

# Part 2:

## Non-connectivity Economic Infrastructure

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### 2.1. JATIGEDE DAM

#### 2.1.1. Profile Project

In the middle of Sumedang Regency flows the Cimanuk River, which originates at the base of Mount Papandayan in the Cisarupan District of Garut Regency. This river travels approximately 130 km to the northeast, passing through Garut, Sumedang, Majalengka, Cirebon, and Indramayu before flowing into the Java Sea (Kementerian PUPR, 2014).

The area traversed by the Cimanuk River falls within a tropical monsoon climate zone, experiencing distinct rainy and dry seasons throughout the year. The region receives abundant rainfall during the rainy season, leading to flooding disasters almost annually. Conversely, during the dry season, the water flow in and around the river is insufficient to meet the irrigation needs of the vast agricultural land spanning approximately 90,000 ha (Siahaan, 2017). The lack of irrigation causes the rice fields surrounding the Cimanuk River to suffer from drought.

To resolve these issues, the government took the initiative to build the Jatigede Dam and utilise the Cimanuk River's stored water. The Jatigede Dam was expected to alleviate irrigation water shortages, meet the demand for natural water supply, and generate hydroelectricity. In addition, the Jatigede Dam was also expected to control the annual floods that inundate areas downstream.

**Figure 3.52. The Location of Jatigede Dam Before Construction**



Source: Non-Vertical Specific Work Unit for the Development of Jatigede Reservoir, Jatigede Reservoir, personal communication, 16 June 2023.

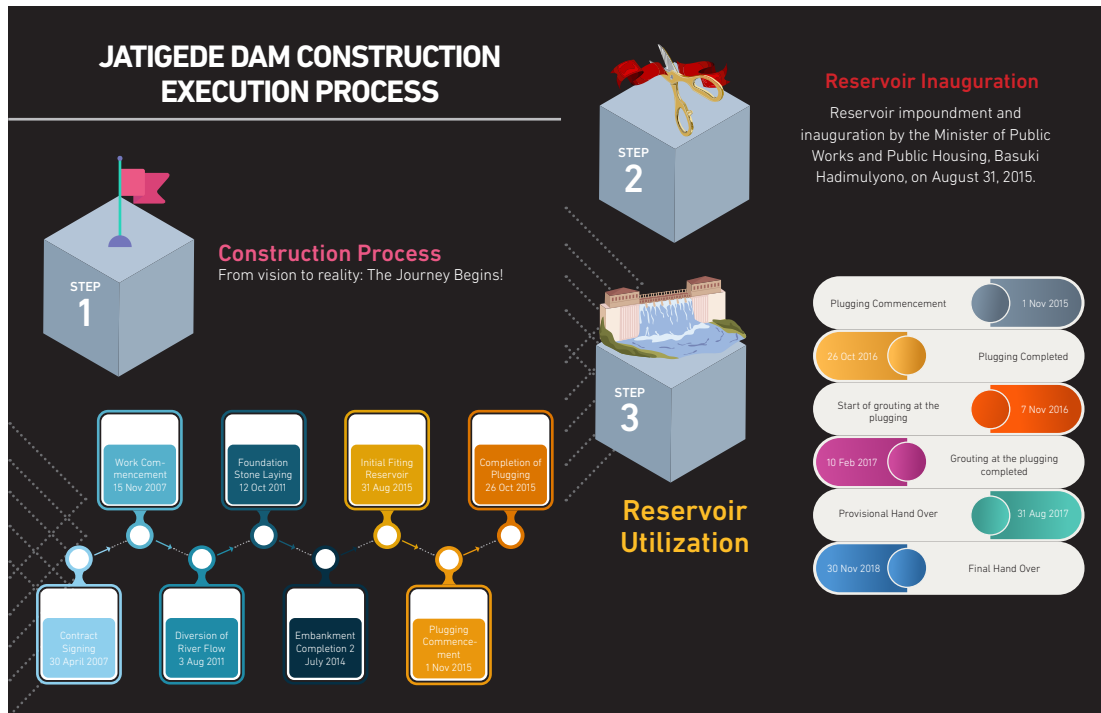
Jatigede Dam is one of the National Strategic Projects (PSN) located in Sumedang, as shown in Figure 3.52. The construction of the Jatigede Dam was listed as a PSN based on Presidential Regulation No.3/2016 regarding the Acceleration of the National Strategic Projects Implementation.

The initial studies of the dam were first conceived in 1963, with land clearance beginning in 1982. The design for the dam's construction was made in 1988, and construction work commenced 20 years later in 2007, taking eight years to complete in 2015 before becoming fully operational in 2017. By holding the status as a PSN in 2016, Jatigede Dam was given higher priority to be completed by the government. This ensured that sufficient resources and attention were allocated to efficiently and effectively complete the project. Furthermore, there was more intense coordination between the central government and local government to complete the Jatigede Dam. For instance, in 2016, the Ministry of Public Works and Housing and the Sumedang Regency Government coordinated efforts to expedite the construction of the access road to Jatigede Dam, specifically a ring road. They also requested the Sumedang Regency Government to promptly resolve the remaining 1 km of land that had not been cleared (Kementerian PUPR, 2016).

The Jatigede Dam construction process, as shown in Figure 3.53, occurred from 2007 to 2015 and was jointly managed by the Ministry of Public Works and Housing, the Cimanuk Cisanggarung River Basin Organization (BBWS Cimancis), the West Java Provincial Government, and the Sumedang Regency Government. In addition, the construction and management of the dam also involved various stakeholders, including the Financial and Development Supervisory Board, the National Land Agency, the Prosecutor’s Office, the Police, and the Indonesian National Army.

Despite the challenges faced during the planning and construction process, the dam was completed with the support of various parties. The Jatigede Dam now stands in the heart of Sumedang and provides significant benefits. The Jatigede Dam primarily irrigates farmland, provides raw water, and helps generating hydroelectric power along the Cimanuk River.

**Figure 3.53. Jatigede Dam Construction Execution Process**



Source: Non-Vertical Specific Work Unit for the Development of Jatigede Reservoir, Jatigede Reservoir, personal communication, 16 June 2023.

Following the construction of the Jatigede Dam, the Jatigede Reservoir was formed. On 31 August 2015, the Minister of Public Works and Housing, Basuki Hadimulyono, inundated and inaugurated the reservoir. The Jatigede Reservoir is currently the second largest in Indonesia. With a capacity of 1.06 billion m<sup>3</sup>, the Jatigede Reservoir irrigates 87,820 ha of agricultural land in the northern part of West Java (Kementerian PUPR, 2014).

## 2.1.2. Project Objectives

The Committee for Acceleration of Priority Infrastructure Delivery (*Komite Percepatan Penyediaan Infrastruktur Prioritas /KPPIP*) occupies a pivotal role in expediting the completion of the Jatigede Dam. Following the dam's classification as a PSN, the government accelerated its construction.

In 2016, the filling of the Jatigede Reservoir was completed in five stages. The initial phase encompassed the secure plugging of the reservoir until it approached its maximum capacity. Subsequently, the second phase entailed the assessment of dam instrumentation, culminating in a stability analysis. Continuation of dam behaviour assessment constituted the third phase. After the dam's activities stabilised, the water elevation level was raised to fill the reservoir in the fourth stage. In 2016, backfill grouting was also done on the cooling, release, and pressure-balancing pipes. In addition, in the same year, there were evaluations of dam readiness, including generator and machinery assessments, along with the installation of lightning protection systems.

One of the primary objectives of the construction is to control the Cimanuk River. During the dry season, the dam regulates the release of water, irrigating the vast agricultural land lining the riverbanks. In the rainy season, the dam holds back the excess flow, preventing catastrophic flooding downstream.

Beyond its role as a guardian of agricultural lands, the Jatigede Dam plays a crucial role as a reliable source of raw water supply. The pristine water held within the dam's reservoir undergoes rigorous treatment processes before cascading into taps and wells, bringing sustenance and vitality to households. The dam's presence, therefore, fosters a sense of community well-being, assuring society of a secure and potable water source.

The Jatigede Dam is expected to stand as a symbol of sustainable energy generation. Embracing innovative technologies, it is designed as a dynamic hydropower plant. The Sumedang Regency Government on its official website also mentioned that water from the Jatigede Reservoir is also planned for a 110 MW Hydro Power Plant (PLTA) (*Dinas Arsip dan Perpustakaan Daerah Kabupaten Sumedang, 2023*), which the State Electricity Company (PLN) will build. In addition to its vital role in water management and energy generation, the Jatigede Dam provides sustainable leisure for recreation seekers.

Lastly, besides its technical advantages, the Jatigede Reservoir is expected to offer natural beauty 'accidentally', resulting from its inundation process. Utilising this attractiveness, the neighbourhood makes an appealing tourist destination.

Given its designation as a PSN, the Jatigede Dam has a pivotal role in advancing sustainable growth and promoting equitable development, thereby enhancing the welfare of the populace, and fostering regional advancement.

### 2.1.3. Project Cost and Source of Funding

The construction of the Jatigede Dam, as shown in Figure 3.54, required a sizable amount of funds; for that, the Government of Indonesia cooperated with the People's Republic of China (PRC). In this project, the contract format used a unit price contract system, where the contract unit price for each work item was fixed and binding, rendered in Indonesia rupiah and US dollars (US\$) (Siahaan, 2017). This contract's unit price includes all cost components, including transportation procurement fees, implementation fees, and all other expenses, including profits and contingencies. In determining the unit price of this contract, a technical analysis and an analysis of the unit price, which includes wages, materials, and instruments, were performed.

**Figure 3.54. Construction of the Jatigede Dam**



Source: Non-Vertical Specific Work Unit for the Development of Jatigede Reservoir, Jatigede Reservoir, personal communication, 16 June 2023.

The Jatigede Dam was constructed using the Republic of Indonesia's state budget and a loan from the PRC through the Export-Import Bank of China. The Directorate General of Debt Management (now the Directorate General of Financing and Risk Management) signed the loan agreement for the construction of the Jatigede Dam with the Ministry of Finance and the chief executive officer of the Export-Import Bank of China on 25 September 2007. The project payment was made through a monthly instalment system over 12 years with an annual interest rate of 3% (Kementerian PUPR, 2007). The payment amount was adjusted based on the completion of work volumes. Disbursement of payments was made with the agreement of various parties, including contractors, supervising consultants, and the dam's Non-Vertical Work Unit. The Jatigede Dam was constructed with a budget of approximately Rp4.674 trillion (Non-Vertical Work Unit for the Development of Jatigede Reservoir, personal communication, 19 June 2023). The construction contractor for the Jatigede Dam was Shinohydro from the People's Republic of China, working in collaboration with an Indonesian consortium composed of PT. Hutama Karya, PT. Wijaya Karya, PT. Waskita Karya, and PT. Pembangunan Perumahan.

## 2.1.4. External and Internal Factors

We collected data from stakeholders to measure respondents' perspectives. The collection of the respondents' perceptions was done through a questionnaire. The participants included government and/or project implementers, academics, the community, and business owners. The government and/or project implementers were from the Ministry of Public Works and Housing, the Cimanuk Cisanggarung River Basin Organisation, and Non-Vertical Work Unit of the Jatigede Dam Construction. The academics were from various universities in the surrounding area of Sumedang. Meanwhile, the selected community and business owners were those located around the Jatigede Dam area in the Sumedang region.

Next, their perception of various internal and external factors – their perceived reality and perceived importance – was collected and analysed. Perceived reality measures the stakeholders' perception of the facts observed, whilst the perceived level of importance scores factors that respondents feel are important to the success of the project. Both are scored on a scale of 1 to 6, where 1 indicates a very negative perception and a score of 6 a very positive reception.

### 2.1.4.1. External Factors

The identified external factors are the level of support from the local community for PSN (E<sub>1</sub>); the level of investor interest in supporting facilities in the PSN area (E<sub>2</sub>); PSN opportunities in job creation or new business (E<sub>3</sub>); opportunities of PSN in improving people's welfare (E<sub>4</sub>); opportunities for PSN in increasing state and/or regional revenues (E<sub>5</sub>); availability of land for PSN development (E<sub>6</sub>); potential for disputes or lawsuits in the PSN implementation process (E<sub>7</sub>); alignment of PSN with its purposes (E<sub>8</sub>); and the availability of competent human resources to implement the PSN construction (E<sub>9</sub>).

### 2.1.4.2. Internal Factors

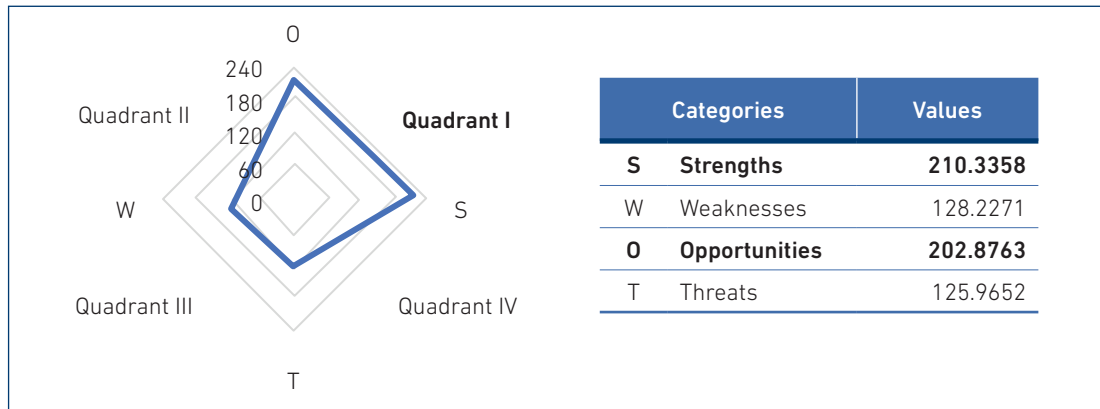
The identified internal factors are the deregulation or enactment of regulations (I<sub>1</sub>); compatibility of PSN development with regional spatial planning and land use (I<sub>2</sub>); access to infrastructure that supports PSN (I<sub>3</sub>); support from the central and/or regional government in PSN financing (I<sub>4</sub>); level of technical smoothness of PSN construction (I<sub>5</sub>); timeliness in PSN construction (I<sub>6</sub>); PSN physical quality level (I<sub>7</sub>); level of concern for the development of PSN for environmental sustainability (I<sub>8</sub>); adequacy of PSN-supporting facilities (I<sub>9</sub>); location suitability of PSN (I<sub>10</sub>); punctuality of fund disbursement (I<sub>11</sub>); and ease of licensing in the PSN preparation and implementation process (I<sub>12</sub>).

## 2.1.5. SWOT Results and Analysis

The analysis of the challenges and benefits of the Jatigede Dam and Reservoir was conducted using a SWOT analysis based on respondents' perceptions regarding the actual value and importance of each factor in implementing and utilising the Jatigede Dam National Strategic Project (PSN Jatigede Dam). The collection of respondent perceptions was done through a questionnaire.

The results of the SWOT analysis can be seen in Quadrant I of Figure 3.55. Strengths dominate the internal factors, while opportunities dominate the external factors. In this case, the Jatigede Dam is in a very favourable condition. It has opportunities and strengths that can be further maximised according to the dam's purpose. An effective strategy for this situation involves optimizing the utilization of water resources to irrigate 87,830 hectares of agricultural land, mitigate floods in a substantial 14,000-hectare area, and provide clean drinking water for the local population. Additionally, it is imperative to empower the local community to create employment opportunities stemming from the Jatigede Dam and to develop the Jatigede Reservoir as an ecotourism destination.

**Figure 3.55. Jatigede Dam SWOT Results**



SWOT = strenghts-weaknesses-opportunities-threats.

Source: Authors, 2023.

The factors identified in the SWOT analysis are shown in Figure 3.56.

**Figure 3.56. Matrix of SWOT Analysis Results Factors**

<b>Internal</b>	<b>Strengths</b>	<b>Weaknesses</b>
	<ul style="list-style-type: none"> <li>• Suitable location for the construction of the Jatigede Dam</li> <li>• High-quality physical infrastructure of the Jatigede Dam</li> <li>• Alignment of the Jatigede Dam construction with regional spatial planning and landuse</li> <li>• Support from the central and/or regional government in financing the Jatigede Dam</li> <li>• Ease of obtaining permits for the preparation and implementation of the Jatigede Dam</li> <li>• Strong commitment to environmental sustainability in the construction of the Jatigede Dam</li> <li>• Timely disbursement of funds for the construction of the Jatigede Dam</li> </ul>	<ul style="list-style-type: none"> <li>• Delays in the completion of the Jatigede Dam construction</li> <li>• Challenges in maintaining smooth technical progress in the construction of the Jatigede Dam</li> <li>• Limited support from deregulation or the Issuance of regulations to facilitate the implementation of the Jatigede Dam</li> <li>• Insufficient availability of supporting infrastructure for the Jatigede Dam</li> <li>• Inadequate provision of facilities and resources for the Jatigede Dam</li> </ul>
<b>External</b>	<b>Opportunities</b>	<b>Threats</b>
	<ul style="list-style-type: none"> <li>• Alignment of the Jatigede Dam construction with its intended purposes</li> <li>• Availability of land for the construction of the Jatigede Dam</li> <li>• Creation of employment opportunities and/or new businesses for the community through the Jatigede Dam construction</li> <li>• Improvement in the well-being of the local community with the presence of the Jatigede Dam</li> <li>• Support from the local community towards the Jatigede Dam</li> <li>• Potential for the Jatigede Dam construction to proceed without disputes or legal issues</li> </ul>	<ul style="list-style-type: none"> <li>• Level of income increase for the state/region due to the Jatigede Dam</li> <li>• Impact of the Jatigede Dam on attracting investors to the surrounding area</li> <li>• Availability of competent human resources to implement the Jatigede Dam Construction</li> </ul>
	<b>Positive</b>	<b>Negative</b>

SWOT = strengths-weaknesses-opportunities-threats.

Source: Authors, 2023.

Figure 3.56 presents factors arranged based on respondents' average perception ratings for each aspect. The positive category (strengths and opportunities) ranks factors from highest to lowest average rating, indicating better support for the objectives of the PSN Jatigede Dam. The most crucial internal aspect is the location's suitability, given its role in regulating water flow as it is built on the Cimanuk River. Externally, there are opportunities for the dam's utilisation, making it suitable for its intended purpose.



On the other hand, the negative category (weaknesses and threats) ranks factors from lowest to highest average rating, indicating worse perceptions. Internally, the biggest weakness is the timeliness of the dam's completion, which took several decades due to challenges in land acquisition and construction. Externally, the regional income level has seen minimal improvement, possibly due to changes in the community's livelihoods.

### 2.1.5.1. Main Challenges

#### a. The Compensation for Affected Communities

The construction and management of Jatigede Dam faced challenges in compensating affected communities. The process involved multiple government entities, such as the Ministry of Public Works and Housing, BBWS Cimancis, the West Java Regional Government, and the Sumedang District Government. The Minister of Finance determined cash compensation based on proposals from coordination meetings with relevant parties, resulting in approximately Rp750 billion allocated for compensation. (Kementerian PUPR, 2015b).

Affected communities were divided into two categories. The first received cash compensation of Rp122.59 million per household (CNN Indonesia, 2015) for 4,514 households (Kementerian PUPR, 2015a) with released land but no new housing. The second, ineligible for compensation, received resettlement aid of Rp29.36 million for approximately 6,410 households (CNN Indonesia, 2015). Challenges arose as 13,564 households (Kementerian PUPR, 2015a).

Several issues contributed to these challenges, such as delayed payments, confusion about eligibility for deceased relatives, legal constraints, double compensation, disputes, prolonged construction process, document handovers, agreement difficulties, doubts about dam benefits, and unauthorised house claims. In response, Jatigede Dam management ensured prompt payment upon budget execution plan approval, synchronised data amongst institutions via the Affected People Communication Forum, held consultations, prevented conflicts, and conducted public awareness campaigns about the dam's construction.

#### b The Community Relocation

Initially, the community relocation seemed to progress smoothly, with affected landowners agreeing to move after receiving compensation. The government had even prepared relocation sites in several sub-districts (Jatinunggal, Cisitu, and Buah Dua) for the affected districts. However, the implementation faced unexpected obstacles:

- a) The field implementation fell significantly behind schedule due to the prolonged land acquisition process, which hindered the overall construction progress.
- b) The number of government-provided houses for community relocation turned out to be insufficient, posing difficulties in resettling everyone affected.
- c) Despite receiving compensation, a small portion of the community chose to remain in the area, further complicating the relocation efforts.

To tackle these challenges, the government responded by issuing Presidential Regulation No. 1 of 2015. This regulation aimed to address the social impact of the Jatigede Dam development by stipulating the compensation to be provided for the affected communities.

### c. The Change in Community Professions

The loss of livelihoods for the community as farmers necessitates the provision of alternative ways to enhance their quality of life and income. This transition process and its impact on the community should be meticulously planned and implemented systematically to avoid surprises and facilitate smooth adaptation to the changes. Table 3.12 illustrates the shifts in community professions as a result of these changes.

**Table 3.12. Types of Work for Affected Communities**

No	Work	Before		After	
		Amount	%	Amount	%
1	Farmer	5	8.77%	0	0
2	Farm workers	35	61.40%	6	10.53%
3	Construction workers	4	7.02%	2	3.51%
4	Trader	5	8.77%	6	10.53%
5	Fisherman	0	0.00%	6	10.53%
6	Private employees	2	3.51%	1	1.75%
7	Freelance	5	8.77%	32	56.14%
8	Other	1	1.75%	4	7.02%
<b>Amount</b>		<b>57</b>	<b>100%</b>	<b>57</b>	<b>100%</b>

Source: Fadli et al., 2019.

#### d. Infrastructure Readiness and Cultural Challenges

The Jatigede Dam and Reservoir construction faces challenges related to downstream infrastructure readiness. Ensuring the optimisation of raw water absorption for drinking purposes is crucial.

In addition, within the inundation area of the Jatigede Reservoir, there are numerous historical sites, including remnants from prehistoric times and the Tembong Agung or Sumedanglarang Kingdom era, as well as ancestral village founders' tombs. The government strives to secure and preserve these culturally significant artifacts left behind by ancestors.

The construction of the reservoir also affects Sundanese cultural heritage in Sumedang Regency. Efforts are being made to prevent the disappearance of ancestral heritage (karuhun) by relocating affected communities to new homes near the inundation area, allowing them to continue their customs and traditions alongside people from the same ancestry. Additionally, communities can establish artistic environments or cultural communities to preserve Sundanese ancestral customs and traditions.

#### 2.1.5.2. Main Benefits

Jatigede Dam and Reservoir can be seen in Figure 3.57

**Figure 3.57. Jatigede Dam and Reservoir**



Source: Non-Vertical Specific Work Unit for the Development of Jatigede Reservoir, personal communication, 16 June 2023.

Through the analysis of the PSN Jatigede Dam and Reservoir construction and the strengths-weaknesses-opportunities-threats (SWOT) analysis, it becomes evident that the project brings about the following significant benefits:

- a) **Irrigation Facility.** The Jatigede Reservoir provides irrigation for an extensive agricultural land area, covering 87.830 ha. This irrigation capability enhances agricultural productivity and fosters bountiful harvests for the region.
- b) **Flood Control.** As a crucial buffer, the Jatigede Reservoir plays a vital role in mitigating floods for a substantial 14,000-hectare area in West Java (Siahaan, 2017). It significantly reduces the peak flood discharge by 585 m<sup>3</sup>/s, contributing to enhanced flood management and protection for downstream communities.
- c) **Drinking Water Supply.** Serving as a reliable source of raw water, the Jatigede Reservoir meets the domestic drinking water needs of the Cirebon and Indramayu districts. At an impressive rate of 3,500 L per second or 3.50 m<sup>3</sup>/s, it provides a consistent and sufficient supply of clean drinking water for the local population.
- d) **Hydropower Generation.** The dam demonstrates its versatility by generating hydropower. With a capacity to produce 2x55 MW, or a total of 110 MW of hydropower, it contributes to the sustainable production of electricity, promoting cleaner energy options for the region (Kementerian PUPR, 2011). The Ministry of Energy and Mineral Resources (ESDM) targets the Jatigede Hydropower Plant of 110 MW to be in commercial operation by 2024, and this hydro power plant is expected to enhance the stable supply of clean energy into the PLN electricity system in the future (Wahyudi, 2023).
- e) **Improved Access for the Community.** Apart from its technical advantages, the project also facilitates improved access, particularly in education. Research indicates that the community experiences enhanced ease of access to education, signifying positive social impacts that benefit the population's overall well-being. In addition, the ring road access in the areas surrounding the Jatigede Dam enhances the mobility of the residents. In addition to serving as a public transportation route, the construction of the Ring Road of Jatigede Dam also improves road access for tourism to Jatigede Dam (Ginting, 2019).
- f) **The Jatigede Reservoir showcases stunning natural beauty** unintentionally revealed through the inundation process. The Tourism Office of Sumedang Regency actively promotes this attraction using brochures, banners, billboards, and social media platforms. To enhance its appeal as a tourist destination, a higher budget for promotion, increased public awareness, and support for the local cottage industry are essential. Jatigede Dam is now often used as a location for boat rowing competitions (Syahputra, 2023). In addition, the Sumedang Regency Government's efforts to establish the Jatigede Special Economic Zone (SEZ) for tourism have been realized with the signing of a Memorandum of Understanding (MoU) between Regent Dony Ahmad Munir and the President Director of PT Pengembangan Pariwisata Indonesia or ITDC (International Tourism Development Corporation) in July 2019 (Ginting, 2019).

## Conclusion

The construction of the Jatigede Dam in Sumedang Regency was an achievement in Indonesia's infrastructure development, spanning over 5 decades from initial studies in 1963 to its completion in 2015, with the reservoir being filled in 2016. The project encountered challenges related to land acquisition, compensating affected communities, and relocating residents. Preserving Sundanese culture and historical sites during construction also posed additional complexities for the government.

However, being incorporated into the PSN list provided the Jatigede Dam project with several benefits that hastened its progression. Any obstacles, whether they were tied to regulations or permissions, were promptly resolved by the relevant ministers, governors, and regents. Additionally, the PSN project benefits from faster land acquisition procedures and guarantees of political stability.

The Jatigede Dam and Reservoir project now stands as a testament to human ingenuity and determination, delivering manifold benefits to the region. As a crucial irrigation facility, it provides water to an extensive agricultural land area of 87,830 ha, boosting agricultural productivity and supporting farmers.

The reservoir has proven its worth as a critical flood control measure, acting as a buffer during peak flood discharges and protecting a vast 14,000-ha area in West Java from potential calamities. Moreover, the project addresses water scarcity concerns in the Cirebon and Indramayu Regencies, serving as a reliable source of raw water and meeting domestic drinking water needs, ensuring public health and well-being. Harnessing hydropower, the dam reduces the region's dependence on fossil fuels and promoting sustainability.

The successful completion of the Jatigede Dam and Reservoir project highlights its multifaceted contributions to agriculture, flood control, water supply, sustainable energy, education, and tourism. It exemplifies the nation's commitment to responsible resource management, cultural preservation, and regional development for a brighter and more sustainable future.

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## 2.2. RAKNAMO DAM

### 2.2.1. Project Profile

East Nusa Tenggara Province (NTT) is in the geographical region between Asia and Australia and, bordered by the Indian Ocean and the Flores Sea, is part of the Lesser Sunda Islands cluster. The province spans an area of 47,931.54 km<sup>2</sup> and is home to a population of 5,387,738. There are only two seasons in NTT, rainy and dry. In June–September, wind currents originate from Australia and do not contain much moisture, causing the dry season. On the other hand, the wind flows from Asia and the Pacific Ocean from December to March, causing the rainy season. The transition period occurs in April–May and October–November. Because NTT is closer to Australia, most of which has a desert climate, the conditions in NTT also tend to be dry. Wind currents from Asia and the Pacific Ocean decrease their initially heavy water vapour content when entering the NTT region. As a result, rainfall in NTT is low and makes NTT a relatively dry area. The average number of rainy days in NTT is only 163.5 rainy days/year (BPS, 2022).

**Figure 3.58. Raknamo Dam Development**



Source: Nusa Tenggara River Basin Office II (nd).



The Raknamo Dam (Table 3.13) was built according to the regional needs of the East Nusa Tenggara province and its designation as a National Strategic Project (PSN) is contained in Presidential Regulation Number 3 of 2016. The Raknamo Dam meets the requirements of a PSN with the following characteristics:

- conforms with the national/regional medium-term development plan and the infrastructure sector strategic plan;
- conforms with spatial and regional layout plans;
- has a strategic role in the economy, social welfare, defence, and security (contribution to gross regional revenue and gross domestic income, employment, socio-economic effects, environmental effects);
- has links between infrastructure and regional sectors (has a complementarity effect);
- cultivates diversity of distribution between islands (balancing between Western Indonesia and Eastern Indonesia).

According to the topographical map, the Raknamo Dam is situated on the Noel Puames River within the administrative boundaries of Dusun IV (Dusun Oepoi), Raknamo Village, Amabi Oefeto District, Kupang Regency, East Nusa Tenggara Province.

**Table 3.13. Raknamo Dam Technical Data**

WATERSHED	
Name	Noel Puames River
River Length	15.71 km
Watershed area	38.34 km <sup>2</sup>
RESERVOIR FLOOD AREA	
Inundation area	147.30 ha
Total Storage	14.09 million m <sup>3</sup>
Effective Storage	10.26 million m <sup>3</sup>
Dead Storage	3.83 million m <sup>3</sup>
Max. Water Level	+ 104.00 m
Water Level Min.	+ 93.65 m
Flood MA elevation	Q1000 + 106.30 m
QPMF flood MA elevation	+ 108.21 m
Flood Discharge	Q1000 434.71 m <sup>3</sup> /s
PMF Flood Debit	1,076.08 m <sup>3</sup> /sec

QPMF = peak flood discharge, MA = mean annual, PMF = probable maximum flood.

Source: Nusa Tenggara River Basin Office II (no date).

Raknamo Dam was solely supervised and built by Ministry of Public Work and Housing. The laying of the first stone of the Raknamo Dam was carried out in 2014 and the dam was inaugurated on 9 January 2018 by President Joko Widodo. With this inauguration, the dam, with a capacity of 14.09 million m<sup>3</sup>, has been declared completed. On 8 September 2022, an operational certificate was issued so that the Raknamo Dam could be declared completed and properly functioning.

### 2.2.2. Project Objectives

In the Nusa Tenggara region, there are promising opportunities and potentials for utilising dry land, although it is challenging compared to agricultural land in areas that are not dry land. The Nusa Tenggara region has the most extensive distribution of dry land in Indonesia, with approximately 3,216,173 ha in NTT and 634,876 ha in Nusa Tenggara Barat. Even though there are limited water supplies from surface water sources, the potential for groundwater in this area is quite large. The presence of productive aquifers can exploit it. The Nusa Tenggara Barat region has a groundwater potential of 63,895 L/second, with NTT having 267,282 L/second, which can supplement surface water irrigation, especially during periods of low rainfall.

NTT, as a province with a dry climate, has promising potential for non-paddy agricultural land, namely 3.8 million ha. Providing water for various needs is one of the main priorities in NTT, mainly because of the existence of the agricultural and livestock sectors, which are the people's main livelihood. Drought is also a problem for residents. As outlined in the Master Plan for the Acceleration and Expansion of Indonesian Economic Development 2011–25, the swift development of clean water facilities in Nusa Tenggara is a crucial infrastructure initiative. The primary objective is to bolster the region's economic sectors, particularly aquaculture and livestock, by providing necessary support and resources.

With PSN status, Raknamo Dam has advantages related to guaranteed funding for construction and land acquisition. This infrastructure development is a series of activities of the Ministry of Public Works and Public Housing in supporting the Nawacita programme, namely developing Indonesia by strengthening regions and villages within the framework of the unitary state of the Republic of Indonesia to increase people's productivity.

### 2.2.3. Project Cost and Source of Fund

The construction of the Raknamo Dam cost around Rp760 billion, sourced entirely from the state budget (Table 3.14).

**Table 3.14. Information on Raknamo Dam Project Activities**

Location	Raknamo Village, Amabi Oefeto District, Kupang Regency
Service User	Minister For Public Works and Housing, Directorate General of Water Resources, Nusa Tenggara River Regional Office II, SNVT Construction of the BWS Nusa Tenggara II Dam, PPK Dam Activities I
Implementer of Construction Activities	PT. Waskita Karya (Persero) Tbk.
Construction Contract Value	Rp759,400,000,000 (value added tax included)
Construction Implementation Time	1,405 Calendar Days (47 Months)
Contract End Time	11 February 2019
Executor of Supervision Activities	PT. CATURBINA GUNA PERSADA (KSO) – PT. JASAPATRIA GUNATAMA - PT. ARGA POST PLAN - PT. FACILITIES BAGJA EARTH
Supervision Contract Value	Rp21,679,509,000 (value added tax included)
Supervision Contract Number and Date	Number: HK.02.03/SNVT/PJSA- NT.II / PKSDA-I/240/XII/2014 Date: 17 December 2014
Supervision Implementation Time	1,520 Calendar Days (51 Months)
Supervision End Time	11 February 2019
Maintenance period	365 Days Calendar

Source: Nusa Tenggara River Basin Office II (no date).

### 2.2.4. External and Internal Factors

We collected data from stakeholders to measure respondents' perspectives. Respondents comprised academics, community leaders, local governments, entrepreneurs, and those from communities around the dam.

### 2.2.4.1. External Factors

The identified external factors are the level of support from the local community for PSN (E<sub>1</sub>); the level of investors' interest in the development of Raknamo Dam (E<sub>2</sub>); the level of opportunity for the private sector/community to become investors for supporting facilities in the PSN area (E<sub>3</sub>); PSN opportunities for job creation (E<sub>4</sub>); the level of impact of PSN on opening access around the PSN location (E<sub>5</sub>); the PSN impact on new business creation for the community (E<sub>6</sub>); the potential increase in tourists (E<sub>7</sub>); opportunities for PSN in improving people's welfare (E<sub>8</sub>); opportunities for PSN in increasing state and/or regional revenue (E<sub>9</sub>); availability of land for PSN development (E<sub>10</sub>); timely disbursement of PSN funding (E<sub>11</sub>); potential for disputes or lawsuits in the PSN implementation process (E<sub>12</sub>); and the ease of obtaining a business at the PSN location (E<sub>13</sub>).

### 2.2.4.2. Internal Factors

The identified internal factors are the deregulation or enactment of regulation (I<sub>1</sub>); suitability of the PSN location (I<sub>2</sub>); compatibility of the PSN development with regional spatial planning and land use (I<sub>3</sub>); access to infrastructure that supports PSN (I<sub>4</sub>); support from the central and/or regional government in PSN financing (I<sub>5</sub>); ease of licensing in the PSN preparation and implementation process (I<sub>6</sub>); level of technical smoothness of PSN construction (I<sub>7</sub>); level of use of modern technology in PSN development (I<sub>8</sub>); timeliness of PSN construction (I<sub>9</sub>); PSN physical quality level (I<sub>10</sub>); suitability of the PSN development result (I<sub>11</sub>); level of concern for the development of PSN for environmental sustainability; and the adequacy of PSN-supporting facilities (I<sub>13</sub>).

**Figure 3.59. The Area around the Raknamo Dam**

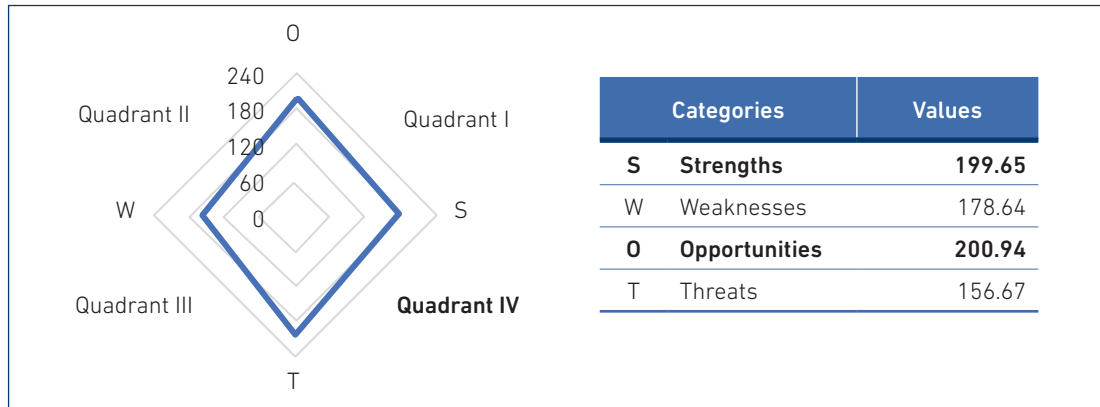


Source: Ministry of Public Works and Housing, 2018.

### 2.2.5. SWOT Results and Analysis

The survey result was analysed using a SWOT approach to illustrate the perceived challenges and benefit. The SWOT analysis finding was then presented in a radar chart, as shown in Figure 3.60.

**Figure 3.60. SWOT Analysis**



SWOT = strengths-weaknesses-opportunities-threats.

Source: Authors, 2023.

The strength value is greater than the weakness value, and the opportunity value is greater than the threat value. The strategy that must be carried out for SWOT results in quadrant I is aggressive (Aggressive Strategy). How can the strengths of the Raknamo Dam take advantage of the opportunities that exist today?

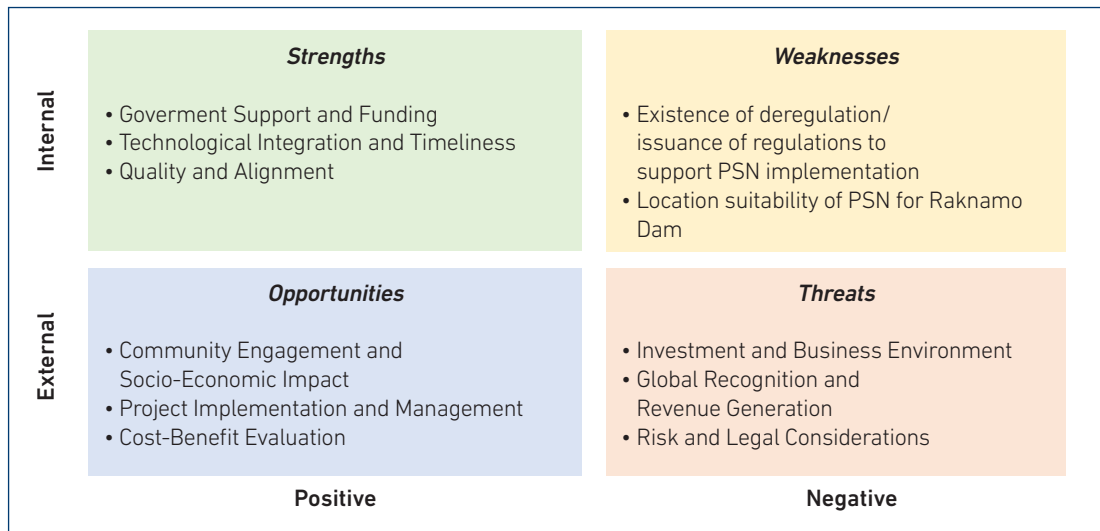
Quadrant I represents a highly favourable condition for the Raknamo Dam, with dominant opportunities and strengths that can be leveraged for further development. The growth-oriented strength-opportunity strategy supports this situation.

To maximise internal strengths, the government can capitalise on its advantages, such as strong support, modern technology adoption, timely development, accurate project implementation, high physical quality, suitable development result allocation, and sufficient supporting facilities. The focus should be on optimising and adding value to the dam's benefits by exploring various possibilities for maximum utilisation.

To make the most of external opportunities, the government can prioritise using the dam to enhance people's welfare and develop the surrounding area. Utilising available water resources can drive growth in agriculture, renewable energy, tourism, and infrastructure around the Dam. Strengthening cooperation with the private sector for investments that support regional development is also crucial.

The government must emphasise environmental management and sustainability to address internal weaknesses and external threats. Responsible environmental management is essential to preserve the ecosystem around the dam long term. Additionally, fostering cooperation with various stakeholders, including local communities, will help handle potential disputes or legal issues related to dam management and utilisation.

**Figure 3.61. Factors for SWOT Analysis**



SWOT = strengths-weaknesses-opportunities-threats, PSN = national strategic project.

Source: Authors, 2023.

The factors in the SWOT analysis are arranged in order of the average value of the respondent's perception of reality for each factor. Internal categories (strengths and opportunities) are arranged from the highest to the lowest average. The higher the category value, the better the respondent's perception of reality on these factors in supporting the objectives of the Raknamo Dam PSN. Based on the SWOT analysis that has been carried out, Figure 3.61 identifies the factors for the Raknamo Dam PSN.

### 2.2.5.1. Main Challenges

One of the challenges to construct the Raknamo Dam in Kupang Regency is the need for 249.19 ha of land. For the land to be used as a development project, a change in status is required, which must obtain approval from the Ministry of Environment.

The status change to an 'Area for Other Use' has been implemented based on the Decree of the Minister of Environment and Forestry Number: SK.357/Menlhk/Setjen/PLA.0/5/2016 concerning Changes in Allocation of Forest Areas to Non-Forest Areas, Changes in the Functions of Forest Areas, and Designation of Non-Forest Areas to Become Forest Areas in the Province of NTT, in the context of Reviewing the RTRW of the Province of NTT.

The next challenge is the need for 3.80 ha of land. This was obtained by way of community land acquisition. As with other projects, initially, the community was reluctant to release their land for the dam project. However, with counselling and a persuasive approach, the community finally wanted to give up their land rights for the construction of the dam. Finally, the Regional Government of Kupang Regency released the community land needed to construct a 3.80 ha dam (Figure 3.59).

A challenge for this dam project is also related to the natural conditions in the area. Temperature, potential evapotranspiration, and rainfall affect the ability to replenish water in the Raknamo reservoir. An insufficient amount of rainfall in one period causes the reservoir not to be filled optimally.

#### **2.2.5.2. Main Benefits**

The Raknamo Dam provides various benefits for the community, including:

1. **Agricultural Sector:** The dam meets the water needs of 1,250 ha of irrigated land, accounting for 23.70% of the total irrigated land or 5.89% of the paddy fields in Kupang Regency. This increases the rice planting period and expands agricultural land by 2–3 times, thereby improving the welfare of farmers.
2. **Drinking Water Supply:** Apart from irrigation, the dam serves as a source of clean water for daily use. The construction of the Raknamo Water Supply System with a capacity of 100 L/second is underway to enhance drinking water services in Kupang Regency. This initiative aligns with Indonesia's commitment to achieving Clean Water and Proper Sanitation, one of the United Nations' Sustainable Development Goals.
3. **Flood Control:** The dam acts as a flood controller, storing excess water in a reservoir and releasing it based on the river's capacity. This helps in controlling flooding in parts of Kupang Regency.
4. **Power Source:** The Raknamo Dam enables the construction of a 0.22 MW Micro Hydro Power Plant, utilising water flows to generate electricity for rural areas not covered by PLN electricity. This fulfils the electricity needs of residents around the dam.

5. Tourism: The success of the Raknamo Dam Project has transformed it into a new tourist destination in Kupang Regency, NTT. Its scenic beauty attracts visitors, making it a potential water tourism site. With the completion of the construction of the Raknamo Dam PSN, the strategic value of this project can be felt by the surrounding community and the people of the province of NTT in general.

The Raknamo Dam is a great example of how infrastructure connects regions by generating electricity, improving transportation, and promoting tourism. Developing the areas around the dam aims to bridge the gap in progress between East Nusa Tenggara and the rest of Indonesia, promoting balanced development across the country.

## Conclusion

With the official opening of the Raknamo Dam, the PSN can now serve its intended purposes effectively. The previously set goals of having a productive agricultural field, access to clean drinking water, controlled flood management, a reliable power source, and appealing tourism have been successfully achieved. The forthcoming challenge for the management is to optimise the dam's advantages by tapping into internal strengths and external opportunities, all in the pursuit of enhancing the community's well-being. Furthermore, the dam's administrators must also address internal vulnerabilities and external threats, including concerns about environmental stewardship and ecosystem preservation, which should be continually managed and minimised.

As the utilisation of the Raknamo Dam expands, it ushers in fresh prospects for community prosperity. What used to be arid and desolate regions have now transformed into fertile, verdant landscapes. The dam stands as a metaphorical oasis in the midst of a barren wilderness, offering a promising outlook for a better life to anyone residing in or passing through its vicinity.



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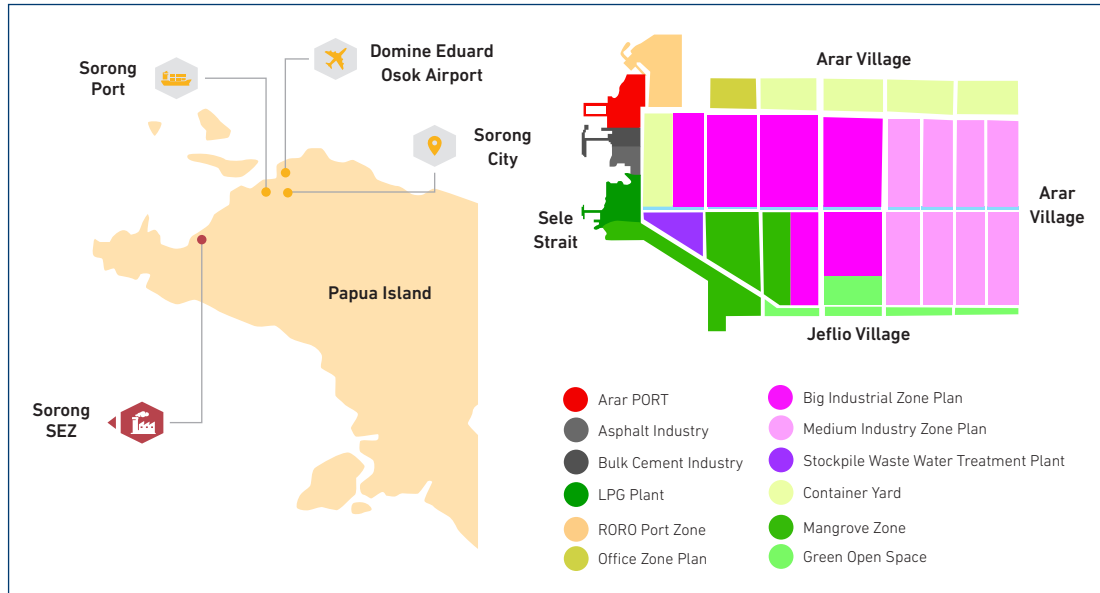
## 2.3. SORONG SPECIAL ECONOMIC ZONE (SORONG SEZ)

### 2.3.1. Project Profile

West Papua, one of Indonesia's provinces, encompasses the rugged western peninsulas of the New Guinea island. It extends over the eastern segment of the Bird's Head Peninsula, alternatively known as the Doberai Peninsula, as well as the Bomberai Peninsula, and is surrounded by adjacent smaller islands. The landscape of West Papua closely mirrors that of the neighbouring Papua Province, featuring a terrain characterised by cliffs and sloping surfaces. In terms of its population, as of the 2020 Census, West Papua was inhabited by approximately 1,134,068 individuals. This province also boasts a moderate Human Development Index (HDI) score of 65.89, as reported in 2022 by Statistics Indonesia, indicating the overall well-being and development level of its population. Economically, West Papua demonstrated a robust performance, with a recorded economic growth rate of 7.7% during the year 2018. This growth rate surpassed the national average, highlighting the province's economic vitality and its potential for further development. Based on the policy analysis of the government, they need a comprehensive economic instrument to increase economic growth in West Papua Province. They have initiated the establishment of a Special Economic Zone (SEZ). The Sorong SEZ's geographic position and masterplan can be seen in Figure 3.62.

The determination of the Sorong SEZ as a National Strategic Project (PSN) is stated in Presidential Decree No. 3 of 2016. Construction started in 2016 and it launched in October 2019. Government Regulation No. 31 of 2016 explains that the Sorong SEZ has an area of 523.7 ha. Based on Figure 3.62, The Sorong SEZ is directly adjacent to Kampung Arar to the north and east. To the west, it is directly adjacent to the Sele Strait. While in the south, bordered by Jeflio Village. Initially, the Sorong SEZ was part of the administrative area of West Papua Province. However, with the 2022 law concerning the Formation of the Southwest Papua Province, the Sorong SEZ is part of the Southwest Papua Province area in Sorong Regency in the Mayamuk district.

**Figure 3.62. Geographic Position and the Sorong SEZ Masterplan**



LPG = liquefied petroleum gas, RORO = roll-on, roll-off, SEZ = special economic zone.

Source: National Council of SEZ, 2023.

The Sorong SEZ is operated by a development and management business entity appointed by the Regent of Sorong based on the regulation No. 500/KEP.302-MOW/XI of 2016, namely PT. Malamoi Olom Wobok (PT. MOW), whose shares are owned by the Government of Sorong Regency (Ministry of Finance, 2021). PT. MOW was mandated to develop the Sorong SEZ to support regional economic activities professionally. Based on the Regulation of the Coordinating Minister for Maritime Affairs No. 7 of 2016, the Sorong SEZ contains three significant zones: export processing, industrial, and logistics. Further explained in the regulation that these zoning arrangements help guarantee and maintain the quality of zones set, minimising land use that is not following the zone's characteristics and minimising disruption and negative impacts on the area.

The government has created a 6.5 km direct access road to the Sorong SEZ from the national road and connects the surrounding agglomeration areas. In addition, the government has built a 3.5 km access road to Arar Port to support the mobility of business, industry, logistics, and transportation through the waters in the Sorong SEZ. A national electricity company powerplant (PLN) supports electricity in the Sorong SEZ with a capacity of 50 MW from two electrical substations (Ministry of Finance, 2022). Regarding water infrastructure, jetty facilities were ready for dry bulk ship transportation and Ro-ro flotsam docks. The Arar Port is also supported, which has an area of 4 ha and is about 50 km from the main port of Sorong. The port has a concrete pier 100 m long, making it easier for ships to dock (Ministry of Finance, 2022). A 4 km canal is ready to anticipate flood, and the supply of raw water in the Sorong SEZ is 5 L/second. Photos of infrastructure can be seen in Figure 3.63.

**Figure 3.63. Infrastructure of the Sorong SEZ**

SEZ = special economic zone.

Source: National Council of SEZ, 2023.

### 2.3.2. Project Objectives

Papua is a large island in eastern Indonesia that has yet to be utilised optimally to increase economic growth due to limited facilities and access. Over the past 5 years, West Papua province's economic growth has slowed due to the dependency on West Papua's economy, which is more dominated by the oil and gas and mining sectors, which have experienced a decline in output (Regional Research and Development Agency West Papua, 2019). To accelerate and expand national economic development in eastern Indonesia, the government issued Government Regulation No. 31 of 2016 concerning establishing the Sorong SEZ as the first in Papua.

A strategic goal of Sorong SEZ is to encourage economic development and respond to challenges in eastern Indonesia. One of its main goals is to promote economic growth in the east of Indonesia by increasing the function of the Papua region. The other aim is to encourage economic diversification, create value-added products, and utilise the region's natural resources and geographical advantages to increase economic growth and people's welfare. The concentration of economic activity has increased economic scale, regional competitiveness, investment, business and industrial development, with a positive impact on the social welfare of local communities through increased employment opportunities and access to essential services.

Overall, the development of the Sorong SEZ is a multidimensional initiative with strategic objectives aimed at boosting economic growth, improving people's welfare, and responding to various challenges faced by eastern Indonesia. The Sorong SEZ is expected to be able to obtain an investment of Rp32.2 trillion in 2025 and be able to absorb 15,024 workers (National Council of SEZ, 2018). The government seeks to capitalise on the region's potential and enhance its overall economic and social prospects through the targeted concentration of economic activity and industrial development.

As a designated national strategic project, the Sorong SEZ has yielded substantial benefits. Central and local governments have collaborated to support the funding of the main basic infrastructures of Sorong SEZ. These include the provision of access roads, increasing port capacity, expanding airports, and developing buffer zones aimed at supporting mobility and economic activity in the SEZ. The National Council of SEZ (2018) explained that the government provides special incentives and privileges to investors who carry out their business in the SEZ. These fiscal incentives include exemption from import/investment duties, customs and excise facilities, investment allowance, and tax holidays. Meanwhile, non-fiscal incentives include ease of licensing, land and spatial planning, special rules of employment, and goods traffic. These comprehensive efforts hopefully leverage investors' enthusiasm for developing the maritime and fisheries industry, oil palm plantations, bulk cement, asphalt, plywood, and fishing shipyard facilities. Transforming the region into a thriving hub of economic activity has triggered a ripple effect, giving rise to additional economic nodes in the surrounding area, further bolstering the local economy.

### 2.3.3. Project Cost and Source of Fund

The government has streamed a total budget of Rp686.6 billion to develop the Sorong SEZ (KPPIP, 2023). As shown in Table 3.15 support from the state budget of Rp631.7 billion is used for constructing main roads and infrastructure outside the area and support from the regional budget of Rp54.9 billion. In 2020–21, the Sorong SEZ realised investment of Rp204.76 billion. In 2022, investment achievements will increase to Rp249.00 billion. Regarding the workforce, the Sorong SEZ has increased the absorption of employed workers from 80 people in 2020 to 111 people in 2022. It has positively impacted overcoming unemployment in the agglomeration area of the Sorong SEZ (Sorong Regency and Sorong City), which is based on Ministry of Finance data for 2021 that previously reached 13,585 people. The complete information is presented in Table 3.16. In the initial planning, the Sorong SEZ was projected to attract investment of up to Rp32.2 trillion and absorb a workforce of 15,024 people in 2025. However, the pandemic and post-pandemic business climate conditions that have not returned to normal are challenges that SEZ managers must face.

**Table 3.15. Funding of the Sorong SEZ**

Source	Amount (Rp)	Use
<b>State Budget (APBN)</b>	631.7 billion	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The main road in the area</li> <li><input checked="" type="checkbox"/> Aimas-Arar Port access</li> <li><input checked="" type="checkbox"/> Sorong-Arar ring road and bridge</li> <li><input checked="" type="checkbox"/> Extension of the Domine Eduard Osok Airport runway</li> </ul>
<b>Regional Budget (APBD)</b>	54.9 billion	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Basic design</li> <li><input checked="" type="checkbox"/> Acquisition and certification of area land,</li> <li><input checked="" type="checkbox"/> Office</li> <li><input checked="" type="checkbox"/> Main gate</li> <li><input checked="" type="checkbox"/> Telecommunication networks</li> <li><input checked="" type="checkbox"/> Clean water distribution networks</li> </ul>

SEZ = special economic zone.

Source: Committee for Acceleration of Priority Infrastructure Delivery, 2023.

**Table 3.16. Realisation of Investment and Labour Absorption of the Sorong SEZ**

Year	Realisation of Investments (Rp)	Use
<b>2020</b>	204 billion	80 people
<b>2021</b>	204 billion	91 people
<b>2022</b>	249 billion	111 people

SEZ = special economic zone.

Source: National Council of SEZ (2022).

Investors in the Sorong SEZ include PT. Semen Gresik, PT. Henrison Inti Persada, and PT. Bumi Sarana Utama. PT. Semen Gresik, a pioneer company in this area, has invested Rp162.4 billion to run a cement packaging business in the Sorong SEZ. PT. Henrison Inti Persada has invested Rp37.16 billion to run a wood and palm oil processing company and ship crude palm oil of 500–2,000 mT through Arar Port (National Council of SEZ, 2022). PT. Bumi Sarana Utama, engaged in the bulk asphalt company, has invested Rp8.3 billion. In addition, several potential investors have also committed to investing. They are running their business in the Sorong SEZ, covering various types of companies such as manufacturing agricultural machinery, nickel smelters, logistics, warehousing, ports, fisheries, and others. Table 3.17 contains complete information about the investors.

**Table 3.17. Investments in the Sorong SEZ**

No.	Investors	Business Type	Investment (Rp)	Status
1.	PT. Semen Gresik	Cement Packaging	162.4 billion	Operates
2.	PT. Henrison Inti Persada	wood and palm processing	37.16 billion	Operates
3.	PT. Bumi Sarana Utama	Bulk asphalt	8.3 billion	Operates
4.	PT. Satu Suku Pertanian	Manufacture of agricultural and plantation machinery and equipment	2.2 billion	On process
5.	PT. GAG Nikel	Smelter nickel, derivative products: ferronickel and stainless steel	8,400 billion	On process
6.	PT. Pelindo IV	Construction of docks, warehousing, logistics, trestle, causeway, and reclamation	428.9 billion	On process
7.	PT. Raja G&G International dan PT Temasek Perikanan	Port and Fisheries Industry	18,000 billion	On process
8.	PT. Perahu Catamaran Papua	Fiberglass Boat/Speed boat workshop	2.2 billion	On process
9.	PT. Royal Anram Industry	Weapons and ammunition industry	840.9 billion	On process

SEZ = special economic zone.

Source: National Council of SEZ, 2022.

### 2.3.4. External and Internal Factors

The Sorong SEZ is a high-value PSN because it was built in eastern Indonesia and is the first SEZ in Papua. Stakeholders have high hopes that this area can encourage economic activities in an inclusive and integrated manner. In its development and operation, the Sorong SEZ has provided benefits for related stakeholders. However, several dynamics raise challenges that must be appropriately managed.

To elaborate on the challenges and benefits of the Sorong SEZ, a survey was conducted and data were collected from academics, government officials, business actors, and the public. Their perceptions of various internal and external factors, namely their perceived realities and interests, were collected and analysed using a strengths–weaknesses–opportunities–threats (SWOT) method. The perception of reality measures stakeholder perceptions of the observed facts, whereas the perceived importance assesses factors considered essential for the project's success. Both are scored on a scale of 1 to 6, where 1 indicates a very negative perception and a score of 6 a very positive reception.

### **2.3.4.1. External Factors**

The external factors are the level of support from the local community for the PSN; the level of investor interest in the development of the Sorong SEZ; the level of opportunity for the private sector/community to become investors for supporting facilities in the PSN area; PSN opportunities for job creation; the level of impact of PSNs on agglomeration access; PSN impact on new business creation; potential increase in public welfare; opportunities for the PSN in increasing state/regional revenues; the availability of land for PSN development; timely disbursement of PSN funding from investors; the potential for disputes or lawsuits in the PSN implementation process; and the ease of obtaining business licenses at PSN locations.

### **2.3.4.2. Internal Factors**

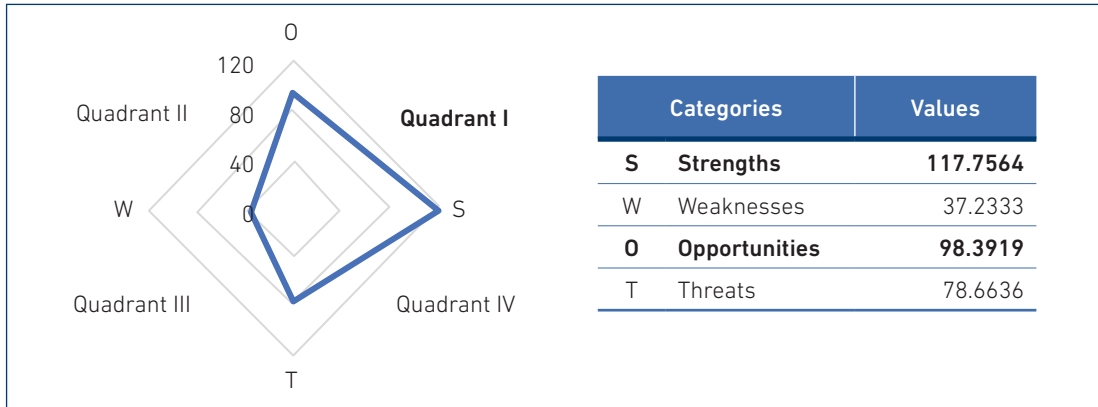
The internal factors are the deregulation or enactment of regulations; PSN location suitability for SEZs; compatibility of PSN development with regional spatial planning and land use; access to infrastructure that supports the PSN; support from central and/or regional government in PSN financing; ease of licensing in the PSN preparation and implementation process; level of technical smoothness of PSN construction; level of use of modern technology in PSN development; timeliness in PSN construction; PSN physical quality level; suitability of PSN development results; level of concern for the development of the PSN for environmental sustainability; and the adequacy of PSN-supporting facilities.

## **2.3.5. SWOT Results and Analysis**

The survey results show that strength is more dominant than weakness as an internal factor affecting the Sorong SEZ. On the other hand, opportunities are more prevalent than threats, as external factors affect the Sorong SEZ. This shows that the Sorong SEZ is located in quadrant I and prompted the government to implement a strategy of optimising strengths to maximise existing opportunities to develop the Sorong SEZ. Figure 3.64 shows the comprehensive result of SWOT analysis.



**Figure 3.64. Sorong SEZ SWOT Results**

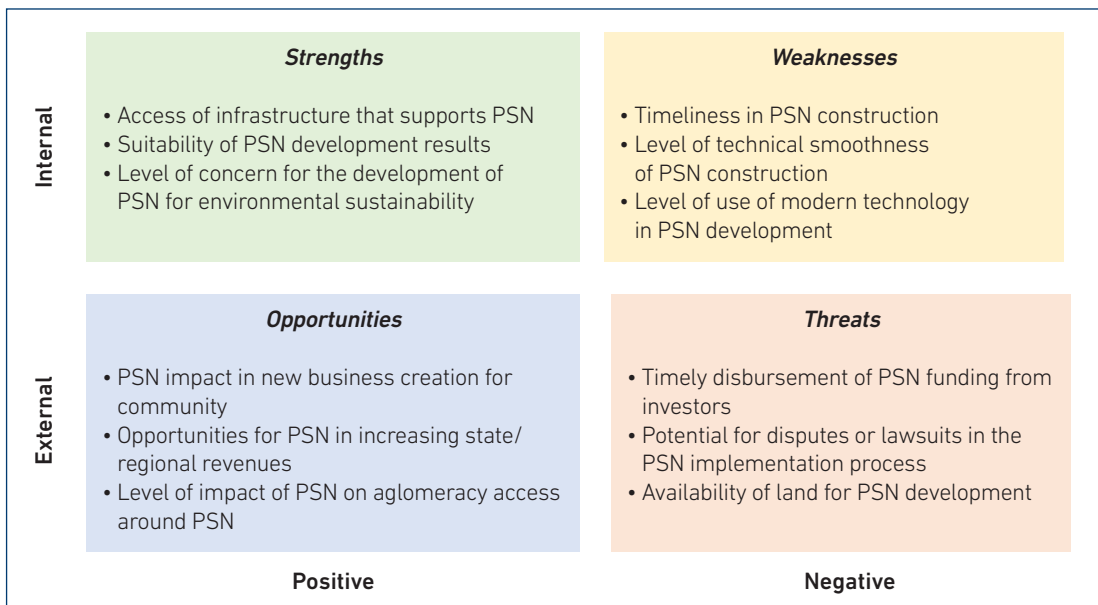


SEZ = special economic zone.

Source: Authors, 2023.

A summary of the three factors with the highest values identified as strengths, weaknesses, opportunities, and threats is presented in Figure 3.65. The observed factors are ranked based on the highest values of the average perceived reality and importance by the respondents. The higher the score obtained, the better the perception of respondents for the factor.

**Figure 3.65. SWOT Analysis**



PSN = national strategic project.

Source: Authors, 2023.

### 2.3.5.1. Main Challenges

Based on the results of a survey of stakeholders in the Sorong SEZ in 2023, the government and stakeholders need to address several internal weaknesses. The ease of licensing services must be increased to accelerate investment, which is currently affected by the administrative change in regional expansion in West Papua Province to become Southwest Papua. In addition, obstacles in the use of modern technology that impact the timeliness of project completion need to be addressed immediately.

As an external factor, the main challenge is increasing investor interest and private involvement in infrastructure and industrial development in the Sorong SEZ. To accelerate regional investment, the government must ensure investment commitments from investors who have expressed interest. In addition, the issue of land availability, which can potentially cause disputes or lawsuits related to customary rights and land use rights by indigenous peoples, also needs to be addressed.

The National Council of SEZ (2021) said there are labour challenges due to the coronavirus disease (COVID-19) pandemic. The pandemic has resulted in smaller investments than projected, along with delays in investor visitations and direct promotions and failure to participate in investment exhibitions.

Based on the research results of Wahid et al. (2022), the Sorong SEZ negatively impacts the surrounding community due to environmental pollution, inequality and social conflict. In line with this, the Ministry of Finance (2021) presents the results of its study that social issues related to the lack of involvement of indigenous Papuans need to be anticipated so as not to cause disturbances to the security and operations of the Sorong SEZ. In addition, the government and managers of the Sorong SEZ must anticipate natural risks, such as earthquakes and tsunami waves, due to the presence of the Sorong Fault under the SEZ. Areas with a high risk of being affected by earthquakes include the Regencies of South Sorong, Sorong, Raja Ampat, and the City of Sorong. Meanwhile, Sorong Regency is an area with a high risk of being affected by a tsunami.

### 2.3.5.2. Main Benefits

The 2023 survey shows the strengths of the Sorong SEZ that need to be optimised, such as government support in the form of regulations, selection of suitable locations in Sorong Regency and suitability with spatial planning and land use, and financial support from the central and regional governments. Facilities and infrastructure such as airports, ports, access roads, electricity installations and water support the Sorong SEZ. Based on the survey, the development of the Sorong SEZ has paid attention to environmental sustainability aspects.

The same survey found that there were things that could maximise the opportunity to develop the Sorong SEZ. Easing business licensing will further increase the opportunities for receiving state and regional revenues. Based on the survey, the surrounding community believes the Sorong SEZ provides opportunities for residents to grow supporting businesses, especially those related to meeting the needs of clothing, food and housing. Another effect is that the Sorong SEZ provides more opportunities to open access to the surrounding buffer zones, increasing job creation opportunities for residents.

The National Council of SEZ (2021) reports that the Sorong SEZ has provided both economic and social benefits. The SEZ has opened up new jobs for indigenous Papuan workers, most of whom are currently cleaning and security personnel. Regional development is increasing the accessibility and mobility of the surrounding community. This has impacted the property business, especially housing, which is increasingly expanding in the buffer zones of the Sorong SEZ. In addition, micro, small and medium-sized enterprises and cooperatives have also developed to support people's lives, especially in the form of food stalls and grocery stores. Hence, people's purchasing power and welfare increased because economic activity grew and bank branches and financial institutions emerged.

The report of the SEZ National Council is in line with research conducted by Syali et al. (2020), which explained that the Sorong SEZ had a positive impact on the economic growth of West Papua Province. Regarding social impacts, Wahid et al. (2022) explained that the local community benefits by opening new jobs, increasing income, and improving facilities and infrastructure.

## Conclusion

The Sorong Special Economic Zone (SEZ) serves as a generator of prosperity, with far-reaching impacts spanning from regional development in Papua to national growth in Indonesia and international recognition within the broader Asia-Pacific region. Both central and local governments have collaborated to foster the development of the Sorong SEZ, resulting in the establishment of various essential facilities and infrastructure. These endeavours are aimed at not only bolstering industrial growth within the SEZ but also at enhancing the well-being of related parties, particularly the local community and indigenous Papuans. In 2022, the Sorong SEZ achieved significant milestones, attracting investments amounting to Rp249 billion and providing employment to 111 individuals. This success has enticed several investors who have made commitments to inject capital and establish their businesses within the Sorong SEZ. The government plays a pivotal role in this process by offering a range of incentives and privileges, including infrastructure improvements in the form of enhanced road networks, air and seaports, and designated buffer zones. Additionally, the government extends both fiscal and non-fiscal incentives to entice investors. To gain insights into the dynamics of the Sorong SEZ, a comprehensive survey was conducted to identify its challenges and benefits. According to the survey results, the Sorong SEZ boasts a series of strengths, including its financial backing, regulatory framework, and robust infrastructure. However, the SEZ also faces a set of challenges that necessitate government foresight. These challenges encompass ensuring project completion, embracing modern technology, facilitating private sector involvement, resolving land disputes, and sustaining investor commitment.

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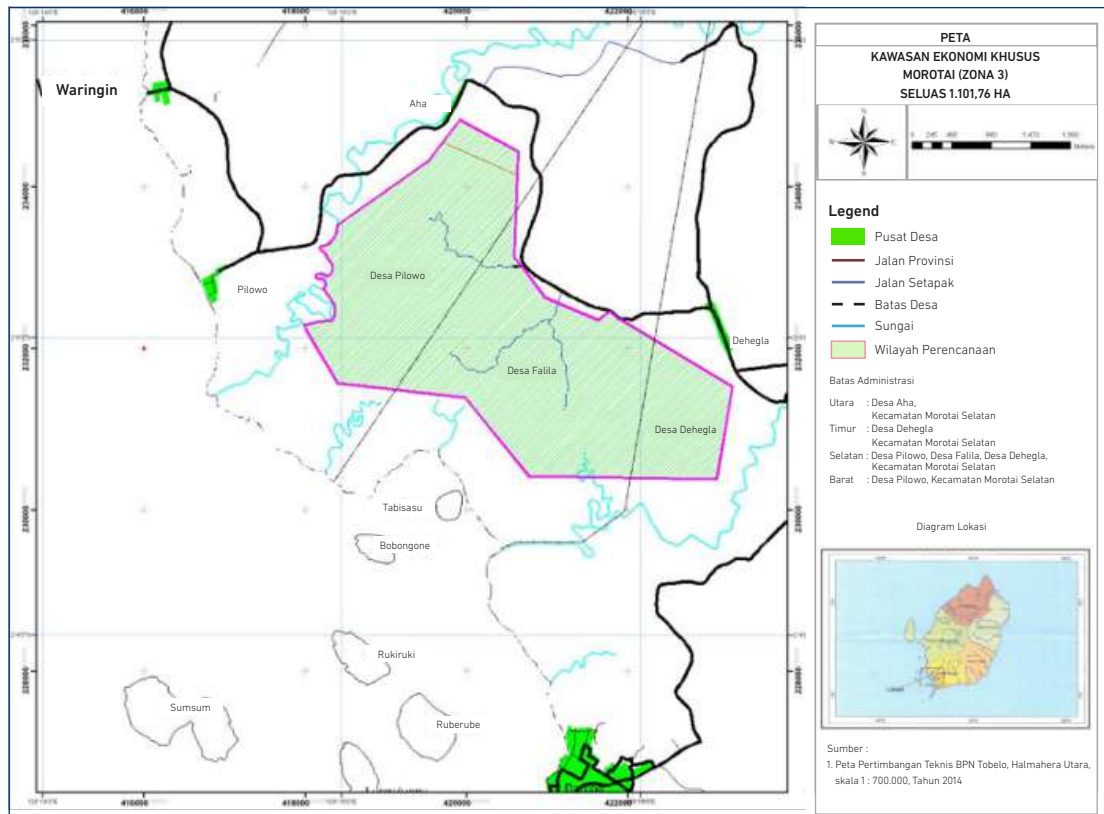
## 2.4. MOROTAI SPECIAL ECONOMIC ZONE

### 2.4.1. Project Profile

The Morotai Special Economic Zone (SEZ) is located within the South Morotai District, Morotai Island Regency, North Maluku Province. Geographically, the Morotai Island Regency is one of the regencies located in the Maluku Islands and is part of the Maluku Province. In 2008, Morotai Island separated from North Halmahera Regency and became the Morotai Island Regency through Law No. 53 of 2008. Being situated in the northernmost region of Eastern Indonesia, this SEZ covers an area of 1,101.76 ha (Figure 3.66).

The Morotai SEZ, on its north edge, borders with Aha, South Morotai District, Morotai Island Regency, while at its eastern edge it borders Dehegila Village, South Morotai District, Morotai Island Regency. Next, on the south, it borders Pilowo, Falilah and Dehegila Village, South Morotai District, Morotai Island Regency, while in the west it borders with Pilowo Village, South Morotai District, Morotai Island Regency.

**Figure 3.66. Map of Morotai Special Economic Zone**



Source: Government Regulation Number 50, 2014.

The designation of the Morotai region as an SEZ has fulfilled the criteria as stated in Law Number 39 of 2009 concerning Special Economic Zones, and which are in accordance with the Spatial Planning Plan:

- it does not potentially disrupt protected areas;
- the respective provincial/regency/municipal government supports the SEZ;
- it is in a position close to international trade routes or near international shipping routes in Indonesia or located in an area with potential superior resources; and
- it has clear boundaries.

The establishment of the Morotai SEZ is one of the government's strategies to promote investment in the Morotai region. Generally, the process of establishing the Morotai SEZ begins with the identification of key criteria for selecting a location that meets the requirements for SEZ development. This is followed by the formulation of policies that support the development of the SEZ area and the provision of internationally standardised investment services and institutions.

## 2.4.2. Project Objectives

Based on data from the National Single Window Institution, the realisation of investment in the Maluku Islands, including the provinces of Maluku and North Maluku, during 2010–13 was amongst the lowest compared to other regions in Indonesia, particularly in terms of foreign direct investment flows. Japan, as one of the biggest investors during that period (Table 3.18), concentrated its investment in Java island. In addition, referring to Presidential Regulation No. 131 of 2015 concerning the Determination of Underdeveloped Areas for 2015–19, the Morotai Island Regency was designated as one of the underdeveloped regions that need to be developed. Therefore, Morotai SEZ is expected to accelerate the pace of economic development in the Morotai Island Regency, North Maluku Province, and support the acceleration and equitable development of the national economy.

**Table 3.18. Japan's Investment in Indonesia by Location in 1st Semester 2014**  
(US\$ million)

Rank	Economic Corridor	2009	2010	2011	2012	2013	S1 2014
1	Java	675	689	1,450	2,205	4,643	1,503
2	Kalimantan	-	2	0.05	154	45	32
3	Sumatra	0.4	14	17	95	11	3
4	Bali & Nusa Tenggara	5	8	45	4	8	0.7
5	Sulawesi	4	-	1	1	5	1
6	Maluku & Papua	-	-	3	-	-	-
<b>Total (All Location)</b>		<b>685</b>	<b>713</b>	<b>1,516</b>	<b>2,457</b>	<b>4,713</b>	<b>1,542</b>

Source: The Investment Coordinating Board of the Republic of Indonesia, 2014.

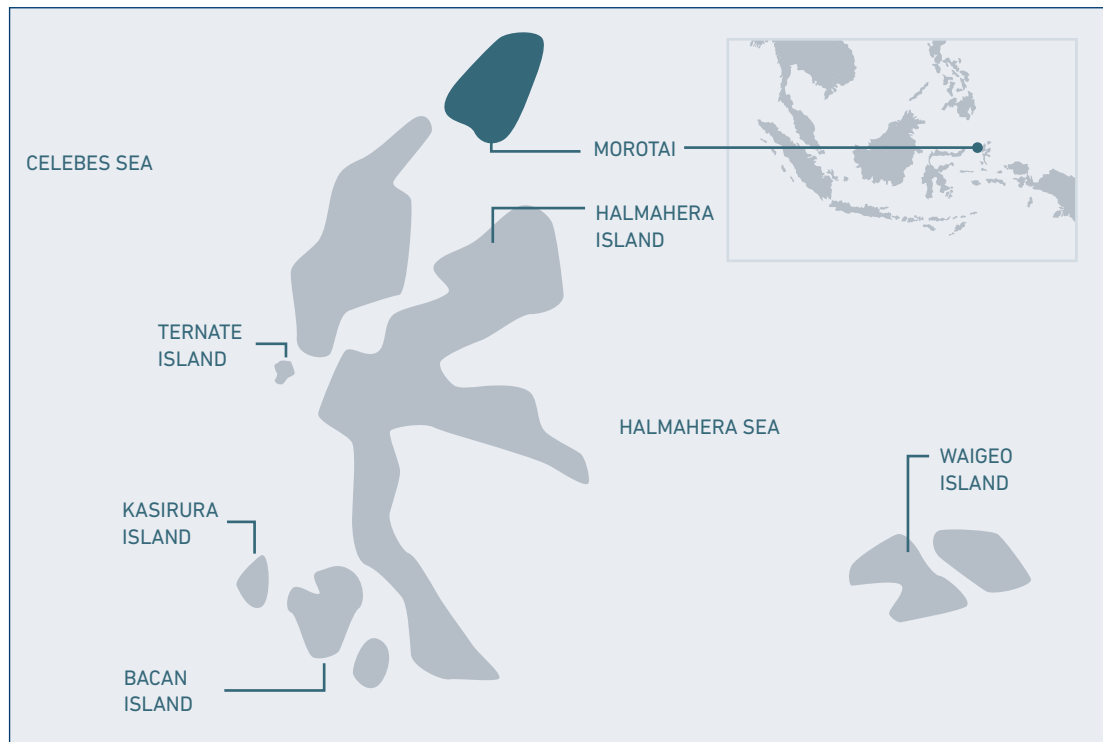


Morotai SEZ (Figure 3.67) is one of the National Strategic Projects meant to promote equitable development in the eastern region of Indonesia. This is stated in the medium-term development plan for 2020–24. The eastern region of Indonesia is considered to have significant potential, but it lacks the quality and quantity of basic services, resulting in the underdevelopment of the commodity value chain. Morotai SEZ is expected to contribute to the national economy, particularly in the tourism and fisheries industries.

The tourism sector is one of the sectors that play a strategic role in supporting the national economy because it not only absorbs labour but also stimulates investment. This is supported by the natural wealth with diverse types of world-class natural tourist attractions, as well as high cultural richness and diversity. To support the development of the tourism sector, the government has established several tourism SEZs.

One of the leading tourist destinations in the Eastern region of Indonesia designated as a tourism SEZ is Morotai Island. Pulau Morotai is one of the 10 priority tourism destinations in Indonesia and is projected to become a new Bali in the eastern part of Indonesia. Being located on the northernmost island in Eastern Indonesia, Morotai SEZ offers a different marine tourism destination compared to other marine tourism destinations.

**Figure 3.67. Morotai Special Economic Zone**



Source: PT Jababeka.

The Morotai SEZ was developed due to its potential and advantages in terms of geo-economic and geo-strategic aspects. From a geo-economic perspective, Morotai is an outer island in the northeastern part of Indonesia, close to Japan and Taiwan. The waters of Morotai are also a migration route for tuna fish, which is a source of raw materials for the fishing industry. In addition, Morotai also has world-scale historical tourism potential in the form of World War II relics. From a geostrategic perspective, the presence of Leo Wattimena Airport with a large runway is a supporting factor for increasing the role of Morotai as an international hub in the eastern part of Indonesia.

In the Master Plan for the Acceleration and Expansion of Indonesia's Economic Development for 2011–25, which was established through Presidential Regulation of the Republic of Indonesia Number 32 of 2011, the economic corridor development for the Papua and Maluku Islands regions is projected to become the centre for national food, fisheries, energy, and mining development. In the Maluku economic corridor, the focus of economic activities is on fisheries due to the enormous potential in Maluku waters, which can serve as a reserve for national fisheries. In addition, the development direction for the waters in North Maluku province will also be focused on as a production and distribution location for fisheries products.

Based on the guidance of the National Medium-Term Development Plan for 2015–19, the development of Morotai SEZ is directed toward optimising its potential in the fisheries and fish-processing sectors, as well as international marine tourism. This is in line with the zoning of Morotai SEZ as stipulated in Presidential Regulation NO.50 of 2014 regarding the Morotai Special Economic Zones, which is divided into 4 main zones: export processing zone, logistics zone, industrial zone, and tourism zone.

The Ministry of Marine Affairs and Fisheries has implemented the Integrated Marine and Fisheries Development Programme (SKPT) as stated in the Regulation of the Minister of Marine Affairs and Fisheries of the Republic of Indonesia Number 48/PERMEN-KP/2015 concerning the General Guidelines for Integrated Marine and Fisheries Development Centers in Small Islands and Border Areas. The focus of SKPT development is increasing added value, competitiveness, modernisation and corporatisation of businesses, as well as strengthening production and productivity of the main players and fisheries industry (KKP, 2017). Morotai Island is one of the locations for SKPT according to Ministerial Decree No. 51 of 2016. Through these efforts, the government aims to achieve a significant increase in the national production and export value of capture fisheries from Morotai Island.

The SEZ is expected to diversify production and forms of economic activities (Ilmar, 2004). If diversification is realised, it will create more job opportunities, thereby improving employment prospects and indirectly enhancing the welfare of the community in the Morotai region and its surroundings.

### 2.4.3. Project Cost and Source of Funding

The financing for an SEZ may come from the government, private sector, or a collaboration between the government and other sources. For the Morotai SEZ, Indonesia collaborated with other sources for infrastructure development. Since its operation began on 1 April 2019, the Morotai SEZ is projected to attract investments worth Rp30.44 trillion and is expected to create job opportunities for 30,000 workers until 2025. The realisation of investments until March 2023, reached Rp497.40 billion (based on data from the Secretariat of the National Council for Special Economic Zone, 2023).

In general, the financing source for the Morotai SEZ comes from the private sector, namely PT. Jababeka Morotai, a business entity involved in tourism, industry, logistics, and export processing in the Morotai Island Regency, North Maluku Province.

### 2.4.4. External and Internal Factors

The Morotai SEZ was built with the aim of encouraging the acceleration of economic development in the Morotai region, in particular, as well as the acceleration and expansion of national economic development. In order to assess the feasibility of achieving this objective, it is essential to conduct a strengths–weaknesses–opportunities–threats (SWOT) analysis. This analysis aims to identify the internal strengths and weaknesses, as well as the external opportunities and challenges. This can be accomplished by administering a questionnaire to gather insights from various stakeholders, including local governments, academics, entrepreneurs, and the general public. The responses obtained will be evaluated from two perspectives: the actual state of affairs and the level of significance. Each perspective will be measured on a scale from 1 to 6. The 'actual state' refers to how respondents perceive the observed or perceived facts, with a score of 1 indicating a very negative perception and a score of 6 indicating a highly positive perception of the project. The 'level of significance' gauges the importance of each evaluated factor, with a score of 1 denoting a very low level of importance and a score of 6 representing a highly significant perception of the project.

#### 2.4.4.1. External Factors

The external factors are the level of support from the surrounding community for the project; the level of investor interest in the development of SEZs; the level of opportunities for private individuals or the community to become investors in the supporting facilities within the project area; opportunities for the project in creating employment opportunities; the impact level of

the project for opening up access to other areas around the project location; the impact level of the project on the emergence of new business developments for the community; opportunities for the project in improving the welfare of the community; opportunities for the project in increasing national or regional income; the availability of the project land; timeliness of funding disbursement for the project from investors; the potential for disputes or legal claims in the project implementation process; and the level of ease of obtaining business permits at the project location.

#### **2.4.4.2. Internal Factors**

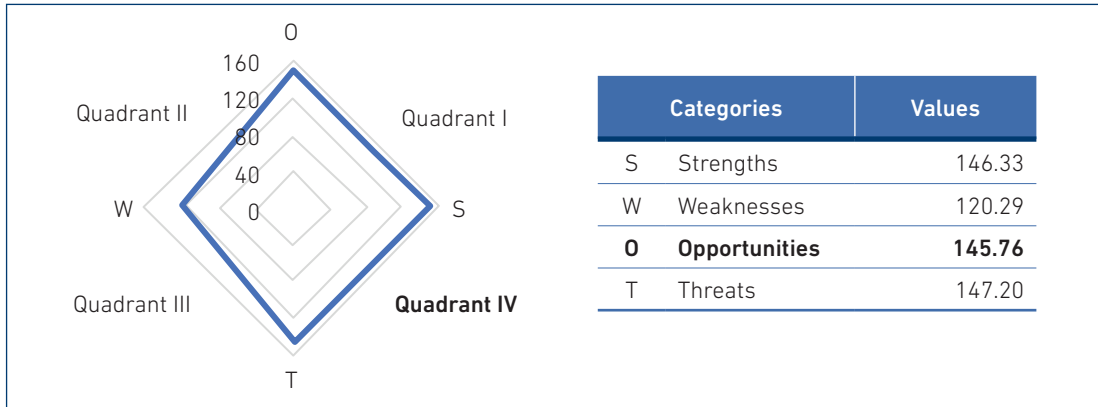
The internal factors identified are the deregulation or issuance of regulations to support the implementation of the project; compliance of the project development with spatial planning and land use; compatibility of the project development with spatial planning and land use; availability of infrastructure supporting the project, such as international airports, strategic national road access, power installations, and clean water installations; central and/or local government support in financing the implementation of the project; the ease of permitting in the project implementation preparation process; the technical smoothness of the project construction development; the level of modern technology utilisation in the project development; timeliness in the project development; the physical quality level of the project; the compliance level of the results of the project development; the environmental sustainability awareness of the project development; and the adequacy of the supporting facilities for the project.

#### **2.4.5. SWOT Results and Analysis**

To identify the strengths, weaknesses, opportunities, and challenges arising from the implementation of the development of Morotai SEZ, the author conducted a strengths-weaknesses-opportunities-threats (SWOT) analysis. The analysis was carried out through a survey of stakeholders, including academics, government officials and/or project implementers, entrepreneurs and/or business operators, and the general public. The survey aimed to gather the stakeholders' perceptions of the Morotai SEZ project.

From the analysis, it is obtained that the strengths have a more dominant value than the weaknesses as internal factors influencing Morotai SEZ. On the other hand, in terms of external factors, the opportunities are smaller than the threats. The resulting SWOT results shows that Morotai SEZ is located in the second quadrant and should mainly focus on the strength to overcome external threats (Figure 3.68). This encourages the government to implement various policies and strategies to optimise the existing opportunities and overcome the challenges that arise in the development of Morotai SEZ.

**Figure 3.68. SEZ Morotai SWOT Results**

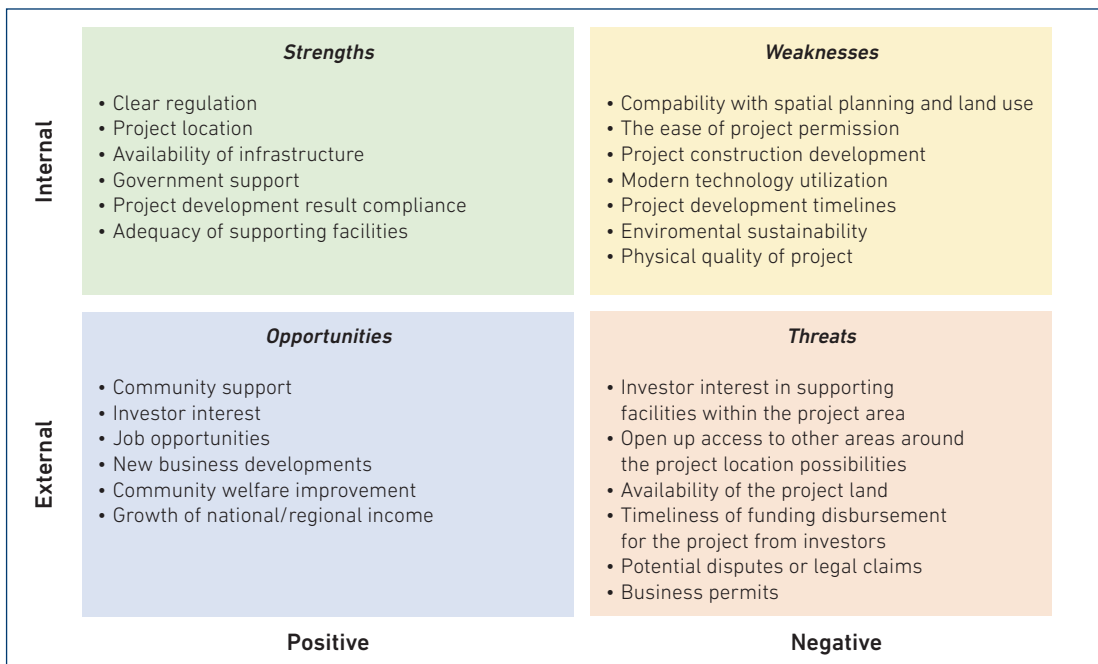


SEZ = Special Economic Zone.

Source: Authors, 2023.

The internal and external factors identified as strengths, weaknesses, opportunities and threats, are mapped in Figure 3.69.

**Figure 3.69. Matrix of SWOT Analysis Results Factors**



Source: Authors, 2023.

### 2.4.5.1. Main Challenges

Although the survey results generally indicate that Morotai SEZ has various benefits that have been felt by the community, there are still some weaknesses that need attention from the government or area managers to drive the progress of KEK. One of the weaknesses that needs to be addressed promptly is the low level of investment in Morotai SEZ. Out of the projected total investment of 30.44 trillion in 2025, only 497.40 million has been achieved by the first semester of 2023 (Secretariat of the National Council for Special Economic Zones, 2023).

One of the factors causing the low investment, based on the survey results, is related to the Morotai SEZ investor permits. This is in line with the statement from the Director of Planning Services and Zones at the Ministry of Investment, Noor Fuad Fitrianto (Kompas, 2023), that KEK has not been able to attract investors to invest. So far, investments have flowed more into sectors that are not part of the Morotai SEZ sector. Respondents believe that a scheme should be created to facilitate permits for potential investors who want to invest in Morotai SEZ, either through deregulation or offering other fiscal facilities. Another step that the government can take is to offer project-based investment packages to stimulate the development of priority sectors in KEK. In addition, the alignment of NSP development with spatial planning and land use, as well as the utilisation of modern technology in NSP development, is still considered suboptimal. If not addressed appropriately, this can result in delays in project completion.

The survey results also indicate that respondents are concerned that the development of the Morotai SEZ project may have negative impacts on environmental sustainability. The development of the tourism sector is always accompanied by threats to the ecosystem/ environmental sustainability in the area. This also appears to be a concern of the respondents, which should be balanced with education and government policies to ensure that the KEK project does not pose a threat to the ecosystem in the Morotai region.

Another factor that was the focus of the survey is the external factors that are perceived to affect the success of the development of Morotai SEZ. The first challenge comes from the support from the surrounding community, which is considered to be suboptimal. This can be seen from the land acquisition process, which has encountered obstacles. The Morotai Special Economic Zone (KEK) is planned to be developed on a land area measuring 1,101.76 hectares. Currently, the KEK Morotai management has achieved control over approximately 50% of the planned land area (Secretariat of the National Council for Special Economic Zones, 2023). In addition, respondents also expressed concerns about potential issues that could lead to disputes during the project implementation, as evidenced by the low scores obtained for that factor.

### 2.4.5.2. Main Benefits

The survey results indicate that the development of Morotai SEZ is expected to contribute to the improvement of development and economic growth, particularly in the eastern regions of Indonesia, as evidenced by the respondents' hopes for improved business permits. The focus on business permits suggests the interest of entrepreneurs to invest in Morotai SEZ.

The interest of entrepreneurs is also perceived to be supported by ongoing infrastructure development. According to the National Economic Council report in 2021, at least a 3 km main road, 106 kVA electricity, administration office, telecommunications network, and water storage with a flow rate of 9.25 L/second have been provided. With these various facilities and conveniences, as stated in the National Council report, there has been an increase in Gross Regional Domestic Product (PDRB) in Morotai Regency in the last 3 years (2018–20), amounting to 7.38%.

The designation of Morotai as an SEZ in 2014, followed by its operation in 2019, has had an impact on the economy of North Maluku Province, particularly the Morotai Island area. The local own-source revenue (PAD) of Morotai has experienced an increase year by year (Akbar, 2021). The detailed increase in PAD can be seen in Table 3.19 below.

**Table 3.19. Morotai Local Own-Source Revenue (PAD) 2015–2019**

No	Indicator	Year				
		2015	2016	2017	2018	2019
1	PAD	10.4	7.5	20.9	31.7	32.3

Source: BPS.

At the same time, the SEZ has provided multiplier effects (Annual Report of the National Council of Special Economic Zones, 2019), including the following:

- addition of new job opportunities in the hospitality sector;
- support for tourism vocational schools in terms of infrastructure and practical training;
- improvement of infrastructure around the SEZ, such as airport renovation, Morotai Island ring road, and telecommunications network;
- increase in the number of cooperatives in the areas surrounding the Morotai SEZ;
- increase in the Human Development Index in Morotai;
- increase in the number of tourists.

Another positive aspect that can be observed is the development of tourism in Morotai. Morotai has even been dubbed 'The Maldives of Indonesia' due to its incredible tourism potential. The availability of various tourism options, including marine and historical tourism, becomes a unique attraction for tourists to visit Morotai. With the development of the tourism sector, another benefit is the increase in job opportunities for the local community. This aligns with the survey results indicating that respondents feel that with the presence of Morotai SEZ, there are broader job options and improved access to other areas around KEK that were previously difficult to reach quickly.

## Conclusion

The National Strategic Project Morotai SEZ is a highly important project as it is projected to contribute to the growth of the local economy, which indirectly also contributes to the national economic growth. Various facilities and infrastructure have been built to support industrial growth in Morotai SEZ. These facilities and infrastructure have had a positive impact on the local community. Based on the survey results, it is known that the factors that serve as strengths of Morotai SEZ need to be optimised (such as easy regulations, suitable location, adequate infrastructure, and sustainable project development) to maximise the opportunities available (such as community support, business expansion, and improved welfare of the people). By taking these steps, it is expected that investment and economic activities in Morotai SEZ will further increase, thereby providing greater contributions to the prosperity of the community. However, both the government and Morotai SEZ managers also need to anticipate weaknesses and challenges that could hinder the development of the area (such as timely project completion, use of modern technology, investor commitment, and land acquisition).



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## 2.5. MANDALIKA SPECIAL ECONOMIC ZONE

### 2.5.1. Project Profile

The vast expanse of Indonesia encompasses the westernmost island of Pulau Weh where the city of Sabang is located on the easternmost island of Pulau Liki, which is part of Sarmi Regency, Papua Province. As an archipelagic country, Indonesia has tens of thousands of beaches; it also has beautiful marine parks with diverse and amazing marine biodiversity. The beauty of the beaches and marine parks is a valuable natural resource, surpassing gold mines because it can provide endless benefits if managed well as tourist attractions.

The Mandalika Special Economic Zone (SEZ) is built and managed by PT. Pengembangan Pariwisata Indonesia or the Indonesian Tourism Development Corporation (ITDC). The Mandalika Special Economic Zone (SEZ) is currently spread over an area of 1,173.29 ha and is located in the Pujut District of Lombok Tengah Regency, Nusa Tenggara Barat. It is bordered by the villages of Kuta, Sukadana, Mertak, Sengkol, Rembitan, and Prabu. Some of the infrastructure built in the Mandalika SEZ can be seen in Figure 3.70.

**Figure 3.70. Mandalika Infrastructure**



Source: Mandalika SEZ documentation from ITDC Mandalika.

For the availability of land in the area, the total land in accordance with the Economic Strategic Area designation document is 1,322.02 ha, but in the course of project development there is land whose ownership is still outside Indonesian ITDC, namely 148.73 ha which is gradually being acquired. Of the 1,173.29 ha of land owned by ITDC, 1,164.18 ha has a land title certificate, and the remaining 9.1076 ha are still in the application process to obtain land management rights.

The Mandalika SEZ is situated in a hilly area, with its front side facing a 16 km stretch of coastline. The beaches along this stretch include Kuta Beach, Seger Beach, Serenting Beach, Tanjung Aan Beach, and Gerupuk Beach. It takes approximately 15 minutes to travel from Lombok International Airport to Mandalika via the BIL-Mandalika Bypass Road. From Bali, Mandalika can be reached by fast boat through the Sanur – Nusa Penida – Kuta Portlane corridor, with a travel time of approximately 2.5 hours.

The development and management of the Mandalika SEZ are carried out by PT. Pengembangan Pariwisata Indonesia or the ITDC. The implementation of the Mandalika SEZ development can be described as follows:

- 1) The construction of the Nurul Bilad Mosque and basic infrastructure in the western area, including road infrastructure and other facilities, was financed through state capital investment in 2015, completed in 2018.
- 2) The construction of the ITDC office building, located under the Nurul Bilad Mosque, was also completed in 2018.
- 3) The construction of Mandalika Bazaar and Kuta Lane, with Mandalika Bazaar having 330 stalls, began construction in 2018 and was completed in 2019 with ITDC internal financing, and continued with the beautification of Mandalika bazaar area and Kuta Lane using National Interest Account (NIA) financing from the Indonesia Export Financing Agency in 2020-23. The stalls at the Mandalika Bazaar are prioritised to relocate traders from micro, small, and medium-sized enterprises from the surrounding community who previously unofficially occupied the coast of the area.
- 4) The involvement of the Asian Infrastructure Investment Bank (AIIB) in the Mandalika Urban and Tourism Infrastructure Project (MUTIP) programme is in the form of work packages, namely for (1) road infrastructure and complementary works, such as roads, road drainage (swale), public street lighting, landscape, pedestrians, utility boxes, parking areas, gates, temporary evacuation shelters, including road body for main track and service road circuit, (2) electricity network, (3) telecommunication network, (4) clean water network, (5) ground water tank, (6) dirty water network, (7) solid waste treatment plant, (8) waste water treatment plant, and (9) perimeter fence. All projects from AIIB financing are targeted to be completed by September 2024.
- 5) The construction of Pullman Hotel from the NIA programme, which is a 5-star hotel that has 230 regular rooms, 27 villas (beach villas and garden villas) and has been operating since August 2022.
- 6) The construction of basic circuit infrastructure (road body formation) and construction of non-circuit roads in the form of regional support roads outside the Special Area Road (SAR) in 2019-2020 with NIA programme financing.

- 7) The construction of SAR, which is a circuit path, from state capital investment in 2020 and Himbara (Association of State-Owned Banks), namely for paving the circuit path, both main track and circuit service road. According to ITDC's explanation, the circuit is built with world-class quality, such as in Buriram, Thailand and Sepang, Malaysia, using a mixture of Upgraded Stone Mastic Asphalt combined with Asphalt Concrete-Wearing Course. Upgraded Stone Mastic Asphalt technology is widely used in subtropical countries that experience snow seasons, while Asphalt Concrete-Wearing Course is an Indonesian National Standard asphalt that is widely used on highways or airport runways. SAR was completed in 2021 and began to be used at the MotoGP event in March 2022. The circuit has a track length of 4.31 km with 17 bends. This circuit is also referred to as SAR where the circuit will be used as an access road for the area if it is not holding a race, especially on the outer service road.

## 2.5.2. Project Objectives

The tourism sector can be a strategic source of revenue for Indonesia because it can drive the development of other economic sectors. The success of Bali as a tourist destination has encouraged other islands. Through Regulation No. 52 of 2014, the government designated the Mandalika area as an SEZ for Tourism. With the designation as a special economic zone, the development of the Mandalika area received support from both the central government and the local government, including facilities for land acquisition and certification of regional land and the development of supporting infrastructure in the form of roads connecting the airport directly to the Mandalika SEZ with a shorter distance. While support from the local government, among others, is in the form of moving the airport to the Central Lombok Regency area near Mandalika SEZ.

The concept of Mandalika SEZ is to combine nature tourism with sports tourism. This area is expected to encourage the acceleration of economic development in the Central Lombok Regency area, especially West Nusa Tenggara and the acceleration and expansion of national economic development.

The development of the Mandalika SEZ is based on two advantages: geo-economic advantage and geo-strategic advantage. The geo-economic advantage lies in its marine tourist attractions, including white sandy beaches with exotic panoramas, stunning marine parks, steep hills that enhance its beauty, and its proximity to Bali Island. On the other hand, the geo-strategic advantage of Mandalika's tourism development is the concept of environmentally friendly tourism (ecotourism), where visitors can not only admire nature but also witness the local ethnic culture of the Sasak people as a way to preserve their heritage.

Therefore, in Indonesia's tourism development strategic plan, Mandalika SEZ was designated as one of the 10 Priority Tourism Destinations, which was then focused as a Super Priority Tourism Destination. These five Super Priority Tourism Destinations then became part of the National

Strategic Project which was stipulated through Presidential Regulation Number 109 of 2020 and finally by the Coordinating Minister for Economic Affairs Regulation Number 21 of 2022.

### 2.5.3. Project Cost and Source of Fund

The development of the Mandalika SEZ by ITDC is finance from several sources, including:

- 1) State capital investment in 2015 amounted to Rp250 billion, used for the development of the western area, including the construction of mosques and roads along Kuta Mandalika Beach and several other roads in the western area.
- 2) ITDC internal financing of Rp64 billion, used to build the Mandalika Bazaar.
- 3) Financing in the form of a loan from the Asian Infrastructure Investment Bank (AIIB) of US\$248.4 million or equivalent to Rp3.60 trillion to build basic infrastructure and supporting facilities for the area packaged in the MUTIP programme.
- 4) Financing in the form of a loan from the Indonesian Export Financing Agency in the NIA programme of Rp1.19 trillion, used to build the Pullman Hotel, basic circuit and non-circuit infrastructure, and for the beautification of Mandalika Bazaar and Kuta Lane.
- 5) State Capital Investment in 2020 and financing from Himbara amounting to Rp899 billion, used to build Special Area Roads.

### 2.5.4. External dan Internal Factors

The Mandalika SEZ was built with the aim of encouraging the acceleration of economic development in the Central Lombok Regency, West Nusa Tenggara, in particular, as well as the acceleration and expansion of national economic development. To measure the possibility of achieving these goals, it is necessary to identify the opportunities and challenges from the external factors as well as the strengths and weaknesses of the internal factors.

#### 2.5.4.1. External Factors

The internal factors can be identified as the support from the community for the Mandalika SEZ; significant opportunities for private/large-scale investment; the creation of job opportunities; emergence of new businesses in the Mandalika area; hesitancy to invest in the Mandalika SEZ; the low number of tourists outside of circuit events; increased regional income; Mandalika Circuit's enhancement of the global recognition of Lombok; adequate land availability; the disbursement of funds from the AIIB, which must be guaranteed with no issues/disputes with the community; and limited flight schedules to Lombok and transportation from the airport to Mandalika.

#### 2.5.4.2. Internal Factors

The internal factors can be identified as the Mandalika SEZ's creation based on clear regulations; the location of the Mandalika SEZ suitable for tourism zones; the location of the Mandalika SEZ in accordance with spatial planning and land use; supporting infrastructure available for the Mandalika SEZ; the licensing process being not as fast as expected; locations affected by floods during the project construction phase; the ITDC, a state-owned enterprise specialising in tourism, as the implementing body for the development and management of the Mandalika SEZ; government capital participation in the development of the Mandalika SEZ; and the physical construction completed according to set targets, with the project having very good physical quality but the supporting tourism facilities being currently insufficient.

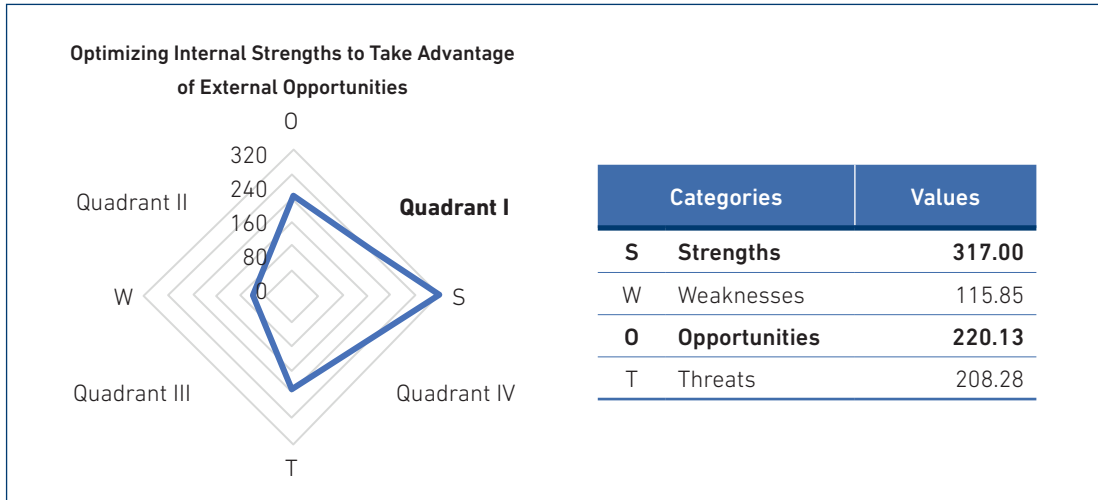
#### 2.5.5. SWOT Analysis

This section will discuss the challenges and benefits of Mandalika SEZ based on a survey conducted with stakeholders, namely ITDC as the executor of the construction and development of the area, the Regional Government of Nusa Tenggara Barat and Lombok Tengah Regency Government, academics, entrepreneurs in Mandalika SEZ and the surrounding community.

To measure the challenges and benefits of developing Mandalika SEZ, a strengths-weaknesses-opportunities-threats (SWOT) analysis was conducted through a questionnaire to obtain perceptions from respondents. Perception is seen from two points of view, namely reality and importance, using a score of 1 to 6. Reality describes the respondent's perception of the facts 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 a perception of very unimportant while a score of 6 indicates a perception of very important to the project.

The results of the SWOT analysis show that Mandalika SEZ has strengths and opportunities that are more dominant than weaknesses and challenges, and falls to the first quadrant as shown in Figure 3.71.

**Figure 3.71. SWOT Analysis on Mandalika SEZ**



SEZ = special economic zone.

Source: Authors, 2023.

The internal factors mapped to determine strengths and weaknesses and the external factors identified as opportunities and challenges are shown in Figure 3.72. Factors included as strengths are those from the questionnaire results with a perception score of  $\geq 5.38$  out of the highest score of 6, while factors assessed as weaknesses have a perception score of  $< 5.38$ . Those assessed as opportunities are factors with a perception score  $\geq 5.42$ , while those assessed as challenges have a perception score  $< 5.42$ .

**Figure 3.72. Strengths, Weaknesses, Opportunities, and Challenges (SWOT) of Mandalika SEZ**

<b>Internal</b>	<b>Strengths</b>	<b>Weaknesses</b>
	<ul style="list-style-type: none"> <li>• The Mandalika SEZ creation is based on clear regulations.</li> <li>• The location of the Mandalika SEZ is suitable for tourism zones.</li> <li>• The location of the Mandalika SEZ is in accordance with spatial planning and land use.</li> <li>• There is supporting infrastructure available for the Mandalika SEZ.</li> <li>• ITDC, as the implementing body for the development and management of the Mandalika SEZ, is a state-owned enterprise specialising in tourism.</li> <li>• There is government capital participation in the development of the Mandalika SEZ.</li> <li>• The physical construction is completed according to the set targets.</li> <li>• The project has a very good physical quality.</li> </ul>	<ul style="list-style-type: none"> <li>• The licensing process is not as fast as expected.</li> <li>• There are locations affected by floods during the project construction phase.</li> <li>• The supporting tourism facilities are currently insufficient.</li> </ul>
<b>External</b>	<b>Opportunities</b>	<b>Threats</b>
	<ul style="list-style-type: none"> <li>• Support from the community for Mandalika Special Economic Zone</li> <li>• Significant opportunities for private/massive investment</li> <li>• Creation of job opportunities</li> <li>• Emergence of new businesses in the Mandalika area</li> <li>• Increased regional income</li> <li>• Mandalika Circuit enhances the global recognition of Lombok</li> <li>• Adequate land availability</li> </ul>	<ul style="list-style-type: none"> <li>• Investors are still hesitant to invest in Mandalika Special Economic Zone</li> <li>• The number of tourists is still low outside of circuit events</li> <li>• Disbursement of funds from AIBB must be guaranteed with no issues/ disputes with the community</li> <li>• Limited flight schedules to Lombok and transportation from the airport to Mandalika</li> </ul>
	<b>Positive</b>	<b>Negative</b>

SEZ = special economic zone.

Source: Authors, 2023.



### 2.5.5.1. Main Challenges

The challenge of regional development appears in the fact that it takes a long time from land acquisition since the old order to the establishment of Mandalika SEZ based on Government Regulation Number: 52 of 2014, which later became a Super Priority Tourism Destination and National Strategic Project.

A factor that needs attention is the impact of the Mandalika SEZ project development on the environment. In December 2022, there was a flood that submerged the streets and several houses in front of the circuit. Based on ITDC's explanation, this was because, at that time, the drainage construction was still in the process of being completed. Then there was no more flooding after the drainage was completed.

Tourism support facilities are considered inadequate and can be seen during the 2022 MotoGP event, where the need for accommodation facilities in the form of lodging, transportation facilities, and restaurants has not been met. Hotels in the area are still very limited and cannot accommodate all spectators, so many stay around Mandalika during the 2022 MotoGP.

Another fact is that there are several investors who have committed to the construction of tourist facilities but have not yet realised it. Through the end of 2022, a total of 16 investment project lots have been made, with a total commitment contract value of around Rp1.92 trillion. Of these, six lots have been completed and are operating, and three lots are in progress.

Another challenge is the low number of tourists outside of circuit events. In addition to the unfinished development of the area, the gap will remain even if the area is completed. The gap is natural, but ITDC must strive to keep the difference in visitor numbers before and after the event to a minimum. ITDC needs to devise a strategy to continue to maintain the sustainability of the circuit and optimise it with various activities.

Another challenge is AIIB's stipulation regarding the terms of disbursement that can be done for projects with zero conflict. On the one hand, this guarantees a dispute-free project; on the other hand, it can have an impact on delaying the project completion schedule if there are problems in the middle of construction, such as obstruction by residents or claims to land.

### 2.5.5.2. Main Benefits

Mandalika SEZ as a tourism area can match Bali. Almost the entire area is surrounded by 16 km of beach with a view that is full of charm. Another tourist attraction is the international street circuit. The Mandalika Circuit has pocketed a 10-year contract from Dorna Sport as the MotoGP promoter, which began with the MotoGP international event on March 18–20, 2022. Research conducted by Litbang Kompas (2022) shows that Indonesians and other countries are enthusiastic about watching MotoGP 2022. This was reflected in the sale of 67,689 tickets, which exceeded the target of 60,000 spectators. According to MotoGP riders and observers, the Mandalika circuit has world-level quality and is in a beautiful location.

Mandalika SEZ is also supported by various infrastructures, such as Lombok International Airport which is 18 km away, Lembar Port which is 46 km away, 17.36 km BIL – Mandalika Bypass road, Batu Jai Praya clean water treatment plant with a capacity of 200 L/sec, solar power centre, Mujur Dam 21 km away and Kuta Substation with a capacity of 150 kV.

The survey results show that the community around Mandalika fully supports Mandalika SEZ. Prior to construction, the community traded illegally along the beach and some occupied the area's land as a place to live. During construction, ITDC built the Mandalika Bazaar to relocate the traders. People who occupied the land were also moved to residential complexes built by the government. In addition, there are also opportunities to open new businesses, such as villas, homestays, restaurants, mini markets, souvenir shops, gas stations, transportation businesses, and art performances.

Mandalika SEZ also has an impact on job creation in the form of employment during physical development and implementation of the MotoGP event. According to the Dinas Ketenagakerjaan of Lombok Tengah Regency, until 2025, the absorbed workforce is estimated at 58,700 people. Research data by Litbang Kompas (2022) show that the 2022 MotoGP event absorbs as many as 4,600 workers including cleaning management, security, Marshall, shuttle buses, MSMEs, parking attendants, control, help desk, and event support.

The indirect impact is the opening of jobs for the construction of tourist facilities by entrepreneurs or communities outside the area, such as lodging, restaurants, transportation facilities, room rental services in private homes, motorcycle taxi services, food and beverage trading, souvenirs, massage services and even guide services for MotoGP riders.

The 2022 MotoGP event, which was covered by domestic and foreign media, became a means of publicising Mandalika tourist destinations. After the event, the number of tourists increased to travel and see the circuit area directly. According to the results of research by Libang Kompas, the 2022 MotoGP contributed to Central Lombok's Regional Original Revenue of Rp12.18 billion. During the event, transactions for accommodation reached Rp40.72 billion, bus and private vehicle rental Rp29.17 billion, empowering as many as 800 traders from micro, small and medium-sized enterprises (240 from inside the circuit and 560 from outside the circuit), with an eating and drinking transaction value for 3 days of Rp23.08 billion, and spectator merchandise of Rp12.93 billion. According to the study, the 3 days of MotoGP had an impact on money circulation of Rp697.88 billion.

Research conducted by the Directorate of Strategic Studies of the Ministry of Tourism and Creative Economy / Tourism and Creative Economy Agency in 2022 also shows that MotoGP 2022 in Mandalika contributes to gross regional domestic product growth by 3.3% where the realisation of Nusa Tenggara Barat economic growth in the first quarter of 2022 recorded a growth of 7.76%. Some of the beautiful scenery in Mandalika SEZ can be seen in Figure 3.73.

**Figure 3.73. Tanjung Aan Beach, Mandalika**



Source: Mandalika SEZ documentation from ITDC Mandalika.

## Conclusion

From the SWOT analysis, it can be concluded that Mandalika SEZ is a strategic project because it has strengths and opportunities that are more dominant than weaknesses and threats. The strategy that can be applied in this condition is to carry out an aggressive growth policy by optimising internal strengths and taking advantage of external opportunities. For this reason, ITDC, while remaining focused on completing the area in accordance with the grand design, also needs to aggressively optimise objects that have been completed and are ready to be harvested, such as circuits, beach tourism areas, and Pullman Hotels.

An active strategy needs to be carried out utilising community support and entrepreneurs/investors. Empowerment of buffer village communities is very important to meet labour needs, agricultural and livestock products to serve the needs of hotels and restaurants, as well as the introduction of local arts and culture. For this reason, an empowerment programme is needed in the form of education and competency building in the tourism sector, as well as the implementation of cleanliness, health, safety, and environment sustainability protocols. The support of entrepreneurs/investors can be utilised to cover the empty side of tourist facilities that have not or cannot be fulfilled by ITDC and the government. Coordination, collaboration, and common perception between ITDC, local governments, communities, and entrepreneurs will be an extraordinary force in its role as a tourist host.

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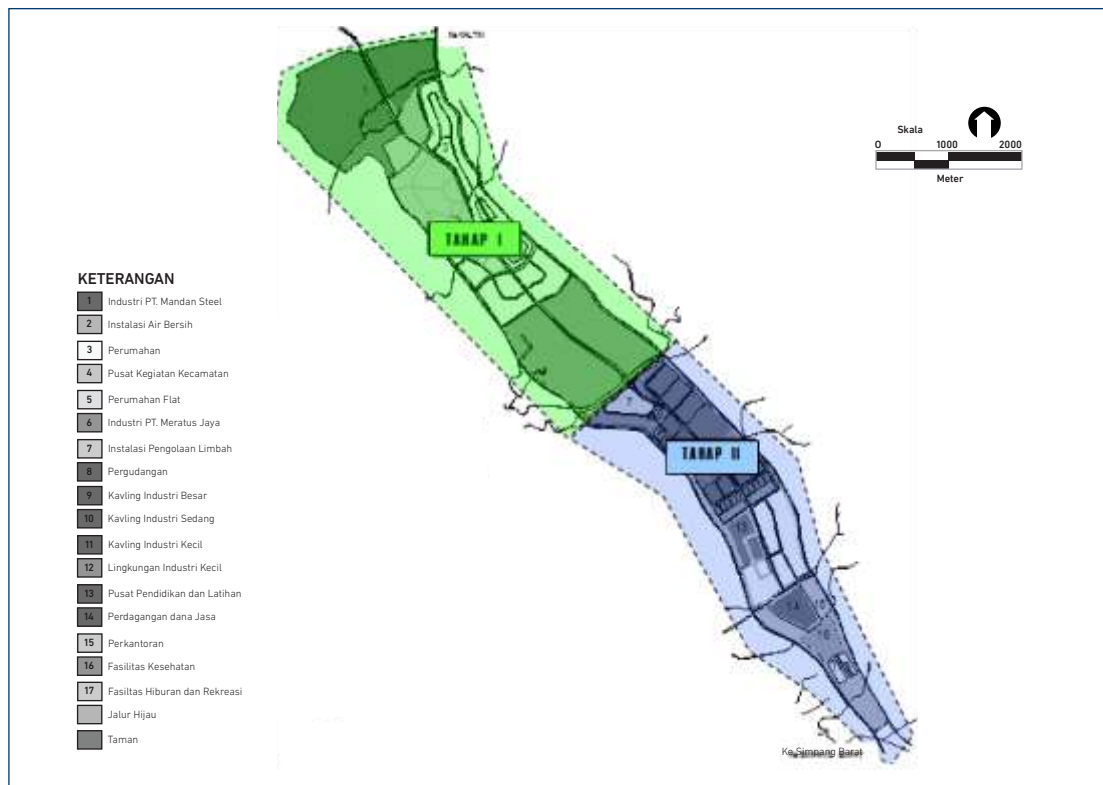
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## 2.6. BATULICIN INDUSTRIAL PARK

### 2.6.1. Project Profile

The Batulicin Industrial Park has been designated as a National Strategic Project (PSN) since Presidential Regulation No. 3 of 2016 concerning the Acceleration of National Strategic Project Implementation. This area has developed rapidly and currently has many industries within it. Therefore, based on Presidential Regulation Number 109 of 2020 concerning the Third Amendment to Presidential Regulation Number 3 of 2016 concerning the Acceleration of National Strategic Project Implementation, the Batulicin Industrial Park is no longer included in the PSN list since 2020 because it is considered to have succeeded and capable of carrying out industrial activities. However, it still is a major project in the National Medium-Term Development Plan (Figure 3.74).

**Figure 3.74. Batulicin Industrial Park Development Plan**



Source: Direktorat Jenderal Pengembangan Perwilayahan Industri, 2015.

Batulicin Industrial Park is a thriving hub of economic activity located in the Tanah Bumbu regency of South Kalimantan province in Indonesia. This region is characterised by its vast reserves of coal and its strategic location near the major shipping routes of the Java Sea, which has made it a vital transportation and logistics hub for Indonesia's coal industry (Wikipedia, 2021). Based on data from the Project Management Officer Monitoring of Priority Industrial Area Development Plans for National Medium-Term Development and National Strategic Projects in 2023, the area of the Batulicin Industrial Park is 2,650 ha based on the Batulicin Industrial Park Location Map contained in the Appendix to the Regent's Regulation. The zones that will be developed in the Batulicin Industrial Park are Industrial Zone, Supporting Facility Zone, Regional Infrastructure Zone, Green Open Space Zone, and Education Zone.

The development of the Batulicin Industrial Park in Tanah Bumbu Regency is divided into two blocs, namely the 950-hectare Sarigadung Bloc (Bloc 1) and the 1,700-hectare Sungai Dua Bloc (Bloc 2). Bloc 1 is managed by Batulicin Jaya Utama (BJU), a regional government-owned enterprise (Maskuriah, 2018).

The operational capacity of BJU is limited due to its dependence on the regional budget, while the development of infrastructure and facilities requires significant funding. This limitation has resulted in slow progress in the development of facilities and completeness of the industrial zone. The process of land acquisition for the industrial zone is also slow due to resistance from landowners regarding prices. Infrastructure within the industrial zone is also constrained, including electricity, water and gas supply, as well as slow development of other infrastructure. In addition, there is a lack of connecting roads and deep-sea levels for export transportation purposes. Promotion of the industrial zone is also minimal, resulting in limited awareness about its existence.

Meanwhile, the Sungai Dua Block is managed by the Jhonlin Next Development Group. In August 2021, a biodiesel plant in this block was inaugurated by the President of Indonesia, Joko Widodo (Trihusodo, 2021). In this industrial zone, there are several industries operating in the fields of iron and steel, biodiesel, and others. Politeknik Batulicin aims to prepare skilled and professional human resources in the field of industry. It is expected to produce a young generation that is ready to use and contribute to the development of the Batulicin Industrial Park.

The plant processes crude palm oil into 1,500 tons of biodiesel per day and was built with an investment of Rp2 trillion. The industry could create many job opportunities. Moreover, the downstream industry could maintain the stability of palm oil prices both in domestic and international markets. Politeknik Batulicin was also built in this area to support the development of the Batulicin Industrial Park.

## 2.6.2. Project Objectives

Kalimantan is the largest territory in Indonesia, yet its economic development has a small contribution to national economic growth. With an area of about 544,150 km<sup>2</sup>, the island has a lot of potential for economic development. One of them is the potential for natural and beach tourism, cultural tourism parks, shopping tourism, and culinary tourism. In addition, Kalimantan also has abundant natural resources such as oil, gas, and coal. The agricultural sector, especially plantations, is also one of the main sectors supporting the economy of the Kalimantan region. Kalimantan is one of the regions in Indonesia that has received several national strategic projects. One of these projects is the Batulicin Industrial Park. It is located in Tanah Bumbu, South Kalimantan and is the only industrial zone in South Kalimantan. The Batulicin Industrial Park is being developed to support and improve the economy and welfare of the people in Tanah Bumbu Regency, South Kalimantan. This project is supported by the central government, province, and regency, as well as various interested private parties. The Batulicin Industrial Park will become a centre for processing and marketing agricultural, plantation, livestock, fisheries, and mining products in the region (Trihusodo, 2021). It will also attract investment and create jobs for local people.

The development of the Batulicin Industrial Park requires synergy between the government, the community and the private sector. The government needs to support infrastructure that determines investment, such as toll roads, airports, seaports, clean water resources, and electricity. The community needs to support this programme by providing land, labour, and active participation. The private sector needs to carry out downstreaming and industrialisation more broadly to provide added value for raw commodities.

Thus, the development of the Batulicin Industrial Park is a step forward in improving Indonesia's economy, especially in South Kalimantan. This area has great potential to become a maritime axis and economic centre in the region. This area also has positive social and environmental benefits for the surrounding community.

## 2.6.3. Project Cost and Source of Funding

According to the Regulation of the Regent of Tanah Bumbu Regency Number 31 of 2015 concerning the Batulicin Industrial Park, the funding sources are as follows:

- a) regional government budget;
- b) state budget funds through sectoral agencies;
- c) private sector through domestic investment or foreign investment;
- d) loan funds, including domestic and foreign loans; and
- e) other legitimate funds.



There are two data related to the Batulicin Industrial Park construction cost:

- a) Rp2.12 trillion from the state budget for Bloc 1; and
- b) approximately Rp2 trillion of investment from the private sector for Bloc 2 (KPPIP, n.d.; Trihusodo, 2021).

## 2.6.4. External and Internal Factors

The Batulicin Industrial Park was built with the aim of supporting and improving the economy and welfare of the people in the Tanah Bumbu Regency. To measure the possibility of achieving this goal, a strengths-weaknesses-opportunities-threats (SWOT) analysis needs to be conducted to identify the strengths and weaknesses of internal factors as well as opportunities and challenges from external factors. This can be done through a questionnaire to obtain perceptions from local governments, academics, entrepreneurs, and the public. Perceptions are viewed from two perspectives: reality and the level of importance, using scores ranging from 1 to 6. 'Reality' describes respondents' perceptions of the observed or perceived facts, where a score of 1 indicates a very poor perception and a score of 6 indicates a very good perception of the project. 'Importance' describes how important each of the assessed factors is, where a score of 1 indicates a very unimportant perception, and a score of 6 indicates a very important perception of the project.

### 2.6.4.1. External Factors

The identified external factors are community support for the project development (E<sub>1</sub>); investor interest in the project (E<sub>2</sub>); opportunities for private or public participation as investors in supporting facilities in the project's area (E<sub>3</sub>); opportunities for job creation (E<sub>4</sub>); the impact of opening access to other areas around the project's location (E<sub>5</sub>); impact on the emergence of new businesses for the community (E<sub>6</sub>); opportunities in improving community welfare (E<sub>7</sub>); opportunities in increasing state/regional income (E<sub>8</sub>); availability of land for project development (E<sub>9</sub>); timeliness of disbursement of the project's funding from investors (E<sub>10</sub>); potential disputes or legal claims related to the project (E<sub>11</sub>); and ease of obtaining business permits at PSN locations (E<sub>12</sub>).

### 2.6.4.2. Internal Factors

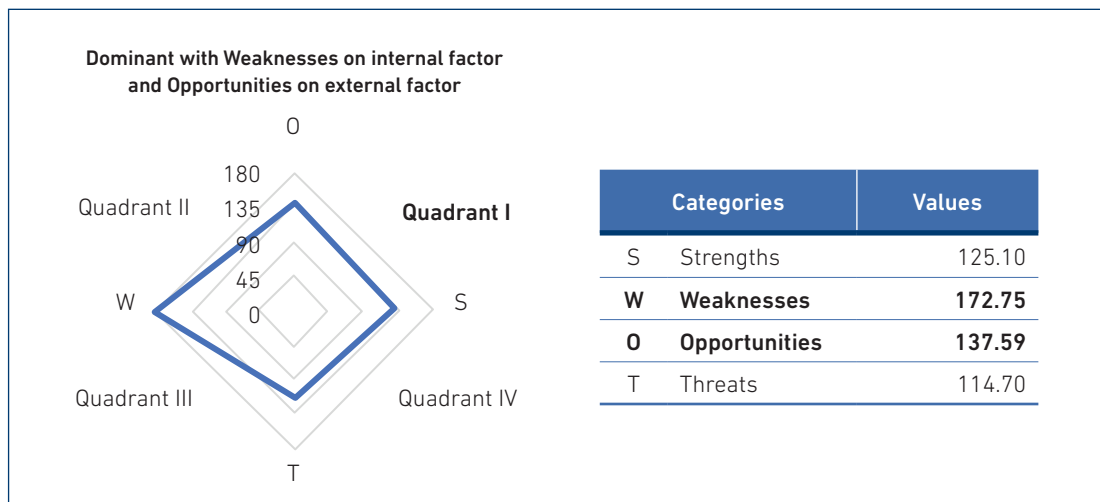
The identified internal factors are supportive regulations for project implementation (I<sub>1</sub>); suitability of the project location for industrial areas (I<sub>2</sub>); project development alignment with regional spatial planning and land use (I<sub>3</sub>); availability of infrastructure supporting the project (I<sub>4</sub>); support from the government in project financing (I<sub>5</sub>); ease of gaining permits

for project implementation (I<sub>6</sub>); smooth technical construction of the project (I<sub>7</sub>); utilisation of modern technology in project development (I<sub>8</sub>); timeliness of project completion (I<sub>9</sub>); physical project quality (I<sub>10</sub>); suitability of the intended use of project development results (I<sub>11</sub>); project's commitment to environmental sustainability (I<sub>12</sub>); and the sufficiency of supporting facilities for the project (I<sub>13</sub>).

## 2.6.5. SWOT Results and Analysis

The results of the SWOT analysis show that the Batulicin Industrial Park is in the second quadrant and is more dominant weaknesses and opportunities than strengths and challenges, as shown in Figure 3.75.

**Figure 3.75. The SWOT Analysis Results of the Batulicin Industrial Park**



Source: Authors, 2023.

The total points obtained from each category of Strengths, Weaknesses, Opportunities, and Threats are shown in figure 3.75. Next, the internal and external factors identified as strengths, weaknesses, opportunities and threats are mapped in Figure 3.76.

**Figure 3.76. Strengths and Weaknesses of Batulicin Industrial Park**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>✓ Batulicin Industrial Zone has been supported by clear regulations</li> <li>✓ The location of Batulicin Industrial Zone is suitable for industrial zones</li> <li>✓ Batulicin Industrial Zone has been supported by supporting facilities and infrastructure available in the vicinity</li> <li>✓ The central and local governments have provided financial support in the development of Batulicin Industrial Zone</li> <li>✓ The construction of Batulicin Industrial Zone has used modern technology</li> </ul>	<ul style="list-style-type: none"> <li>✓ In the development of Batulicin Industrial Zone, it is necessary to pay more attention to regional spatial planning and land use</li> <li>✓ The ease of deep licensing services needs to be improved to encourage the development of Batulicin Industrial Zone</li> <li>✓ There are technical obstacles in the construction of Batulicin Industrial Zone construction</li> <li>✓ The completion of Batulicin Industrial Zone construction takes longer than predetermined</li> <li>✓ The physical quality of Batulicin Industrial Zone infrastructure needs attention</li> <li>✓ The infrastructure built at Batulicin Industrial Zone has not been fully used in accordance with its designation</li> <li>✓ The development of Batulicin Industrial Zone still needs to pay attention to environmental sustainability aspects</li> <li>✓ Supporting facilities in Batulicin Industrial Zone need to be improved</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>✓ The surrounding community strongly supports the development of Batulicin Industrial Zone</li> <li>✓ The project can attract investors to invest in Batulicin Industrial Zone</li> <li>✓ The existence of Batulicin Industrial Zone increases job creation opportunities for the surrounding community</li> <li>✓ Access to other areas around Batulicin Industrial Zone has become more open with the development of Batulicin Industrial Zone</li> <li>✓ The existence of Batulicin Industrial Zone is able to grow new businesses for the surrounding community.</li> <li>✓ Batulicin Industrial Zone has very adequate land availability to accommodate industrial needs as expected</li> </ul>	<ul style="list-style-type: none"> <li>✓ Private sector involvement in Batulicin Industrial Zone development needs to be increased</li> <li>✓ The opportunity for Batulicin Industrial Zone in encouraging the improvement of the welfare of the surrounding community still needs to be the government's attention</li> <li>✓ Batulicin Industrial Zone is still considered to have little influence in driving an increase in state/regional revenues</li> <li>✓ The commitment to disburse Batulicin Industrial Zone funding from investors needs to be a concern for the Government</li> <li>✓ There are potential disputes and lawsuits that need to be anticipated at Batulicin Industrial Zone</li> <li>✓ The ease of business licenses in Batulicin Industrial Zone needs special attention from the government</li> </ul>

Source: Authors, 2023.

### 2.6.5.1. Main Challenges

One of the main challenges related to the development of Batulicin Industrial Park is land occupation problems by the community (Saheriyanto et al., 2019). This issue arises because the government has allowed the land to remain unused for decades, leading to its occupation by the community. Another challenge is related to the value of compensation which has not yet been agreed upon, socio-economic impacts after the clear and clean process, and double documents which were found.

According to Saheriyanto et al. (2019), the most effective approaches and strategies for resolving land issues between government and society are comprehensive solution methods in the form of: integrated team formation, distribution of compensation based on length of stay, socio-cultural approach through community and integrated team meetings, science and technology approaches through transparency of development plans, religious approach through socialisation by religious leaders, and forming cooperation between government and social services.

### 2.6.5.2. Main Benefits

The development of Batulicin Industrial Park can bring several benefits, both for the government, and for entrepreneurs and the community. Batulicin Industrial Park aims to integrate natural and artificial resources while taking into account human resources and the orderly physical components both within and outside the area. This will have a positive impact on the economy of the community by reducing unemployment, especially in areas around the zone, improving community welfare, increasing macroeconomic growth in the region, and opening economic growth in local villages (Purwandani, 2018).

For the government, the Batulicin Industrial Park can increase regional income from the tax, user fee, and royalty sectors. In addition, this area can also support government programmes in developing downstream industries, especially biodiesel from crude palm oil, which can save foreign exchange and reduce dependence on imported fuel oil (Trihusodo, 2021).

For entrepreneurs, the Batulicin Industrial Park offers various facilities and incentives, such as the availability of land, infrastructure, licensing, and government support. This area also has a large market potential, both domestic and international, because it is located on a maritime trade route. Some industries that are already operating in this area include PT Jhonlin Agro Raya which produces biodiesel, PT Meratus Jaya Iron & Steel which produces iron and steel, and PT Aneka Tambang which produces nickel (Trihusodo, 2021).

For the community, the Batulicin Industrial Park can improve welfare and the economy through educational and training facilities, such as Politeknik Batulicin which is one of the leading polytechnics in South Kalimantan (Purwandani, 2018).

Thus, the Batulicin Industrial Park is an example of an integrated industrial zone that successfully combines economic, social, and environmental interests. This area is also proof that Indonesia can process its natural resources into high value-added products that can compete in the global market.

## Conclusion

The Batulicin Industrial Park is the only industrial zone in South Kalimantan and hosts emerging enterprises reliant on natural resources. However, since 2020, it is no longer included in the PSN list as it is considered to have succeeded and can carry out industrial activities.

The Batulicin Industrial Park aims to integrate natural and artificial resources, human resources, and physical components of the area. It can bring benefits for the government, entrepreneurs, and community by improving the economy, providing new employment opportunities, reducing unemployment, improving community welfare, and increasing macroeconomic growth in the region. Moreover, it can increase regional income and support government programmes in developing downstream industries such as biodiesel from crude palm oil. Entrepreneurs can benefit from the availability of land, infrastructure, licensing, and government support. The area also has significant market potential both domestically and internationally due to its location on a maritime trade route.

Thus, the Batulicin Industrial Park is an example of an integrated industrial zone that successfully combines economic, social, and environmental interests. It demonstrates Indonesia's ability to process its natural resources into high-value-added products that can compete in the global market.

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