

# COMMUNITY PERCEPTION OF RURAL ROAD NETWORK IN TANJUNG LAGO DISTRICT OF BANYUASIN SOUTH SUMATRA

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## COMMUNITY PERCEPTION OF RURAL ROAD NETWORK IN TANJUNG LAGO DISTRICT OF BANYUASIN SOUTH SUMATRA

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**Abstract**–The objective of this study was to analyze the community perception of rural road network in tidal areas. Districts where the research was conducted was Tanjung lago Banyuasin. The work was undertaken using cross sectional method approach with purposive sampling method. Stages of the study consisted of two stages, namely (1) Obtain the current road network condition, accessibility and mobility of the road. (2) Community perception of rural road network. The collection of data obtained through observation or direct observation of the study sites, interviews and discussions to the farmers by using questionnaires. Information about the current condition of rural roads in the district of Tanjung Lago Banyuasin obtained that the rural road network in the district Tanjung lago is a road network which was made at the opening of tidal land into agricultural land and the location of transmigration. The existing road network is still in the form of a earth road or road that has been hardened by casting or with gravel, so that the road can be traversed in both dry and rainy weather conditions. Community perception on rural roads in the district of Tanjung Lago Banyuasin found that weather condition and road condition affect significantly.

### INTRODUCTION

Characteristics of land ecosystems tidal swamp is marginal and vulnerable to changes ie changes due to natural factors (drought, fires, and floods), and the change due to mismanagement (reclamation, clearing, and intensive cultivation) (Armanto, 2005; Susanto, 2007; Armanto, Imanudin and Susanto, 2007; Susanto, 2010). It is necessary for the development of good management of the infrastructure, especially in wetlands to obtain optimal agricultural results. Land tidal marsh also has the function of production and environmental functions, so that the development of wetlands also have many linkages with environmental factors (Rustiadi and Hadi. 2004; Rustiadi, 2009; Susanto, 2010; Rustiadi and Junaidi, 2011).

Tidal swamp land management by humans to sustainably manage tidal swamp land for agricultural activities and environmental balance (Susanto *et al.*, 2004; Armanto 2005; Susanto, 2010). Ecosystem changes that occur naturally has led to increased environmental damage globally. The increase in population and global economic

developments also have an impact on land use (Barbier and Burgess, 2001; Susanto, 2010).

District of Tanjung Lago is part of Banyuasin with most of its territory including tidal land areas. District of Tanjung Lago is located quite close to the city of Palembang, just + 45 km towards Tanjung Api-api, and can be reached by four-wheel vehicles. Private vehicles can go directly to the location, the condition of the soil with sand stone pavement, so a trip to the location can be reached within 1 hour.

Tanjung Lago Banyuasin District residents are mostly working in the agricultural sector (77.32%). To be able to make a major contribution to the agricultural sector necessary for the road network to distribute the production in tidal swamp, especially on reception a higher price to farmers (Ali, Isran dan Hustim, 2012). Accessibility of farmers to markets via the availability of rural roads to be important, because it facilitated the development of the local economy, and provide access to economic and service facilities, input providers, schools and health services (Jaarsma, 2000; Mu and van de Walle, 2007; ILO, 2010; Gine, 2012). Obviously the development of the road network do not damage the environment

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(environmental) (Gine, 2012). Environmentally sound development is part of the three pillars of sustainable development, which is another pillar of the economic aspects and social aspects (Mulmi, 2009; Gine, 2012).

Environmentally sound road construction must consider how best that might be done to minimize the impact on the environment (Mulmi, 2009; Svarplien et al., 2010). Environmentally sound approach proved to be a sustainable way to build rural roads. Environmentally friendly construction techniques, participatory and decentralized approach, optimal utilization of local resources, simple technology, local capacity building and efforts to help in the way of environmentally sound approach as the best way to build rural roads (Klatzel, 2000; Mulmi, 2009).

Rural roads is one way opening isolated rural areas of the sources of information and a link to the production centers and places of distribution/marketing. In addition, rural roads to facilitate the reach of population centers of social and cultural services as educational facilities (schools), health (health centers) and worship. Rural roads considered to be the key to economic growth could boost the economy of rural communities and reduce poverty (Mulmi, 2009; Svarplien, Braga and Puodziukas, 2010; Ali, 2013). The description above shows that environmentally sound road network that can deliver sustainable development process. Therefore, it will examine the public's perception on the road network in the district of Tanjung Lago, Banyuasin South -Sumatera.

## MATERIALS AND METHODS

This research was conducted at the location of the road network in the area of tidal swamp land in the district of Tanjung Lago Banyuasin, South Sumatra. The study was conducted in May 2015 to September 2015. The data collection current road conditions and road infrastructure wear GIS, public perception with questionnaires distributed to 169 households in proportion with the help of local village chief, where 100 respondents adequately represent the study population were a large number (over 1,000 people) (Fraenkel, Wallen and Hyun, 2012). The wear of data processing of GIS software, which can facilitate spatial analysis (Armanto, 2001; Arshad, Zain and Armanto, 2013). The data from the questionnaire wear statistical software.

## RESULTS AND DISCUSSION

District of Tanjung Lago is an area that emphasizes the agricultural sector as an economic center. To support the government program will require adequate road network so that agricultural produce can be transported to the city. Along with the ease of access to the road network, it will lead to the economic level of the surrounding communities will be increased.

Based on observations in the field to the physical condition of the road at the moment, the existing road network in the district of Tanjung Lago are already available, but the condition is very worrying because the construction of roads that were damaged along the road. Nearly 70% - 90% of rural road networks are damaged, this is because the road conditions are above ground or soft peaty soil. The condition of pavement in use today in the form of the form of pavement gravel (sand stone) or expanse of stone and casting boneless split. Current road network and the road infrastructure plans seen in Fig. 1 and Current road condition seen in Fig. 2.

Based on a minimum standard of roads in Indonesia (Departemen Pekerjaan Umum, 2009), road accessibility is low, while for road mobility is high in the tanjung lago district Banyuasin. Improving the quality of roads, both road paving and widening of roads will improve accessibility and mobility on the road by the people in the tanjung lago district Banyuasin. Case in Laos, many rural village have gradually developed and integrated into market system where people have significantly changed their livelihood with a better system (Oraboune, 2008; Faiza et al., 2012; Farida et al., 2012). Infrastructure development of rural road has significantly contributed in improving income earning of people, better living standard and reduce poverty (Oraboune, 2008; Mulmi, 2009; Gine, 2012; Faiza et al., 2012; Adedeji et al., 2014).

Results of questionnaires in the district tanjung lago Banyuasin obtained the data presented in Table 1, 2 and 3. The statistical test results are presented in Table 4 for a bivariate analysis using unpaired t test and Table 5 for multivariate analysis with multiple logistic regression. Bivariate analysis results can be seen in the table below. In the bivariate selection phase, which has a variable p value < 0.25 can be followed on multivariate modeling stage. Variables that can be entered into the multivariate model that is long lived, income, weather, departure destination, length of trip, travel time, mileage and

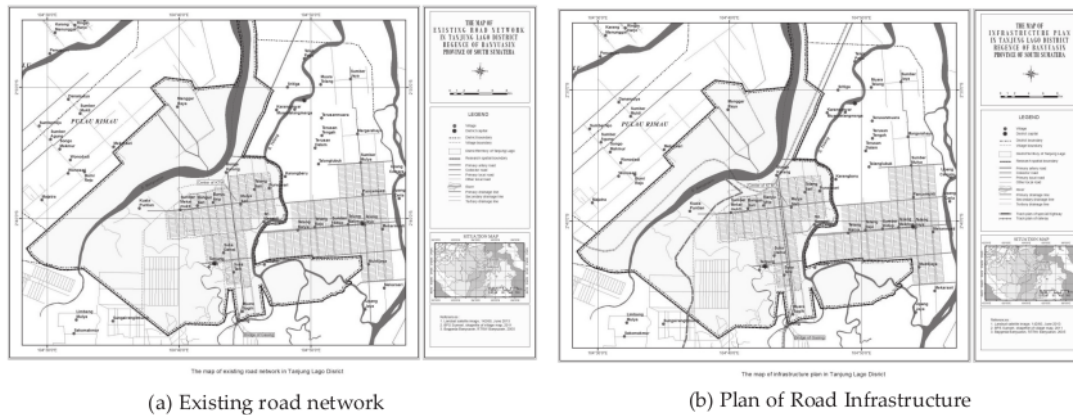


Fig. 1. Road Network in Tanjung Lago at District of Banyuasin.



Fig. 2. The condition of rural roads in Tanjung Lago at District of Banyuasin.

**Table 1.** Data of univariate variable research (n = 169).

Variable	Frequency (yes answer)	Percentage (%)
Licence Driver	82	48.5
<b>Vehicle Used Types</b>		
Private Vechile	0	0
Public vechile	0	0
Motorbike	162	95.9
On Foot	7	4.1
<b>Vechile Alternative</b>		
Private vechile	0	0
Public vechile	33	19.5
Motorbike	102	60.4
Others vechile	39	23.1
<b>Weather Condition</b>		
Good/Little Rain	159	94.1
Big Rain	64	37.9
Bog	61	36.1
Flood	14	8.3

**Table 1. Continued**

Variable	Frequency (yes answer)	Percentage (%)
<b>Travel destination</b>		
Home	0	0
Workplace	82	48.5
School	23	13.6
Market	139	82.4
Relationship	0	0
Transfer	0	0
<b>Travel time (minutes)</b>		
<30	41	24.3
30 – 60	117	69.2
>60	18	10.7
<b>Average speed (km/h)</b>		
<30	120	71
30 – 60	48	28.4
>60	0	0

**Table 1.** *Continued*

Variable	Frequency (yes answer)	Percentage (%)
<b>Mileage (km)</b>		
<2	77	45.6
2 – 5	28	16.6
5 – 10	29	17.2
10 – 20	47	27.8
20 – 50	4	2.4
>60	0	0
<b>Travel costs (Rp)</b>		
<10.000	0	0
10.000 – 50.000	52	30.8
50.000 – 100.000	101	59.8
>100.000	21	12.4
	Mean	Sd
A long time of travel (minutes)	38,99	27,204

**Table 2.** Impact of the access road to the community (n=169).

Variable	frequency (yes answer)	percentage (%)
Family economy	41	24,3
Travel time management	137	81,1
Expenditures of transportation	166	98,2
Market activities / trades	169	100
Health facility	169	100
Educational facilities	169	100
Communication network	169	100
Rural infrastructure	169	100
Tourism	169	100
Local resources	169	100
Diversity of flora and fauna	0	0
Air pollution	0	0
The impact of noise	18	10,7

**Table 3.** The existing road condition. (n= 169)

Variable	Frequency (yes answer)	Percentage (%)
<b>The current road conditions</b>		
Good	23	13.6
Medium Damaged	43	25.4
Heavily Damaged	109	64.5
Cracking	9	5,3
Small Hole	117	69,2
Big Hole	54	32
Decrease of road body	26	15.4
<b>Type of vehicle</b>		
Two wheels	168	99.4
Three wheels	24	14.2
Four wheels	148	87.6
Six wheels	0	0

road conditions of land tanjung lago. Results of the multiple logistic regression analysis was obtained and can be seen in Table 4.

The results show that all the independent variables that have a p value < 0.05), namely the weather and road conditions. The analysis showed that the variables that have the most dominant influence on the public perception of the impact of the access road is the variable weather condition and road conditions. Every moment becomes bad weather conditions, the risk of the respondent to have a good perception of the impact of road access will increase to 23 times as massive as controlled by a variable length of stay, income, departure destination, duration of travel.

The weather condition has been identified as a perceived barrier to participation in physical activity, but exactly which adverse weather conditions are most important, and the extent to which they contribute to decreases in physical activity have rarely been quantified in populations (Chan and Ryan, 2009). Other research found that reasons for the variation are explored and include traffic volume and speed, other coincident weather conditions and driver behaviour (Jaroszweski and McNamara, 2014). The weather conditions can

**Table 4.** Data of Bivariate\* variable research entered into multivariate analysis.

Variable	P Value
Length of stay	0,021
Income	0,126
Weather conditions	0,0001
Travel destination	0,076
Length of traveling	0,0001
Travel time	0,173
Mileage	0,0001
Road conditions	0,021

\*Uses T independent test.

**Table 5.** Data of multivariate\* variables research

Variable	P Value	RP(95% CI)
Length of stay	0,176	0,94
Income	0,440	1,00
Weather conditions	0,007	23,23
Travel destination	0,057	5,14
Length of traveling	0,227	1,06
Travel time	0,341	4,92
Mileage	0,583	8,71
Road conditions	0,047	2,70

\*Uses multiple logistic regression.

influence of road safety, but study do not easily translate into potential road safety measures designed to limit the adverse consequences of weather (Bijleveld and Churchill, 2009).

### CONCLUSION

The condition of rural roads in the district Tanjung lago is a road network which was made at the opening of tidal land into agricultural land and the location of transmigration. The existing road network is still in the form of a dirt road or street that has been hardened by casting or with gravel, so that the road can be traversed in both dry and rainy weather conditions. Public perception on the road network Banyuasin district of Tanjung Lago found that weather condition and road conditions affect significantly.

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