



Chapter 2

National Strategic Projects Development

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1. Background

The 2017 Asian Development Bank (ADB) report 'Meeting Asia's Infrastructure Needs' unveiled that infrastructure in the Asian region has improved rapidly but is still far from sufficient (ADB, 2017). Developing countries in Asia have experienced significant improvements in their transportation networks, power generation capacity, telecommunications, and water infrastructure. Better access to infrastructure has boosted growth, reduced poverty, and improved people's lives. However, that is not enough. There are still more than 400 million people lacking electricity, around 300 million people without access to safe drinking water, and 1.5 billion lacking basic sanitation. Poor quality is still a problem. Power outages can hamper economic growth. City traffic jams hurt the economy because of lost productivity, wasted fuel, and the mental and emotional stress on people is no exception.

The ADB report also suggests that the Asia and Pacific region needs to invest in infrastructure at around 6% of gross domestic product (GDP) from 2016 to 2030, at least one percentage point more than existing investment, to continue the trend of economic growth while ensuring new investment addresses for climate change mitigation and adaptation. Furthermore, the novel coronavirus disease (COVID-19) pandemic had a devastating effect on the emerging economies of Asia. This raises awareness of the importance of investing in infrastructure to increase resilience. According to post-pandemic analysis, the Asian region will invest USD1.7 trillion annually for the next 20 years, up from USD1 trillion during 2007–2018. China will remain the largest contributor, whilst India will be the second largest, contributing 10% of developing Asia's spending (Rao, et al., 2023).

India is the most progressive country in infrastructure governance since the 2017 InfraCompass survey (Global Infrastructure Hub, n.d.). With a GDP per capita of USD2,280 and a population of around 1.4 billion people, India allocates 4.5% of GDP to investment in infrastructure. India's infrastructure quality is ranked 68.1 (scale 1 to 100) and the infrastructure gap is 0.5% of GDP. A recent survey found that India's infrastructure procurement process has improved significantly, resulting in higher quality investment returns and better value for money. The ease of starting a business has significantly improved as a result of regulatory and licensing reforms, which has encouraged investment and competition from new suppliers. India's ability to fill the infrastructure gap and deliver future projects faces major obstacles due to the COVID-19 pandemic and a lack of private investment in infrastructure projects (Global Infrastructure Hub, 2020).

Similar to Indonesia, in addition to issuing a 5-year development plan, the Government of India has also issued a special document that contains pipelines for infrastructure projects to be built, called the National Infrastructure Pipeline (India Investment Grid, n.d.). It is anticipated that the National Infrastructure Pipeline will make it possible to improve project preparation, lessen the

amount of aggressive bidding that occurs during the delivery of projects – which typically results in their failure, and guarantee increased access to financing sources in line with increased investor confidence. India's ambitious goal of becoming a USD5 trillion economy by 2025 and achieving strong infrastructure growth for smooth work and productivity across multiple sectors are expected to be addressed in the document.

The strength of India's infrastructure is directly related to the success of the 'Make in India' manufacturing sector. There is a constant need for government intervention, solid funding, and project monitoring. Some of the factors that will require additional support for India's infrastructure sector include an increase in the working-age population, urbanisation, a shift to a service-based economy, and climate change. The National Infrastructure Pipeline document is prepared on a best effort basis by combining information from various stakeholders including ministries, departments, state governments and the private sector across infrastructure sub-sectors. The India Investment Grid, which provides access to investment information across infrastructure sectors, and ministries and agencies, is expected to continuously update this document so that it becomes a living repository with wide access.

Indonesia also sees infrastructure projects as important in escaping the middle income trap. As a response, in the Medium-Term National Development Plan (RPJMN) 2015–2019 planning document, the Government of Indonesia sets several infrastructure development targets in logistics and energy projects. From a logistics perspective, the government is targeting revitalisation of road efficiency by building and repairing roads; reducing logistics costs through rail infrastructure by building new lines in Java, Sumatra, Sulawesi, and Kalimantan; implementing the sea highway concept so that Indonesia becomes the world's maritime axis; strengthening connectivity through the development of air infrastructure; as well as the development of urban transportation. As for the energy side, Indonesia targeted to achieve an electrification ratio of 96.6% in 2019 with capacity development, achieving food security through the development of irrigation systems, and increasing fuel supply by maximising domestic oil refineries (KPPIP, 2023). Furthermore, according to the Presidential Regulation Number 18 Year 2020, Indonesia expects to achieve 100% electrification ratio in 2024.

This chapter aims to provide academic justification for the infrastructure need. The chapter starts with the literature on the importance of infrastructure in a nation's development process. Next, the chapter summarises the impact of the National Strategic Projects (PSN) scheme documented in the literature. The chapter also explains the facilities given to the projects under the PSN. Lastly, the chapter discusses the strengths, weaknesses, opportunities, and threats (SWOT) analysis to evaluate the completed PSN projects presented in the subsequent chapter.

2. Infrastructure and Development

2.1. Economic Impact of Infrastructure Development

It is generally agreed that infrastructure plays a significant role in a country's economic growth. When combined with labour and other input factors, the existence of infrastructure will provide services. The service is more important than the infrastructure used or required to produce it. To avoid losing sight of the end goal – which is the provision of services rather than the acquisition of the infrastructure itself – it is essential to keep this in mind when formulating policy. The confusion that often arises between the two reflects that in many cases, these services are very capital intensive (Prud'homme, 2004).

The Global Infrastructure Hub estimates that the multiplier effect of investing in public infrastructure on GDP is significantly higher – 1.53 in 2 to 5 years – compared to government spending in social transfers – 0.84 in 2 to 5 years. In the medium and long term, infrastructure plays a significant role in achieving the Sustainable Development Goals (SDGs) and a new economic direction that aligns with policies regarding decarbonisation and renewable energy (Global Infrastructure Hub, 2020).

The role of infrastructure on development differs across types. Economic infrastructure is described as infrastructure that stimulates economic activity. 'Economic infrastructure' refers to the same thing as 'infrastructure' in its physical form. Infrastructure's primary purpose is to support production activities to lower production costs and increase labour productivity. The development of basic infrastructure, which includes water, energy, information and communications technology (ICT), transportation, and sanitation systems, is one of the areas that every nation focuses on to achieve social and economic prosperity. Building basic infrastructure in underdeveloped areas is expected to boost economic growth and reduce disparities between regions.

The government's economic infrastructure development initiatives aim to boost the country's economic expansion. The relationship between infrastructure and economic growth has been extensively discussed in the academic literature using a variety of approaches. Infrastructure development can impact industrial policy due to the government's ability to allocate funding to specific infrastructure projects and influence private sector investment decisions (Kumo, 2012). Additionally, infrastructure can potentially foster economic expansion at the micro, regional, and national levels. Although it does not always guarantee robust economic growth, infrastructure development does create the conditions necessary to achieve regional development objectives (Mačiulytė-šniukienė, Butkus, and Davidavičienė, 2022).

If economic infrastructure is important for the economy and society and is treated as basic infrastructure, then social infrastructure is designed more to increase the workforce's efficiency and expertise. Social infrastructure contributes to education, health, and community culture, including schools, universities, libraries, hospitals, clinics, theatres, museums, parks, playgrounds, and other institutions (Fourie, 2006). When infrastructure can accomplish both these objectives, every nation strives to satisfy the fundamental requirements of its citizens and achieve higher growth rates. If physical infrastructure can directly support economic growth, then social infrastructure helps improve the quality of people's lives (Kumari and Sharma, 2017).

A consensus from previous studies has concluded that investment in basic and social infrastructure contributes to increasing economic growth, social development, and reducing inequality and poverty. Improved electricity infrastructure plays a role in reducing output losses due to power outages and surges, which positively impacts business productivity. The existence of water and sanitation infrastructure has a significant impact on the productivity of a business. This basic infrastructure indirectly protects and enhances health, thereby increasing individual productivity. Providing this fundamental infrastructure also contributes to the effectiveness of educational and health facilities (Brenneman and Kerf, 2002). Sustained economic growth and social development are necessary conditions for reducing poverty and inequality (Gnade, Blaauw, and Greyling, 2017).

South Africa is an example of how economic growth is not directly proportional to the reduction in the level of poverty and inequality. It is found that the infrastructure allocation in the education and health sectors does not guarantee the efficiency of its use (More and Aye, 2017). Likewise, building more school and health infrastructure does not result in improved services for education and health. Education spending in favour of schools where elite, racial, or gender-specific children is bound to lead to inequality. Spending on schools does increase economic growth by increasing the quality of the workforce, but the quality of the workforce can only increase if the quality of education improves. Although education budgets have increased over the years, South Africa is still amongst the worst in mathematics and science education.

2.2. Importance of Infrastructure for Urban and Rural Development

Infrastructure development is required in villages as much as in cities. Urban infrastructure is commonly characterised by physical elements of a city as well as soft infrastructure concerning services, social groupings and personal skills which improve city livelihood and liveability. A 2021 World Bank report (Lall, et al., 2021) reveals that 55% of the world's population resides in urban areas. By 2050, this share is likely to exceed two-thirds (68%). Rapid urbanisation presents cities and nations with new challenges as well as opportunities. Policymakers must take strategic, concrete steps for city growth to be properly managed and liveable. The phenomenon is described as 'pancakes to pyramids.'

A city in pancake form has relatively low development and grows horizontally. A city in the shape of a pyramid grows partly outwards and partly inwards and upwards, filling in areas of vacant land and raising the height of new buildings in the city centre to increase the density of businesses and homes. Both economic and residential density can help cities address the challenges of growing populations and create platforms with more options for managing the threat of climate change. For instance, an investment in transportation policy and infrastructure can impact a city's growth potential, pollution levels, and carbon footprint.

Contrarily, issues with rural infrastructure are primarily focused on creating the necessary production conditions for social and economic growth as well as improving the quality of life in rural regions. The nation's rural infrastructure is essential for agro-industries, agriculture, and poverty alleviation of rural poverty.

In South Africa, urban areas continue to receive development priority over rural areas, resulting in uneven infrastructure provision. It contrasts the common knowledge that economic growth can be sped up by local economic development, which can also maintain rural residents' means of subsistence and reduce inequality (Makathini, Mlambo, and Mpanza, 2020). In the community development framework, public construction infrastructure projects have been recognised as one of the fundamental tools in improving the socio-economic conditions (Hussain et al., 2022). In construction projects, social related factors should be carried out to enhance community development. Instead of solely focusing on economic factors like creating jobs, increasing regional income, and reducing transportation costs; the government needs to play a role in the formulation of a series of policies that pay attention to social aspects, such as quality of life improvement, employment opportunities, environmental security, and well-being satisfaction.

2.3. Maintaining Quality

Inadequate infrastructure causes public services are not delivered to their full potential. Maintaining quality in infrastructure development projects is important. Time, cost, and quality are generally regarded as important factors for project success in the context of project management. The quality dimension is regarded as the least explicit indicator of project success. In order to meet deadlines and budgets, project quality is frequently overlooked (Hussain et al., 2018).

Quality requires proper supervision in every phase of the project, and given its connection to the project's long-term viability, it is currently receiving more attention. In most cases, building project quality entails meeting quality standards and exceeding user expectations. It is crucial that project contractors and the government as policy makers to have a better understanding of the factors that affect construction quality, ensure proper planning and implement a quality management monitoring model (Hussain et al., 2018).

Related to quality, maintenance is also an issue that is no less important. When considering allocating limited resources for public infrastructure development, many countries abandon maintenance in favour of new infrastructure projects. It is found that maintenance affects the quality of infrastructure and services produced (Gibson and Rioja, 2017). Japan had to pay a heavy price in the Sasago Tunnel incident in Tokyo in 2012, which resulted in deaths due to the collapse of the suspended roof for air ventilation. Since then, the government has promoted research and development programs in infrastructure maintenance, renovation, and management (Fujino and Siringoringo, 2020).

3. National Strategic Projects in Literature Review

Literature has documented various effects of existing PSNs on Indonesia's development process. Empirical studies show that the estimated impact of national strategic infrastructure development has a positive impact on the economy with varying magnitudes depending on the amount of sectoral allocation and investment. At the same time, other studies also show possible adverse effects such as social and environmental aspects due to the ongoing process.

The challenge with strategic infrastructure projects is not only the source of funding and financing. In its execution, strategic projects receive a lot of attention, particularly related to their impact on local economic and social conditions. One of the example is the New Yogyakarta International Airport (NYIA) project. The project caused local communities to flee, relocate, receive inadequate compensation, and lose their farmer identities and livelihoods. Due to the extensive infrastructure that will be built to support the region, the international airport's expansion may also result in water shortages and changes to the shoreline. In the Special Region of Yogyakarta Province, economic inequality is expected to decrease as a result of the NYIA development project. However, it is feared that those who are unable to keep up with the pace of urbanisation will be marginalised, whilst others will receive greater economic benefits as the NYIA develops into an international entry point for additional investments (Edita, 2019).

Connectivity has indeed become one of the government's concerns in infrastructure development and academics have faced various findings related to the development process. Observations on the Makassar–Parepare railroad project demonstrates an improvement in the well-being of the communities in Ajakkang Village, South Sulawesi, that will be impacted by the project (Darwis, Banowati, and Husain, 2022). Communities will receive compensation that is sufficient to enable them to obtain better housing. Local contractors are involved in the construction which also revitalises the local economy around the project site. Improvements to affected public facilities

and more modern transportation modes also provide the local community with benefits and pride. However, there are a number of negative aspects that require attention, particularly social and environmental aspects. Reduced agricultural land and the removal of trees have increased the temperature and caused flooding during rains. Friction between groups is inevitable due to protests by residents whose activities have been disrupted.

The reduction in agricultural land and the impact on the local people are also felt in the Solo–Yogyakarta toll road procurement. Klaten is one of the areas affected by the project. The majority of farmers in the region are landowners as well as cultivators with fertile land due to supportive irrigation. Generally they also rely on the sale of agricultural produce in the paddy fields, which is the main source of income. Land conversion for national strategic projects, including the construction of toll roads, often occurs at the expense of productive agricultural land (Utami, Hariadi, and Raya, 2022).

Projects that include the requirement for land in their development will quite often raise advantages and disadvantages – SPAM Umbulan is no special case. The Umbulan water source in Pasuruan Regency has a lot of discharged water of the highest quality, making it an excellent choice for drinking water. Although this water source has been used since the reign of the Dutch East Indies, it was not until 1972 that the Provincial Government of East Java came up with the idea to make use of Umbulan spring's quality, which would be wasted if it only ran into the sea. From 1988 to 2010 a project feasibility study was carried out by various parties but never reached a satisfactory conclusion. If summarised, the primary causes are mainly from the funding source and the failure of the prospected source of financing. Academic studies, on the other hand, demonstrate that, in terms of requirements, many people continue to purchase drinking water, which is relatively expensive, despite the dire situation of drought-prone regions and the absence of reliable water sources. In the meantime, it is known that access to water is an important capital to maintain livelihoods. Access to water supply is one of the components that influence the poverty classification and the difficulty of access to clean water increases disease rates and reduces productivity. Unfortunately, the government's failure to effectively communicate with the community regarding the project construction has sparked apprehension amongst the local residents that the availability of water sources will diminish and subsequently impact the overall agricultural output, which is typically the community's source of income (LPEM FEBUI, 2017; Surachman et al., 2020).

The development process is indeed often accompanied by various externalities, therefore monitoring and evaluation is very important to be carried out to ensure that the goals are achieved. The Presidential Staff Office under the leadership of President Joko Widodo is mandated to monitor and evaluate infrastructure development in Indonesia. Analysis shows that there are still problems in the management of results-based monitoring and evaluation at the Presidential Staff Office, along with overlapping authorities between ministries/agencies. These problems cause monitoring and evaluation to be ineffective so that the realisation of national strategic projects is slow (Emir and Juwono, 2021).

4. Examples of PSN Facilities Received by Priority Projects

The previous chapter discussed what kind of support can be given to a project that meets the criteria as a National Strategic Project, where the KPPIP's strategic role is crucial here to coordinate with the related parties and harmonise the various policies and facilities that can be utilised. The main function of the KPPIP is debottlenecking if there are problems in the implementation of a PSN. This can be done by coordinating between parties, for example with the Ministry of Agrarian Spatial Planning/National Land Agency if there are spatial planning and land acquisition issues, with the Ministry of Maritime Affairs and Fisheries regarding sea spatial planning and shipping lanes including landing stations. There is also the Ministry of Public Works and Public Housing and the Ministry of State-Owned Enterprises if the infrastructure built uses state-owned assets. The KPPIP will likewise involve the local government especially in licensing at the local level as well as the end user of the project. In public-private partnership (PPP) schemes, the KPPIP cooperates with the Ministry of National Development Planning and the Ministry of Finance, especially for project guarantees or viability gap fund or availability payment facilities. The Palapa Ring project is a national fibre-optic backbone network development project that stretches from the west to the east of Indonesia. The existence of the Palapa Ring is expected to support fixed and cellular telecommunications networks, including long-distance education and health support at low cost. Connected telecommunications access will also strengthen national resilience, expedite the implementation of universal service obligations, e-government, e-education, e-healthy, and internet access. In 2006 the Palapa Ring project was included as one of the 10 PPP project models whose development was prioritised by the government. But only in 2014 the commitment to build the PPP Palapa Ring project was refreshed. During its preparation, the project was divided into three packages: the West Package, the Central Package, and the East Package. The West and Central Palapa Rings started operating in 2018, whilst the East Palapa Ring started operating in 2019. Nonetheless, despite the fact that they are already in operation, each of these packages is not optimal in its utilisation if they are not connected to each other.

Palapa Ring integration will increase the utility of the existing Palapa Ring and complement the backbone network of national industrial operators. As quoted from the Infrastructure Director of BAKTI Ministry of Communications and Informatics on Primetime News on Metro TV, 27 October 2021, the use of the existing Palapa Ring is great, however, it is still exceptionally distant from its actual capacity. If not integrated, the utilisation of the three Palapa Ring packages will still be in the range of less than 50% as it is today. Palapa Ring integration will connect the three backbone networks of the West, Central, and East Palapa Rings to improve quality and reliability. This integration will likewise strengthen resilience when problems occur on one of the networks. The Palapa Ring integration will stretch for 12,261 kilometres across 14 provinces and 78 regencies and cities. This integration has the potential to increase the coverage of internet services to 10,091 companies and 16.4 million people who are currently not served by the internet.

To realise the full capacity of Palapa Ring service, cooperation and coordination between ministries, institutions, regions and related agencies are needed, such as the ease of the licensing process and the application of competitive licensing rates. The support of stakeholders for the completion of the project is very much needed, especially in the alignment of the Palapa Ring integration route into the spatial plans of the provinces, districts, and cities that are traversed. Through the PSN scheme, the government encourages the development of telecommunications infrastructure as well as improving the investment climate and ease of doing business. In the telecommunications sector, the government provides an easy space for synergy between all parties. Regional governments themselves can play an active role in the operation of telecommunications in their respective regions through efforts to develop infrastructure, finance, and provide facilities that can be used jointly.

In 2020 the government inaugurated the National Strategic Project PPP Bandar Lampung Drinking Water Supply System (SPAM Bandar Lampung). The city government of Bandar Lampung has long intended to improve clean water services, especially drinking water in its area. Even though there is PDAM Way Rilau, which is a locally-owned water company, the service coverage is minimal due to limited sources of raw water (2014 data shows service coverage of 20% of the population). In 2010 the Mayor of Bandar Lampung officially decided that the SPAM Bandar Lampung project would be built under a PPP scheme.

The preparation of the Bandar Lampung SPAM PPP project has progressed, reaching the feasibility support approval stage. However, the dynamics of water sector regulations, that is the submission of Law no. 7 of 2004 concerning the Processing of Water Resources and all of its derivative regulations to the Supreme Court halted the entire process. In 2016 SPAM Bandar Lampung became one of the PSNs. Meanwhile in response to changes in water sector regulations, it was taken to divide the project into two parts where the first part was carried out with the PPP, while the second part was built by the government with the state budget. This is a solution to water management regulation which prohibits the domination of the private sector from upstream to downstream. With the support of the PSN, there has been synergistic collaboration between the Ministry of Public Works and Housing, the Ministry of Finance, the Coordinating Ministry for the Economy, the City Government of Bandar Lampung, PDAM Way Rilau, and PT Penjaminan Infrastruktur Indonesia.

The Ministry of Public Works and Housing issued a letter of support for this project in July 2017. The Ministry through Supporting Agency for the Development of Drinking Water Supply Systems (Badan Pendukung Pengembangan Sistem Penyediaan Air Minum) and PT Sarana Multi Infrastruktur also provided mentoring support to increase the capacity of the PPP team and the procurement committee for the SPAM Bandar Lampung Implementing Business Entity. The Ministry of Public Works and Housing through the Directorate General of Highways also provides licensing and construction support for the placement of pipes in road-owned spaces on national

roads and permits for the construction of intake construction and issuance of permits for taking and utilising surface water from the Directorate General of Water Resources. In September 2017, the Minister of Finance issued principle approval for providing feasibility support amounting to Rp258.8 billion. In its development, this project requires permits that cross the authority limits of the mayor, considering that the location of the raw water sources is partly in the South Lampung Regency area. Under the KPPIP coordination, this problem was immediately resolved (Surachman, et al., 2020).

SPAM Bandar Lampung is implemented using a PPP scheme between the City Government of Bandar Lampung which mandates PDAM Way Rilau as the cooperation project person in charge with PT Adhya Tirta Lampung as the implementing business entity, which is a consortium of PT Bangun copyright contractor and PT Bangun Tjipta Sarana. The signing of the guarantee agreement between PT Penjaminan Infrastruktur Indonesia and PT Adhya Tirta Lampung, the regress agreement between PT Penjaminan Infrastruktur Indonesia and the PDAM Way Rilau were carried out in February 2018. In August 2018 the PPP SPAM Bandar Lampung project reached financial close. The concession period for the project is 25 years.

The main target of the PSN PPP SPAM Bandar Lampung is to improve the quality of raw water, where the water that is distributed becomes water with ready-to-drink quality. This 750 litres per second water supply is expected to benefit around 300,000 residents of the City Bandar Lampung which is spread over eight sub-districts.

5. SWOT Analysis on National Strategic Projects

As of December 2022, the government has accelerated the construction of 153 projects under the PSN scheme with a total investment value of Rp1,040 trillion. The success of PSNs has significantly impacted Indonesia's citizens, especially in the infrastructure sector supporting connectivity, energy security, food sovereignty and disaster mitigation, industrial down streaming, and investment support. However, there are still some challenges in certain sectors (Berita Papua, 2023) that need to be properly addressed. The first is related to land acquisition, especially in the toll road sector. Several alternative approaches need to be discussed so that the land acquisition process can be improved in which then the agreed timeframe can be managed by the relevant stakeholders. Second is related to funding issues. The APBN cannot fund investment needs in the infrastructure sector alone, so alternative schemes must be sought to fund these needs. Lastly, the third is permits. It is hoped that the enactment of Law Number 6 of 2023 can fix this permit issue. In this section the benefits and impacts of several PSN projects will be briefly elaborated as an introduction to the following chapters.

A strengths, weaknesses, opportunities, and threats (SWOT) analysis was carried out to obtain perceptions from respondents on the implementation of the construction of several PSNs through the distribution and processing of relevant questionnaires. The SWOT analysis is used to analyse the results of the questionnaire processing above and identify the strengths and weaknesses of internal factors as well as opportunities and challenges from external factors. Perception in this case is seen from two perspectives – reality and the level of importance using a score of 1 to 6. Reality describes the respondent's perception of the facts that are observed or felt, where a score of 1 indicates a very unfavourable perception, while a score of 6 indicates a very good perception of the project. Importance describes how important each of the factors assessed is, where a score of 1 indicates that the perception is not very important, while a score of 6 indicates that the perception is very important to the project. Furthermore, the results of the survey were assessed using the Internal Factors Analysis Summary (IFAS) and External Factors Analysis Summary (EFAS). The IFAS and EFAS assessments are then grouped into four quadrants based on the results of the assessment of each SWOT component: strengths, weaknesses, opportunities, and threats. Respondents who were involved represented the local community, academics, businesspeople, and public authorities who directly or indirectly involved in project execution. SWOT analysis is part of the expert choice method in which the respondents are those who have a complete set of knowledge on the discussed object. The researchers choose respondent experts individually based on the expert's competence.

5.1. PSN Challenges and Benefits Overview

General analysis of several PSNs shows promising results. The construction of several toll road sections within the confirmed PSN scheme can improve the quality and quantity of connectivity and accessibility of the related areas. The construction of the Manado–Bitung toll road can shorten the travel time between the City of Manado and the City of Bitung. The average travel time is around 1.5 to 2 hours when using the arterial route, and about 35 to 45 minutes when using the toll road. This toll road provides easy access for goods and services to the Bitung international port, which is one of the export and import gates for the eastern part of Indonesia. This toll road is also the main access to the Bitung special economic zone (SEZ). With this accessibility, it is hoped that the Bitung SEZ will encourage down streaming and boost the competitiveness of the fisheries, agriculture, and pharmaceutical sectors.

The construction of the Manado–Bitung toll road can also reduce the burden on national arterial roads and regional roads whose conditions are increasingly congested due to the growth in the number of vehicles and economic activity in supporting economic activities in North Sulawesi Province. In turn, this toll road can influence regional growth around the toll road area through the realisation of the potential for the emergence of new economic growth areas. Still related to the toll

road project within the PSN, the Jakarta–Cikampek (Japek) elevated toll road apart from providing benefits as briefly described which are similar to the previous toll road project, this project is also part of the traffic density solution on the previous section by making a significant contribution on the smooth flow of the Japek toll road through relatively effective breakdown of traffic flow for commuters and long trips.

In the PSN scheme there are also several infrastructure projects to support the achievement of food security targets in the form of dams. The Raknamo Dam in NTT Province, for example, provides several benefits, including increasing the planting period for rice and expanding agricultural land. The rice planting period, which was originally only possible during the rainy season in a relatively short time of 3–5 months, can now be extended. Rice planting does not solely depend on the rainy season but can be throughout the year. In addition to the increased planting period, there is also an expansion of agricultural land up to 2–3 times. This condition has the potential to increase the welfare of farmers. The construction of the dam also supports the construction of the SPAM Raknamo with a capacity of 100 litres per second to improve drinking water services in Kupang Regency. In addition, the existence of the dam also encourages the development of tourism as a new tourist destination in Kupang Regency. Another project in an effort to increase food security is the Jatigede Dam and Reservoir. This project provides benefits as an irrigation facility for more than 87,000 hectares of agricultural lands, flood control with a buffer discharge and flood reduction capacity of 585 cubic metres per second, as a raw water provider for Cirebon and Indramayu Regencies of 3,500 litres per second, and as a power plant with an output of 2 x 55 megawatts (MW).

The development of several SEZs as part of the PSN also brings economic and social benefits. Based on the 2023 Press Release by Coordinating Ministry for Economic Affairs, it is known that the Sorong SEZ provides benefits in creating new jobs for local Papuan workers and increasing community accessibility and mobility. From an economic standpoint, there has been an increase in the activity of the property and housing business in the buffer zones of the Sorong SEZ, the development of micro and small and medium-sized enterprises and cooperatives to support people's lives, as well as an increase in people's purchasing power and welfare due to growing economic activity. SEZ Mandalika has a direct and indirect effect on job creation. Kompas Research and development research information shows that the 2022 MotoGP event in Mandalika directly absorbed as many as 4,600 labourers, indirectly providing jobs related to tourism facilities to local entrepreneurs and communities. The MotoGP 2022 event was covered by domestic and foreign media as well as a means of publication for Mandalika tourism destinations (Yuniarto, 2023).

The development of an integrated national cross-border post (PLBN) project is part of the national strategy of building from the periphery. The Skouw coordinated PLBN, situated on the land border between the Republic of Indonesia and Papua New Guinea (PNG), serves as a hub for people and goods to cross borders, a hub for economic growth, and a tourist destination. Specifically, this coordinated PLBN provides advantages in expanding connectivity, serving as a cross-border administrative centre between nations, a cross-border trading hub, and a tourist destination for both domestic and international visitors.

The social infrastructure discussed in this book has generally met expectations of improving the community's quality of life, such as providing drinking water and solving the waste problem as well as providing electricity. The acquisition of social infrastructure frequently fosters positive externalities by creating new economic centres and jobs. The inclusion of technology additionally raises new expectations for work creation. For instance, in the Benowo waste-to-energy (WTE) project there is a great opportunity for opening positions related to the operation of the waste handling infrastructure since additional distribution and operational chains are involved.

However, without adequate local human resources' support and capacity, the advantages of the existing infrastructure will not be maximised. For instance, in the Tourism Residential Facility Project, it is concerning that the lack of human resource expertise could hinder the proper care and management of the residential facility. The same thing with Benowo WTE project. The required human resources need to have sufficient knowledge and proficiency about the technology in the facility. The support from affected communities is also crucial, as evident in the SPAM Umbulan project. Worries about the local community's resistance, as highlighted in the project's feasibility study, are still apparent. The sustainability of the springs remains a concern for the local community, regardless of the benefits brought by the existence of the SPAM Umbulan, which can provide clean and drinkable water to meet basic human needs and enhance the quality of life. In projects involving technology, there are also community apprehensions regarding environmental impacts, such as potential pollution resulting from WTE operations.

6. Conclusion

Infrastructure development is one of the initiatives for achieving the ultimate objective of every nation, which is development growth and the equal distribution of citizens' welfare. Both economic and social infrastructures are important and complementary to each other, and, likewise, infrastructure development in villages is required as much as in cities. Policymakers must take strategic and concrete steps for city growth to be appropriately managed and liveable, whilst issues with rural areas are primarily focused on creating the necessary production conditions for social and economic growth, as well as improving the quality of life. Maintaining quality in infrastructure development projects is also important. The quality dimension is regarded as the least explicit indicator of project success and is frequently overlooked. However, given its connection to a project's long-term viability, it is currently receiving more attention.

The urgency of infrastructure in providing the appropriate means to attain such objectives has been validated in numerous scholarly studies. The Indonesian government acknowledges this significance and is taking strategic measures through the National Strategic Project programme. Large numbers of physical structures that have been actualised have yet to be fully completed. Not all development processes progress smoothly; in fact, they can engender conflict amongst impacted occupants, but a considerable number serve as the foundation and source of hope for bringing about positive transformation to enhance the quality of life. It is undeniable that every development process often elicits both support and opposition. All elements of the government, both at the national and regional levels, must work together to enhance the quality of public communication and collaborate in providing local empowerment programmes to ensure that impacted occupants also perceive the benefits of the ongoing development. In the following chapters, the advantages and effects of several economic and social infrastructure PSN initiatives will be explained in greater detail.

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