

# The Effect of Kuala Namu Airport Development on Diversification of Livelihoods of Residents around the Airport

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**Abstract:** *Kuala Namu Airport development is a replacement for the Polonia Airport in North Sumatera, Indonesia. The replacement airport is caused by lack of area, even its existence may inhibit the development of the city of Medan. The construction of Kuala Namu Airport is located at Deli Serdang regency. Formerly District has a total of 430 Ha and the construction of Kuala Namu Airport to 310 Ha. In addition to the narrowing of agricultural land for food, another change that is felt is the diversification of the livelihoods of the people. This is due to the change of function into a physical building facility. Diversification is a shift of resources from one business to another business. Many reasons to be a person chooses to diversify, such as to increase family income, which requires the occurrence of natural factors or the presence of diversification opportunities due to changes like the development of Kuala Namu Airport. The Beringin Subdistrict becomes an object of research on diversification of livelihoods due to the development of Kuala Namu Airport. The study used the methods of quantitative analysis using the statistics of observations and survey results. The level of livelihood diversification to the community around Kuala Namu is very small, that there are communities that have diversified are the immigrant communities.*

**Keywords:** Diversification, Airport, Livelihood, Building Replacement, Airport Development.

## 1. Introduction

Indonesia is an archipelagic country, where the geographical situation makes air transportation one of the important factors in increasing national integration, economic activity and regional economic balance [1]. Medan is the capital of the province of North Sumatra and also one of the largest cities in Indonesia. The current Polonia Airport is located in the middle of Medan City as the main entrance to North Sumatra Province. Polonia Airport is no longer able to accommodate the increasing number of passengers and air traffic at this time. These operational limitations can cause serious consequences for flight routes from or to other cities, both national and international flights [2]. Hence, The government has decided to build a new airport on the eastern edge of Medan. The new airport construction site is located in Beringin Village, Beringin District, Deli Serdang Regency. Kuala Namu Airport is a replacement airport for Polonia Airport whose current area conditions have exceeded its capacity; even its existence can hinder the development of Medan.

The construction of Kuala Namu Airport is the first largest airport in Indonesia in Indonesia which is planned and funded by local resources, namely through the pure state budget of the Ministry of Transportation (public sector) and the budget of PT. (Persero) Angkasa Pura II (private sector). As the entrance gate for Indonesia and North Sumatra in particular, the terminal and other supporting buildings have an external and internal appearance that represents the uniqueness of architecture, culture and the local environment. The location of the palm oil plantation

environment can be seen from the outside, a modern high-tech terminal with a "Green" concept with a local nuance. Kuala Namu is the most modern airport in Indonesia which has complete facilities in its terminal as high as four floors. It also the first airport in Indonesia that use a fully automatic baggage handling system so that the speed of baggage service is guaranteed, especially for terminal connections. The first airport in Indonesia with the concept of mass multi-mode transportation, namely: airplanes, airport trains, public buses, taxis, other public transportation and private vehicles.

However, one of the consequences that must be borne from the construction of Kuala Namu Airport is the narrowing of food agricultural land due to changing functions into physical buildings for supporting facilities. Departing from this reality, along with the development of the development, the transfer of functions will certainly not be avoided, for example for the construction of housing, offices and other facilities to support airport activities. However, this is a logical thing that must be faced in a development.

In the process, it turns out that the people of Beringin Village are not much involved in it, even though they are only contract workers. Until now, the workers used in this construction are mostly imported from outside the village or even from outside the island of Sumatra. The local residents are only given the opportunity to work as security or security guards, and even then the process is very difficult because to become a security guard in that place must have a certificate from the Regional Police (Regional Police) or from a private security agency. However, on the other hand, these developments in practice have both positive and negative

impacts on the surrounding community in various aspects of the pace of development. At certain points, the development carried out by the government is vulnerable to negative impacts, especially for farming communities. This is because in many cases the government or the private sector mandated to carry out development often overrides certain factors that result in the sacrifice of farming communities. The influence of development is a positive or negative cause or effect resulting from an organized, systematic planning process, which aims to improve people's living standards in a better direction and is carried out by the government / private sector in stages for the public interest which leads to diversification of people's livelihoods. Based on the background explained above, the study is intended to analyze the effect of Kuala Namu Airport Development on Diversification of Livelihoods of Residents around the Airport.

## 2. Theories

Diversification of people's livelihoods is a shift / transfer or another alternative to livelihoods. Value shift is a change that occurs in the meaning of a form of life caused by external influences or large-scale development and in the public interest organized by the government. In this context it is about the type of work. Human perception of the environment can be formed from how humans acquire environmental knowledge through received stimuli; or in the form of human responses to the environment contained in his mind. The human process of acquiring environmental knowledge is determined by the cultural factors that become the guidelines he adheres to so as to form an individual view. The role of culture here is filtering against stimuli that come from outside the environment. One of the adaptation strategies is to diversify jobs. Diversification is the expansion of alternative livelihood options by the community. Despite, diversification implies expanding or increasing diversity [3]. In the income context, diversification can mean a pattern of allocating certain resources to various activities to obtain new sources of income [4]. While job diversification is a common strategy in many communities, it is still traditional [5]. This definition of diversification emphasizes the importance of changing high value resources, which is often reflected as an increase in the level of specialization into high value activities, generally at the farm level [6]. As viewed from an economic perspective, diversification aims to minimize risks caused by price dynamics and other economic factors as well as climate change. In terms of resource utilization, diversification has the opportunity to increase the use of human resources, increase employment opportunities and business opportunities as well as the use of natural resources and capital. In terms of cultivation, diversification can reduce the intensity of plant pests and diseases by breaking cycles. From various definitions, in general, diversification can be explained as follows [7]:

- 1) Shifting resources from farming activities to non-farming activities.
- 2) The use of resources on a large scale in the form of a mixture of various commodities and activities that support them.

- 3) Changes in resources from low-value agricultural commodities to high-value agricultural commodities.

The definition of diversification in this paper is related to the problem of rural income sources around the construction of the Kuala Namu Airport project. Rural diversification is a process of increasing the number of types of work that are used as efforts by rural communities to earn income. While the reasons for diversifications are:

- 1) Maximizing the efficiency of the use of resources, especially the efficiency of land use and time, symbiosis in business and intensification of the use of labor.
- 2) Reduce the risk of production, price and income.
- 3) Responding to changes in demand for various agricultural commodities caused by changes in per capita income and income elasticity of demand for various agricultural commodities.
- 4) Maintaining land fertility and reducing ecosystem damage.

Business diversification is an alternative to increase farming. There are five household farming strategies that can be pursued to increase income or reduce poverty including [8]:

- 1) Intensification of production patterns.
- 2) Diversification of production and processing of results.
- 3) Expansion of plantations or increase in the number of land ownership.
- 4) Increasing income from non-agriculture, both agriculture-based and non-agricultural.
- 5) Business outside the agricultural sector if the potential resources are not prospective.

## 3. Research Methodology

### 3.1. Population and Sample

Population is the number of possible values, and is the result of a qualitative calculation / measurement of certain characteristics of a number of complete and clear objects. Therefore, the population taken is residents who live in the Beringin District, Deli Serdang Regency. The research took a sample of 40 respondents representing 1 District of Beringin to determine the number of interview samples.

### 3.2. Sampling Technique

The data collection technique is aimed at obtaining the data needed as input for each subsequent analysis stage. There are 2 ways of collecting data, namely:

#### 1) Primary Data Collection

The primary data in this study relates to the formulation of changes in livelihood diversification due to the construction of Kuala Namu Airport. Data collection techniques are carried out by:

- Observation. In this study, data were carried out in a structured manner to obtain an overview of the influence of the construction of Kuala Namu Airport on the

diversification of livelihoods around the airport, especially in Beringin District.

- Interview. This technique is used simultaneously and as the main way of obtaining in-depth data that is not obtained by documentation data, asking for things that do not exist or are not clear that may be contained in the documentation data.
- Questionnaire is a data collection technique that uses a list of closed and open questions. In this study, a closed questionnaire was used with the understanding that the answers to the questionnaire were already available and the respondent just had to choose several alternatives that had been provided.

## 2) Secondary Data Collection

This data is obtained from research results, articles from both print and electronic media, library searches and official documents from related agencies

## 3.3. Data Analysis and Interpretation Method

The analytical approach uses quantitative analysis methods. In a general sense, quantitative research always uses statistics. But in this case it does not mean that quantitative research cannot take advantage of statistics. Qualitative research is different from quantitative research. Quantitative research deals with the number and frequency of events that can be manipulated mathematically (added, subtracted, divided or multiplied). Then, the problem was analyzed by using cross analysis (crosstab) [9].

## 3.4. Variable

A variable is a concept that can be empirically measured and assessed. The variable of this research is the influence of the construction of Kuala Namu Airport on the community around the airport. Variable of Positive influence, the indicators are:

- Increased types of work in the community around the airport.
- The increase in the market price of land around the airport construction.
- Developments in the service industry sector.
- Increased aid funds for public purposes such as repairing houses of worship, health centers, schools, offices and repairing public roads.

While the negative influence variable, the indicators are:

- Shifts in local culture, values and types of community work.
- Air pollution caused by dust transporting landfills and heavy equipment.
- Many agricultural lands were sold, which resulted in farmers who normally farmed having to adapt to their new jobs.
- The catches obtained by fishermen are decreasing due to the dredging of beach sand.
- Damage to irrigation caused by the airport wall blocking the flow of irrigation for rice fields between hamlets.

- The number of unemployed increased.
- Road damage.
- Conflict occurs

## 4. Results and Discussions

The Kuala Namu area was chosen as the object of research based on the fact that the area is in the development process with the construction of Kuala Namu Airport. The people make a living in agriculture and trade. With the construction of Kuala Namu Airport, it will automatically increase public visits and the economy of the Regency itself. So that the community must be more careful and clever in taking advantage of the existing situation, in order to improve the district's economy and especially improve the family economy by looking for a side business by utilizing the existing potential.

This research was conducted using a survey method to determine the potential, socio-economic conditions of the community, opportunities and challenges that exist in the area around the Kuala Namu Airport Development so that it can be used as a community management model that is in accordance with social, economic and ecological conditions. A number of variables will be analyzed both descriptively and statistically to find the potential and contribution of these resources to the welfare of the community which can be managed together with the main business. The line of thought developed in this study is the relationship between the construction of Kuala Namu Airport and the utilization of the potential arising from the construction of Kuala Namu Airport.

### 4.1. Physical Analysis

As explained above, that prior to the Kuala Namu Development, the Beringin District had 430 Ha of land, but due to the Kuala Namu development, the Beringin District became 310 Ha, as shown in Figure 1 there are still many green open spaces.



Figure 1: Physical Condition of Beringin District

A large number of community lands, especially farmers, are sold for the sake of airport development. In terms of yields, their land is decreasing, resulting in an impact on their livelihoods, especially for farmers. By selling their land at a price they currently consider cheap, hoping for jobs that can be generated by the farmers, it is only a dream for them, due to the lack of involvement of the local community as workers in the Kuala Namu Development. Beringin District is also an area that is still green with community conditions that are still very varied. The community is still open to the surrounding environment. The life of the people around the

Beringin District is still very simple. There are still many houses made of plank walls and tin roofs. Even with the condition of the land which is still quite large, the condition of the construction of community houses is sometimes still in the middle of a large area, as can be seen in Figure 2.



Figure 2: Physical State of the Building

#### 4.2. Non-Physical Analysis of Community Surveys

##### a) Education

The questionnaires used as samples are quite varied, from not graduating from school 0 respondents or 0%, graduating from elementary school around 2 people or 4%, graduating from junior high school around 4 people or 8%, graduating from high school around 28 people ranging from 57% and graduating from college / academy around 6 people or 31% of 40 respondents.

##### b) Occupation

Employment is the most varied economic characteristic when compared to all sub-variables set. The results of a survey of 40 people showed that 1 person (2%) worked as a civil servant / BUMN / TNI / POLRI, 6 people (15%) worked as a private employee, 23 people (57%) as an entrepreneur, 7 people (18 %) work as others including traders or drivers or laborers or farmers and 3 people (8%) as housewives.

##### c) Home Status

The residence status of the respondents consisted of 2 types, namely houses with self-owned status of about 38 families (95%) and rental status of their houses of about 2 people (5%). Based on interviews with several respondents, the average respondent who owns a house is the land status (legal).

##### d) Length of stay

Based on the survey results, from 40 respondents there were 4 respondents who had lived between 1-10 years or around 13%, 5 respondents or 16% ranging from 11-20 years, 5 respondents or 16% living in the range of 21-30 years, 9 respondents (29 %) lived in the range of 31-40 years, 8 respondents (26%) lived above 40 years and 9 other respondents did not answer

##### e) Family Income per month

The occupations of residents in the Beringin Village area vary, including civil servants, private employees, entrepreneurs, traders, drivers, laborers, farmers, and housewives as described above. From the explanation above, the largest percentage of people's work is self-employed. So that the level of wage income they produce is not the same based on the type of work. From the results of the survey conducted, family income per month < Rp 1,000,000 around

8 respondents (20%), income around Rp 1,000,000 - Rp 1,500,000 around 13 respondents (32%), income around Rp 1,500,000 - Rp 2,000,000 around 17 respondents (43%) and income above Rp 2,000,000 about 2 respondents (5%). The data illustrates that the majority of respondents' income is around the minimum wage, even though there are still many residents who have income levels below the minimum wage. If it is related to the respondent's occupation, it can be seen that the respondents whose profession is as a trader/entrepreneur with a percentage of 57% dominate, their average income is around the minimum wage. Based on the above, it can be concluded that in terms of income, residents try to keep looking for side jobs as their additional income.

##### f) Average family expenses per month

When talking about monthly income, it is always related to the number of family members and family income per month. From the results of a survey conducted on 40 respondents, the percentage of survey results can be seen from diagram 4.6. The survey results said that out of 40 respondents there were 11 respondents (27%) who answered < Rp 1,000,000, 25 respondents or (61%) answered between Rp 1,000,000 – Rp 1,500,000, 3 respondents (7%) answered between IDR 1,500,000 – IDR 2,000,000 and 1 respondent (5%) answered > IDR 2,000,000.

##### g) Dependence on Kuala Namu Airport project activities

From a survey conducted on 40 respondents, the results of the survey are 5 respondents (18%) said they have a dependence on the construction activities of the Kuala Namu airport, while 27 respondents (69%) said their activities were not affected at all by the construction of Kuala Namu Airport, while 7 respondents said they did not know what the real impact of the construction of Kuala Namu Airport was and 1 respondent did not answer. From the survey results and the percentage level of activity dependence on the construction of Kuala Namu Airport, it is clear that the construction of Kuala Namu Airport does not affect their activities or work. As described above, the construction of Kuala Namu Airport does not use much human resources around Kuala Namu. So that in this development the level of dependence on the construction of Kuala Namu Airport is not so significant.

##### h) Changes in livelihood after construction of Kuala Namu Airport

This question is a follow-up question after the previous question. From the results of a survey conducted by researchers on 40 respondents, there were 8 respondents ranging from 18% who stated that the Kuala Namu Airport Development affected changes to their livelihood sources, while the majority of the answers said that the Kuala Namu Development did not affect or change their livelihoods ranging from 29 respondents. or 66%. And 3 respondents (16%) answered they did not know. This is a reinforcing factor which states that for now the construction of Kuala Namu Airport is not important for changes in livelihood sources or does not affect their income and the level of dependence of their activities on airport construction. This may be due to the fact that the airport builder has not been open to human resources around Kuala Namu. So, there is

little opportunity for the community to start changing their family's economy.

**i) The level of security and comfort of the place of residence**

When this question is asked, the researcher gives several choices to them or the respondent. Do the respondents, namely the people of Kuala Namu, especially the Beringin village, feel comfortable and safe at the location due to the construction of the Kuala Namu Airport. Most of the respondents still feel comfortable and safe in their location, which is around 21 respondents. This security and comfort was chosen for strategic reasons from their place of work, the ease of transportation, already integrated with the surrounding community which is influenced by the length of their stay, the availability of public and social facilities and others. Meanwhile, 19 respondents said they had started to feel uncomfortable and had started to feel unsafe living in this area, due to the impacts caused by the Kuala Namu Badnara Development, for example the noise from the Kuala Namu Airport work, the smell they felt, the dust due to traffic traffic. Used for the transportation of materials from the construction of Kuala Namu Airport.

**j) Increased revenue due to Kuala Namu Airport Construction**

From the results of a survey conducted on 40 respondents, we asked whether there was an increase in their perceived income from the construction of Kuala Namu Airport. The results of the survey conducted were 12 respondents (29%) who stated that their income had changed quite a bit from the construction of the Kuala Namu Airport. One of them is the existence of street vendors who take advantage of the construction workers of Kuala Airport but sell rice, or snacks and cigarettes. Meanwhile, there were 26 respondents (64%) who said it had no effect on their income. Generally, those who answered no were those who did not take advantage of the construction of Kuala Namu Airport, and the rest said they did not know.

**k) The construction of Kuala Namu Airport will improve the economy of Deli Serdang Regency**

From the results of a survey conducted on the percentage of the economic influence of Deli Serdang Regency with the development of Kuala Namu, there are 31 respondents (84%) stating that they agree that the construction of Kuala Namu Airport will affect the level of the economy in Deli Serdang Regency. They consider that the relocation of Polonia Airport to Kuala Namu will automatically increase the level of visits by local and foreign people to come to Kuala Namu. Thus Deli Serdang Regency, especially the sub-districts it passes through, will get a touch or improvement in all fields. They consider that when the construction of Kuala Namu Airport is completed, it is possible for them to change their fate. Meanwhile, 5 respondents or 13% considered that the construction of Kuala Namu Airport did not affect the economy of Deli Serdang Regency. Their reason is that the construction of Kuala Namu Airport does not affect their lives so that it will not automatically affect the economy of the Deli Serdang district. The remaining 2 respondents (3%) said they did not know because they thought it was none of their business.

**l) The construction of Kuala Namu Airport improves the community's economy**

From the results of a survey conducted on the community of about 40 respondents, most of them stated that they would improve the community's economy on the grounds of opening job opportunities, opening up business fields and most likely the price of surrounding land would be high.

**m) Do you think that the construction of Kuala Namu Airport will be followed by the provision of infrastructure needs and other supporting facilities?**

Of the 40 respondents stated 23 people or 77% they think that the construction of Kuala Namu Airport must be followed by the provision of infrastructure needs and supporting facilities such as clean water, channels, electricity that ensure their survival and their activities.

The reason they answer that is because they think that the construction of Kuala Namu Airport is a big development, so it is impossible for them not to repair or build infrastructure and other supports. Meanwhile, 5 respondents or 6% stated that the construction of Kuala Namu Airport was not followed by the provision of infrastructure and other facilities. They stated that it was because they saw from other developments that most of them made the surrounding community miserable. And the remaining 12 respondents (17%) stated that they did not know and did not understand, they thought everything was a government affair.

**n) Social identity generated by outsiders who will change the previous social identity**

The people of Kuala Namu, especially the Beringin village, come from the Javanese tribe. In fact, often their language of instruction is Javanese. So they feel that their neighbors are their closest relatives. Generally, their relatives also live not far from their homes; even most of them live close together. This makes their relationship very close. From the results of a survey conducted on 40 respondents, only 8 respondents (20%) said that they were worried about the loss of the social identity they built together when they entered a new society in line with the construction of Kuala Namu Airport. The existence of foreign influences that arise brought by the outside community. Meanwhile, 21 respondents (51%) out of 40 respondents said that there was no influence on the social identity that they had built together despite the large number of foreigners who came along with the existence of Kuala Namu Airport. They think they already feel thick and strong enough that they cannot be influenced by any party. And there are 11 respondents (29%) who said they did not know anything about it.

**o) The impact of marginalization or marginalization of the Beringin District if Kuala Namu Airport has been operating due to the construction of new facilities and facilities**

Of the 40 respondents, the results of the survey conducted are 17 respondents (42%) stating that they are afraid that their village will be left out due to the existence or start of operation of Kuala Namu Airport. They feel that in the future their village will experience a decline in development due to construction only around Kuala Namu Airport. However, 12 respondents (30%) thought that their village would feel the construction of facilities and facilities to

support the operation of Kuala Namu Airport. They consider Kuala Namu Airport to be the largest airport in Indonesia so, of course, the government will carry out development evenly throughout the region so as not to embarrass Deli Serdang Regency. Meanwhile, 11 (28%) respondents stated that they did not know at all in this matter.

## 5. Conclusion

Kuala Namu Airport is a replacement airport for Polonia Airport which is no longer able to accommodate the increasing number of passengers and air traffic that is happening at this time. In the construction of Kuala Namu Airport, the community felt disappointed with the government due to their lack of involvement in the construction of Kuala Namu Airport. The contractors prefer the outside community as their workers without involving the existing human resources, if there is only as a security guard and even then the process and requirements are quite difficult, namely the existence of a certificate from the Police. The community feels disadvantaged by the construction of the Kuala Airport, however, because some of them have been forced to lose their jobs and livelihoods because their agricultural land has been sold out at inappropriate prices. In the process of working at Kuala Namu Airport, there is not much that the community can do, seen from several factors, namely:

- 1) With the least level of dependence of their activities on the construction of Kuala Namu Airport
- 2) Most of their sources of livelihood have not changed to Kuala Namu Airport Development
- 3) The number of respondents who did not experience a change in the increase in income for the surrounding community.

The public still hopes that the operation of Kuala Namu Airport will increase the opening of job vacancies and open business opportunities. The community believes that the operation of Kuala Namu Airport will increase the economy of Deli Serdang Regency in general.

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