

Simple Risk Analysis Of PLBN Entikong Development, West Kalimantan

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Abstract— Given the important and strategic functions of immigration in the development of border areas, especially in maintaining the gate at the Cross Border Post, it is expected that the massive infrastructure development at the border can increase the visit of Malaysians to Entikong. Moreover, if Entikong is developed into a new tourist destination to boost the economy. This is a manifestation of the government's program to develop Indonesia from the periphery and make cross-border posts as Indonesia's proud front porch. In its implementation, it is necessary to identify risks that are the cause of project constraints. Even though an activity has been planned as well as possible, it still contains uncertainty that it will run fully as planned. For the types of risks that exist, qualitative assessment is needed to determine the probabilities and impacts of the risks. This is useful to determine the management and response to existing risks so as to minimize and avoid the impact of the risks that might occur. Risk analysis is crucial to do on every project so that the contractor is not wrong in making decisions in overcoming risks and has prepared the right strategy in dealing with risk.

Index Terms— Risk Analysis, Entikong, Strategy.

1 INTRODUCTION

Indonesia is an archipelagic country that has a fairly long border line both land, sea and air with neighboring countries, or also called State borders which is a separator of a country's sovereignty based on international law. The Border Region is part of the territory of the country which is located on the inner side along the borders of Indonesia with neighboring countries. The border area is of strategic value in state sovereignty, defense, security and economy. At present the public awareness of the importance of structuring and optimizing the potential of border areas is increasingly high, the public is increasingly aware that the border area is the front line of the country that must be managed as well as possible.

However, it must be realized that development in the border area has not produced satisfactory results, especially in improving the welfare of the local community. There are still some specific problems. Problems such as the disagreement of several segments of the national borders on land and in the sea, not yet optimal cross-border services, still prominent security issues and weak law enforcement. Especially related to border crossers and illegal activities and the presence of outermost small islands in the national border areas that require special attention to maintain the sovereignty of the Unitary State of the Republic of Indonesia. While the constraints that are still faced in handling problems in disadvantaged regions and frontiers include funding sources that are directed at building and serving underdeveloped areas and borders which are still inadequate. There is still a lack of synergies between sectors and levels of government, and with communities and businesses in developing underdeveloped regions and borders and the development of a strategic and fast-growing region. It is expected to play a role as a driver for economic growth in disadvantaged areas and borders and around it.

The Border Area is a strategic area in maintaining the integrity of the State so that development in the border areas becomes one of the development priorities in the work cabinet government as the implementation of the third point of *nawacita*, namely to develop Indonesia from the periphery by strengthening regions and villages within the framework of a unitary state. Development at the border is prioritized so that local residents feel the attention of the government so that they can feel the presence of the state to protect all nations and provide security for all citizens, including citizens in rural and remote areas.

In certain places along the border line there is traditional traffic in and out of Indonesian citizens and residents of neighboring countries. At the crossing point was established a Cross Border Post, which served to provide services to every person and goods that would cross the national border. One of the functions of the Cross Border Post is the Immigration function of the traffic of people entering or leaving the Territory of Indonesia and its supervision in order to maintain the upholding of the sovereignty of the State.

Cross Border Post as the face and representation of the nation and the gate of the country's export-import functions must be optimized. Therefore, to support the development of border areas, the President issued Presidential Decree No. 6 of 2015 concerning the Acceleration of the Development of 7 (Seven) Integrated National Border Posts and Supporting Infrastructure Facilities in the Border Area, namely Aruk PLBN, Sambas Regency, PLBN Entikong, Sanggau Regency, PLBN Nangau Badau, Kapuas Hulu Regency, PLBN Motaain, Belu Regency, PLBN Motamasin, Malaka Regency, PLBN Wini, Timor Tengah Utara District, and PLBN Skouw, Jayapura City [1].

The condition of cross-border activities in the Indonesia-Malaysia Entikong border area is quite diverse. The Immigration function along the border line is in accordance with its duties. Namely as the guardian of the gates of the country and part of the realization of the enforcement of sovereignty over the territory of Indonesia providing services

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and supervision of the traffic of people through the border region.

Given the important and strategic functions of immigration in the development of border areas, especially in maintaining the gate at the Cross Border Post, it is expected that the massive infrastructure development at the border can increase the visit of Malaysians to Entikong. Moreover, if Entikong is developed into a new tourist destination to boost the economy. This is a manifestation of the government's program to develop Indonesia from the periphery and make cross-border posts as Indonesia's proud front porch.

2 LITERATURE REVIEW

2.1 Risk management

According to Labombang [2], risk is a variation in things that might occur naturally or the possibility of an unexpected event which is a threat to property and financial benefits due to the danger that occurs. Risk management is a form of risk management to minimize the adverse consequences that may arise through planning, identifying, analyzing, handling, and monitoring physically.

2.2 Risk Identification Process

The risks involved in construction projects are huge, but not all of these risks need to be predicted and considered to start a project because it will take a long time. Therefore, the parties in the construction project need to prioritize the important risks that will have an influence on the project benefits. So that a risk identification process is needed to find out what might happen and is harmful, the possible causes and scenario.

Identification must be carried out thoroughly with a systematic structured process to ensure there are no other significant events to the risk whether controlled or not by the organization so that it will be known what will happen in the 2 dimensions of cause and effect. The approach method that can be used is:

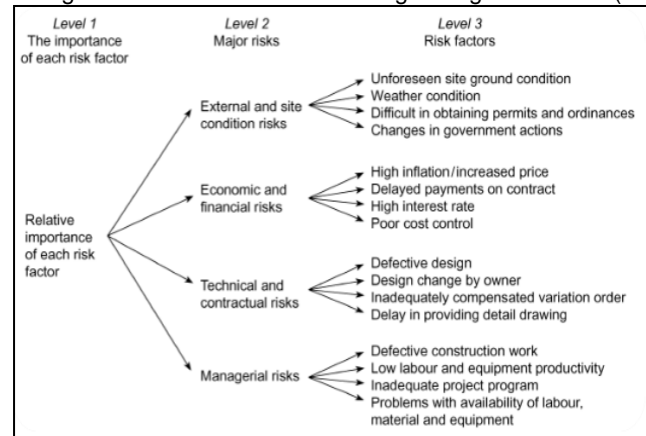
1. Check list.
2. Judgment based on experience and notes.
3. Flow charts.
4. System analysis.
5. Analisis skenario.
6. Other technical analysis.

The steps in the Risk Identification Process are as follows:

1. Determine the risk unit.
2. Understand the business process of the unit.
3. Determine one or several crucial activities of the unit.
4. Determine the goods and people who are in these crucial activities.
5. Finding out the losses that can occur on goods and people from these crucial activities.
6. Determine the cause of the loss or risk.
7. Make a list of risks.

Risk identification according to Wiguna & Scott [3] as shown in Fig. 1 below.

Fig 1. Risk Identification According to Wiguna & Scott (2006)



2.3 Risk Measurement

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The next step in the risk management cycle is Risk Measurement. By referring to two factors, namely the quantity of risk and quality of risk associated with several values or risk-prone exposures. Quality of risk is related to the possibility of a risk occurring. The higher the risk is likely to occur, the higher the risk of the possibility.

The amount of risk (Risk value / risk exposure) according to Godfrey (1996) in Purbawijaya [4] is determined by the multiplication of the probability of the occurrence of risk or frequency. It also called risk probability with the impact that will occur if the risk occurs or is known as risk impact. Poured in the form the following equation (1) below:

$$\text{Risk Value} = \text{Risk Probability} \times \text{Risk Impact} \quad (1)$$

2.4 Risk Mapping

The next step is Risk Mapping, the aim of which is to set risk priorities based on their interests for service providers. Priority setting is caused by limited resources to deal with all risks. Mapping aims to sort out risks that are able to make positive contributions and risks that damage / delay implementation if managed.

Risk mapping by conducting risk acceptability analysis which is determined based on the risk value obtained from the multiplication of probability and impact.

2.5 Risk Management Modeling

Furthermore, modeling risk management can be applied by organizations in the form of conventional risk management, risk model determination and management organizational structure. If the risks arising from an activity have been identified, then further action is taken to reduce the risks that arise. This action is called Risk Mitigation. Conventional risk management is carried out by planning risk handling actions (Risk Mitigation) and is complemented by setting a risk model based on the level of risk and establishing an organization / agency that will manage / handle existing risks.

These risks can sometimes not be eliminated altogether but can only be reduced so that Residual Risk will arise (remaining risk).

According to Flanagan & Norman [5], Management of risk

is divided into four, namely:

1. Avoid risk (risk avoidance), namely avoiding or distancing risk by changing project plans to eliminate risks or conditions or to protect project targets from their effects / consequences.
2. Transferring risk (risk transfer), namely the transfer of risk by seeking the exchange of consequences or consequences of risk to third parties together with ownership of the response. This transfer of risk solely provides management of responsibility to other parties, not eliminating or eliminating it. This form of risk transfer is in the form of insurance by paying a premium.
3. Risk mitigation, which is conducting an investigation to reduce the probability and / or consequences of adverse risk events to an acceptable level.
4. Accept risk (risk acceptance). This technique indicates that the project team decides not to change the project plan related to a risk or is unable to identify other adequate response strategies.

2.6 Monitoring and Control

This is important to do with the reason that management needs to ensure the implementation of risk management goes according to plan and ensures the model is quite effective. Meaning that the model is applied accordingly and achieves risk management objectives.

3 METHODOLOGY

From the activities that will be assessed the risk management in this case is the Entikong PLBN Development activity, West Kalimantan. The steps taken in researching and identifying the risks that exist in the Entikong PLBN development activities are shown in Fig. 2 below.

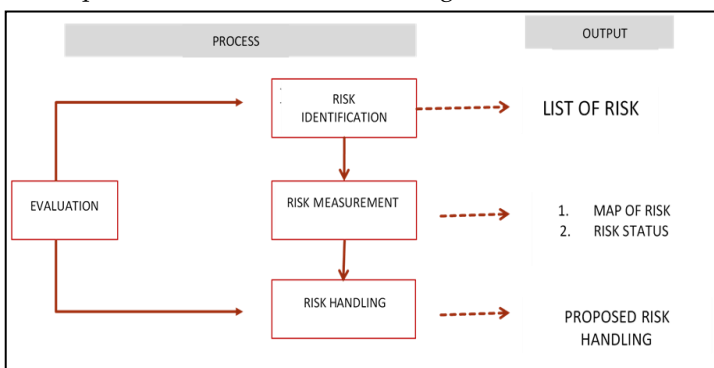


Fig. 2. Risk Management Process of Entikong PLBN Development activities, West Kalimantan

4 RESULTS AND ANALYSIS

4.1 Risk Factors From the Contractors Point View

The risks arising from the implementation of the Entikong PLBN development project, West Kalimantan are shown in Table 1 below:

TABLE 1
RISK IDENTIFICATION OF ENTIKONG NATIONAL DEVELOPMENT PROJECT

	External	Risk	Definition
a	External and Site	1 Land Condition	Soft soil conditions
		2 Culture	Work at night is prohibited by local residents
b	Economic and Financial	1 Payment method	Method of payment by Terminology
		2 Material Prices	The price of material is more expensive
		3 Living Cost	The cost of living for workers and employees is more expensive
c	Technical Contractual	1 Mobilization of Tools and Materials	The cost of mobilizing and demobilizing tools and materials is more expensive because it is far from the provider
		2 Material Availability	Material is hard to find and doesn't even exist
		3 Implementation Method	The implementation method used uses traditional methods without the usual sophisticated equipment used
		4 Change Order	Changes in design and costs at any time from the project owner
		5 Occupational Health and Safety	Local workers still lack of Knowledge about Occupational Health and Safety
d	Managerial	1 Workers	Competent workers come from Java but local residents require using local workers
		2 Time	Many Javanese workers often return to Java, it cost time to depart and return to the site
		3 Quality	Field quality is different from the quality of the plan
		1 Land Condition	Soft soil conditions
		2 Culture	Work at night is prohibited by local residents

While the probability scale and scale of impacts on the Entikong PLBN development project, West Kalimantan are shown in Table 2 below:

TABLE 2
MODEL PROBABILITY AND IMPACT SCALE

Probability Scale		Impact Scale	
1	Very Low	1	Very Light
2	Low	2	Light
3	Intermediate	3	Intermediate
4	High	4	Serious
5	Very High	5	Extrem

The risk measurement of the Entikong PLBN Development Project is shown in Table 3 below:

TABLE 3
RISK MEASUREMENT OF ENTIKONG NATIONAL DEVELOPMENT
PROJECT DEVELOPMENT PROJECT

External	Risk	Proba- bility	Imp- act	Risk Level	Risk Level Category	Risk response
External and Site	Land Condition	5	5	25	High Risk	Avoided
	Culture	3	4	12	Moderate	Mitigation
Economic and Financial	Payment method	5	5	25	High Risk	Avoided
	Material Prices	5	5	25	High Risk	Avoided
	Living Cost	5	3	15	High Risk	Avoided
Technical Contractual	Mobilization of Tools and Materials	5	5	25	High Risk	Avoided
	Material Availability	5	5	25	High Risk	Avoided
	Implementation Method	4	3	12	Moderate	Accepted
	Change Order	3	5	15	High Risk	Accepted
	Occupational Health and Safety	2	5	10	High Risk	Avoided
Managerial	Workers	4	2	8	Low Risk	Accepted
	Time	3	5	15	High Risk	Avoided
	Quality	4	5	20	High Risk	Avoided

The strategy to overcome the risks of the Entikong PLBN Development Project is shown in Table 4 below:

TABLE 4
STRATEGIES TO OVERCOME THE RISKS OF THE ENTIKONG PLBN
DEVELOPMENT PROJECT

External	Risk	Strategy
External and Site	Land Condition	Do soil testing and determine the right location and structure
	Culture	Socialization with residents, Optimizing the time for implementing workers
Economic and Financial	Payment method	The implementation must be in accordance with the time schedule
	Material Prices	Market Survey
	Living Cost	Use local residents to cook and make public kitchens
Technical Contractual	Mobilization of Tools and Materials	Making Batching Plant, Purchasing material transport equipment
	Material Availability	Manufacture of Batching Plant, Use of local materials
	Implementation Method	Supervise and control activities in more detail
	Change Order	Request the owner to submit a letter regarding the change order request
	Occupational Health and Safety	Educate and require workers to use personal protective equipment
Managerial	Workers	Providing training and education to improve competence
	Time	Compile a schedule of worker groups to be sent and sent home
	Quality	Place competent and dedicated supervisors

From Table 4 above, it can be seen that the risk factors with the highest risk level are one of the factors in the land condition with mitigation strategies in detail as follows:

1. Sort out locations that have the best soil conditions using

the CPT and NSPT methods.

- Using deep foundations, namely pile or mini pile with depth calculated according to the test data.
- Carry out strict supervision of the quality of concrete and steel.
- Conduct supervision regarding land subsidence that occurs due to land slides after erection.

5 CONCLUSION AND RECOMMENDATION

Risk is the cumulative effect of uncertainty that causes a positive or negative impact on the project. Risk can cause losses and opportunities according to treatment. By conducting a risk analysis of the project, it can be known the level of risk for each of the factors that influence the project. In the case of the Entikong PLBN project obtained 5 factors that have a high level of risk, namely soil conditions, payment methods, material prices, mobilization of tools and materials, and material availability.

By knowing the factors that have the highest risk level on the project, the executor of the work, in this case the contractor can find out the best strategy to deal with the risks that will occur in accordance with the level of risk and risk response obtained. In the case of the Entikong PLBN project, one of the strategies to overcome the condition of soft soil with a high level of risk is to conduct soil testing first, then determine the location and the right structure.

The strategy determines the positive and negative impacts of the risks obtained. Therefore, risk analysis is crucial to do on each project so that the contractor is not wrong in making decisions in overcoming risks and has prepared the right strategy in dealing with risk.

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