource for this research comes from primary data, namely direct surveys to sample locations. The team conducts a one-on-one interview with experts for about 10–20 min due to their busy and tight schedules. Their input is used for research validation and confirmed the findings. Meanwhile the secondary data, namely those sourced from the MP3EI and RPJMN Masterplan Bappenas and also regulations from the Minister (Bappenas, 2011).

Meanwhile the secondary data, namely those sourced from the MP3EI and RPJMN Masterplan Bappenas and also regulations from the Minister.

2.2 Data Analysis Methods

The research adopts a combination of data, primary from government officials and secondary from public records, and benchmarking from other countries to evaluate the industries in each corridor. The experts from Indonesia institution have a background related economic, regional development and infrastructure from the Ministry of Environment and Forestry, Ministry of Industry, and Ministry of National Development Planning. They were selected due to national characteristics which other locals may not comprehend or deeply understand regarding the situation and judgment.

3 Result and Discussion

3.1 Java Existing Industries

Java corridor consists of six provinces, including Banten, Jakarta, West Java, Central Java, Yogyakarta, and East Java. Each corridor is developed based on their potential industry, such as information and communication technology, coal processing, and tourism, respectively. Previous research has been conducted to produce a mapping of commodities.

As known as Java is famous as hardware, software and automotive also technology industry center. Computer hardware and associated types of equipment are types of equipment are essential components supporting the computer system as a whole. There integrated semiconductors and gadget needed in computer components whose industry can be developed including semiconductor including integrated semiconductors and gadgets.

The Java automotive industry is one of the drivers of the developing Indonesian economy. The industry is predominantly clustered in the DKI Jakarta, West Java, Central Java and East Java. The industry is heavily dominated by Japanese automotive firms. US and European carmakers play a marginal role at best. Six Japanese brands have a market share of just under 90% in Indonesia. Consequently, Japanese carmakers were able to impose their traditional system as the basis for the Indonesian automotive industry. Figure 2 shows the detail of industries and commodities for each province.

3.2 Obstacles

One of the obstacles that occur in the development of the Industrial corridor is capital and investment. The lack of foreign investment is one of the main problems in the development of industrial corridors. Secondly, Indonesia is an archipelagic country that takes time to distribute industrial goods to islands outside Java.

From Fig. 3 above can be seen learn about Economic Growth in Indonesia especially industry aspect. Like other countries, Indonesia is experiencing economic development. But on the other hand, industry, especially in Java, is the center of state activity where 60% of the population resides here and one of the economic activities in the industrial sector is in Java. For this reason, it is necessary to study policies and capital that can later accommodate industrial development in Java.

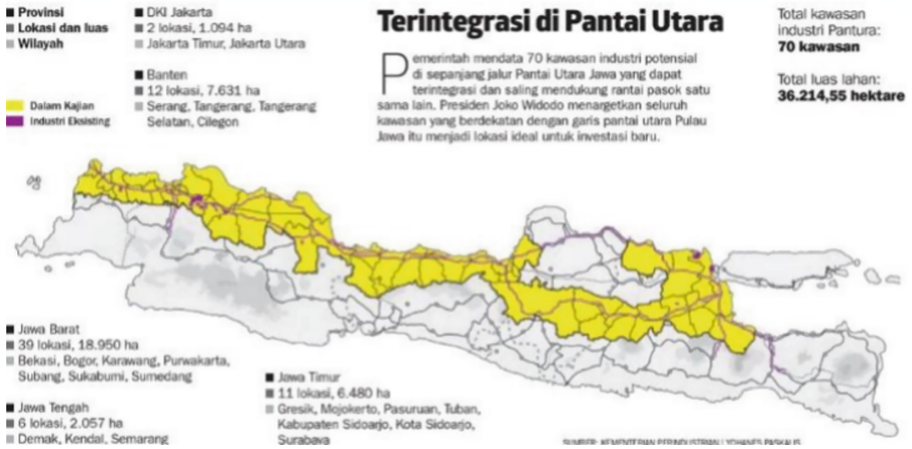


Fig. 2. Java industrial development.



Fig. 3. Java industrial corridor based on SDGs.

In addition to the RPJPN and the RPJMN, two other key documents have formed the basis of Indonesia's current industrial policy. The first is the 2008 National Industrial Policy and the second is the Indonesian Master Plan for Acceleration and Expansion of Indonesia Economic Development (MP3EI) launched in 2011. Both documents would be deliberated below. Indonesia has also just endorsed its new Industrial Bill in late 2013 and its new Trade Law in early 2020 many of their implementing regulations are still forthcoming.

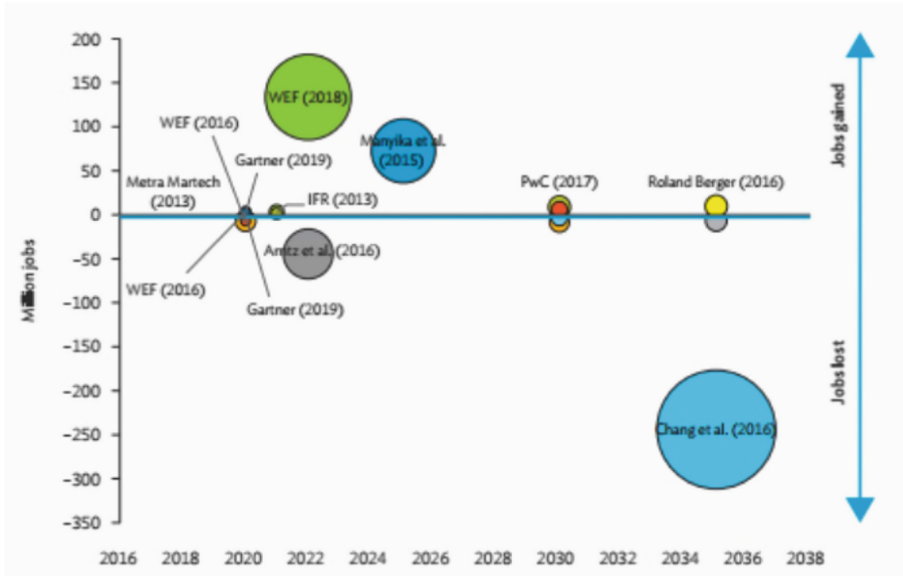


Fig. 4. World industries paradigm

3.3 Development Planning

While the importance of technology in economic development is widely accepted in the literature, estimating the impact of particular technologies in national economies is fraught with challenges. Technologies, sectors, and innovation activities are becoming increasingly complex and interdependent. As a result, the emerging picture is characterized by a high degree of uncertainty. Studies on the impact of technological change on employment are a case in point. Academics, consultancies, and international organizations around the world have produced studies revealing a significant effect of new technologies on employment. Predictions are, however, far from forming a consensus. In fact, a number of studies have been criticized for presenting an overly simplistic view of the tasks carried out by workers and for not accounting for variations in economic and institutional contexts across countries.

As an illustration of complexity and uncertainty in estimating the impacts of technology, a review of international studies reveals a great deal of variation in predictions of the impact of automation on jobs. Figures go from the creation of over 100 million jobs to the loss of over 200 million. The variation in predictions is down to differences in definitions, assumptions, and methodological approaches. Following a pattern seen before in history, alarms about the power of new technologies to replace jobs echoed worldwide over the last decade. More recently, however, a more balanced story has been emerging, which suggests that, while new technologies might have a profound effect on the global economy, they will bring opportunities and challenges alike.

As illustrated in Fig. 4, estimates about the impact of particular technologies on national economies are likely to depend on the particular methodology adopted. Given the complexity involved, results should be taken as indicators of the rate of change and

useful to highlight relationships between variables, rather than as precise estimations of impact. In the framework of this study, the potential impact of new technologies on growth in Indonesia's economy during the period 2020–2040 was estimated. The impact was computed using a general equilibrium model where the effects of new technology were estimated through sector-specific labor-productivity shocks. The analysis focused in particular on the effect of digitalization, robotization, and artificial intelligence technologies. If we look at the calculation of the graph of economic development, it can be seen that when Java the economy goes up, it will have an impact on the nation.

Table 1 shows that the projected percentage of industrial development in Java exceeds the national percentage. This shows that Java, especially the northern coast, is one of the industrial centers such as manufacturing, auto, large industries to electronics. Industrial development is directed to the Serang area to the west from Jakarta and Jabababeka and Karawang Subang to the east from Jakarta. Not only for the extended Jabodetabek area, but for other metropolitan areas such as Bandung. The Bandung industrial area is directed to the east from the city of Bandung, namely Cileunyi to Rancaekek and parts of Garut Sumedang. While the northern part of Bandung was developed to Cimahi

Table 1. Economic development nation each province forecasting (%).

Period	National	Sumatera	Java	Kalimantan	Sulawesi	Bali NT	Papua Maluku
2020–2030	5,20	4,60	5,85	3,81	4,72	4,79	3,42
2030–2040	5,20	4,38	5,88	3,84	4,53	4,83	3,56
2020–2040	5,20	4,49	5,87	3,83	4,63	4,81	3,49



Fig. 5. Northern Java well known as Pantura.

Padalarang. In the Semarang metropolitan area, the Industrial area is directed to Kendal west of Semarang, Semarang Regency to Boyolali south of Semarang and Purwodadi east of Semarang. Meanwhile, Metropolitan Gerbang kertokusila was developed towards Pasuruan to the south of Surabaya. While the west from Surabaya was developed to Mojokerto Jombang. For the extended Gresik, it is developed towards Lamongan and Tuban. In addition, there are new industrial areas in Cilegon, Cirebon and Madura. In Fig. 5 we can see an example of a manufacturing industrial area in Karawang which we know as Pantura.

4 Conclusion

Java, especially in the Pantura or Northern Region, has the function of an International-Scale Industrial Strategic Area with the dominance of Large Industries, Manufacturing, Automotive and Electronics as well as Processing. The Pantura area is expected to continue to grow rapidly until 2040 with a development percentage of 5.82% and higher than the average development of the National Industry. So there needs to be a follow-up in addition to MP3EI, the Development Masterplan and the RPJMN to take action on the development of this area. There is a need for priority handling from the government and cooperation with stakeholders in this case investors so that the Indonesian industry becomes advanced like China in Asia.

Acknowledgement. Many thanks to all people who help to finishing this research especially to Ministry of National Planning and Development (Bappenas) and also Prof. Mohammed Ali Berawi, Perdana Miraj and Gunawan from Center for Sustainable Infrastructure Development. And I said thanks to Asian Development Bank.

References

- Bappenas: Master Plan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia (MP3EI) 2011–2025, <https://www.bappenas.go.id/id/berita-dan-siaranpers/kegiatan-utama/master-plan-percepatan-dan-perluasan-pembangunan-ekonomiindonesia-mp3ei-2011-2025/>, 2011, last accessed 2022/10/01.
- Berawi, M., A, et, al.: Economic corridor of industrial development in Indonesia. in IOP Conference Series: Earth and Environmental Science, vol. 109, no. 1: IOP Publishing, p. 012032 (2017).
- Berawi, M., A. et, al.: Stakeholders' perspectives on green building rating: A case study in Indonesia, Heliyon, vol. 5, no. 3, p. e01328 (2019).
- Berawi, M. A.: Industrial Mapping in Java-Kalimantan-Nusa Tenggara Corridor. Available from: https://www.researchgate.net/publication/341730001_Industrial_Mapping_in_Java-Kalimantan-Nusa_Tenggara_Corridor, last accessed 2022/10/01.
- Gunawan, A.: Subang dan Karawang Masuk Koridor Pantura, <https://ekonomi.bisnis.com/read/20200817/45/1280191/subang-dan-batang-masuk-koridor-industri-manufaktur-pantura>, last accessed 2022/10/01.
- Bappenas: Sustainable Development Goals. <https://sdgs.bappenas.go.id/tujuan-9/>, 2020.

- Asian Development Bank: Innovative Indonesia Unlocking Growth. <https://www.adb.org/sites/default/files/publication/575806/innovate-indonesia-unlocking-growth.pdf>, 2020, last accessed 2022/10/01.
- Asian Development: Industrial Policy in Indonesia: A Global Value Chain Perspective, <https://www.adb.org/sites/default/files/publication/110982/ewp-411.pdf>, 2014 last accessed 2022/10/01.
- Ministry of Energy and Mineral Resources Republic of Indonesia. 1. <http://www.esdm.go.id/ministry-of-energy-and-mineral-resources/vision-and-mission.html>, 2014, last accessed 2022/10/01.
- Ministry of Industry, Republic of Indonesia: Industry Facts and Figures, Public Communication Centre (2012).
- Ministry of National Planning and Development. Rencana Pembangunan Jangka Panjang dan Menengah (2020).
- Industrial Park Development in Indonesia Industrial Parks. <https://slidetodoc.com/industrial-park-development-in-indonesia-industrial-parks-to/>, 2020, last accessed 2022/10/01.
- Handayani, Wiwandarai et al. Learning from Local Economic Development Practice in Central Java: A Perspective based on Monitoring and Evaluation Result 2011–2012, www.managemenjournal.info, 2012, last accessed 2022/10/01.
- Cooke, R. M.: The aggregation of expert judgment: do good things come to those who weight? Risk Analysis, vol. 35, no. 1, pp. 12-15 (2015).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

