

Study on the Impact of Transportation Cost to Communities Living in the Island of Semporna in the Eastern Cost State of Sabah, Malaysia

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Abstract:- The economic impact of transport facilities and the potential for transport facilities affected poor communities living in the island in Samporna, Sabah has received little attention. Thus, in the contact of Malaysia in general it is desirable and timely to assess prevailing views of the role of sea transport facilities in poverty alleviation. In this study a comprehensive analysis of transport operations from island to the nearest town is undertaken to comprehend existing practices and to identify innovative approaches. In this preliminary study, 20 head of the household were interviewed representing 20 villages located in the island around Semporna district. Half of these respondents are also head of the village and approximately 110 number of population inhabiting in the island under study and majority of them are fishermen. The primary objective in this study is to establish a sound conceptual framework for identifying, examining, and shaping the full potential role of transport operations in reducing poverty among residents residing in the islands of Samporna districts in the eastern cost of Sabah state. On average each household spend roughly RM70 per day on cost of transportation include cost of drinking water which is about 45 percent of their total income. Based on these finding of the study there is a need to strengthen the role of sea transport facilities provided by the authority to the island communities as majority of the communities living in the island are in dire need of water resources. The main contribution of this paper is the generation of a blend of policies to overcome high transportation cost confronted island communities and growing threats to water security and to attain sustainable development in Samporna, the eastern cost state of Sabah, Malaysia.

Keywords: Transportation, Poverty, Sabah, island, water resources.

I. INTRODUCTION

The aim of this study is to analyze the relationship between transport and poverty affecting communities living the island of Semporna in the eastern cost of Sabah state. The economic aspects of transport policy have been subject to much research and debate by policy makers. However less attention has been paid to the impacts and effects that transport policy has on society particularly communities living in the island around the state of Sabah. Indeed, it is a problem that adversely affects the daily lives of literally hundreds of poor people living in the island around Sabah. This study on Transportation and poverty is undertaken to analyze the impact of transportation cost and how the people in the island

comprehend their limited opportunities and facilities to meet their daily lives. Poverty is thus a multidimensional concept involving the lack of the social and cultural, as well as economic, means necessary to procure a minimum level of nutrition, to participate in the everyday life of society, and to ensure economic and social reproduction.

It is generally accepted that most of the communities resides in the island around Sabah have limited facilities and opportunities. The communities living in the island they are not only have limited facilities and opportunities but they are also have limited and unequal access to education, employment and other vital services that result due to distance and location. Furthermore these communities have been intimately connected to the sea for centuries and fishing has long been vital to the majority of the people surrounding the island in Semporna. Thus this study is crucial in analyzing their socio economic and wellbeing of these communities. Major issues confronted these communities are related to transportation problem couple with shortage in drinking water resources. Most of the islands in Sampornaas indicated in the map of Sabah have problems related to water source security and supply.



The objectives of the study:

1. To study the pattern of transportation cost involving communities in the island in Semporna
2. To study the cost of transportation and drinking water affecting the poor communities in the island and
3. To have better knowledge of the transport needs of the poor people living in selected island in the districts of Semporna.

Research questions

In general, the most important question to be addressed in this study is within the sea transport sector affecting the communities living in the island and in particular major issues are as follows:

1. How transportation costs affect the community living in the island?
2. Is there any relationship between costs of transportation and other basic necessity (ie drinking water) to poverty?
3. What is the impact of transportation costs to the socioeconomic wellbeing of the community living in the island?

An Overview of Empirical Evidence

In general the importance of the transport sector in economic and social development has long been recognized, transport sector operations are rarely considered part of the Bank’s direct interventions for poverty alleviation. Bank operations in other sectors such as agriculture, education, health, and water and sanitation infrastructure are constantly emphasized for their direct role in poverty reduction. Transport tends to be viewed as contributing to poverty reduction only indirectly, that is, through its contribution to economic growth World Bank (1980). They most often suffer from a lack of both private and public transport services in terms of the number of options and the quality of services that are available to them (Barter, 1999; Titheridge *et al.*, 2014).

A large number of the empirical studies confirm the strong links between transport and economic output, growth, and general welfare (David Aschauer, 1989; David Canning and Marianne Fay, 1993; Douglas Holtz-Eakin, 1992). The poorest groups in any given country tend to be less mobile and often these group of people end up in ‘poverty trap’ because of their limited access to jobs opportunity, education and health facilities, social networks and more generally their ‘right to the city’ (Harvey, 2003).

In addition to improving accessibility, transport investment affects employment. The provision of transport services, including the construction and maintenance of transport infrastructure, generates demand for labor (often unskilled labor) and provides income-earning opportunities for the poor (Rosabeth Moss Kanter, 2015). If a transport project generates jobs for the poor who are otherwise unemployed or under-

employed, it contributes to the reduction of poverty (In many developing countries, the construction aspect of transport sector development is often viewed equally as important as the service aspect of the sector in promoting economic growth (Cavelle D. Creightney 1993; Christine Kessides 1993).

II. METHOD AND SAMPLE POPULATION

In this study survey method was chosen to gather primary data. According to Shaughnessy and Zechmeister (1997), survey method is appropriate when seeking respondents’ thoughts and perceptions. 20 head of the household were interviewed representing 20 villages located in the island around Semporna district. Half of these respondents are also head of the village and approximately 110 number of population inhabiting in the island under study.

Respondent: Education level

14 %	having university/college degree or diploma
25 %	finished the secondary school
29 %	finished primary school
32%	either too old to go to school, or didn’t have any education at all

III. ANALYSIS

The preliminary result shows that transportation problems do contribute to poverty and social exclusion, in a variety of ways. In particular, combinations of lack of transport provision contribute to social isolation and poverty. This is not just an issue for those without boat; those with access to boat also find that they are forced to use their boat to get necessity supplies from Semporna town.

Limited vehicle availability and fewer affordable transportation options afflict this cost-sensitive groupmaking the journey to town/city excessively long hours and costly, particularly to some of the very poor. This study have shown that 50 percent of the respondents spend more than three hours traveling to and from town each day, and 20 percent spend more than five hours. These people also suffer disproportionately from safety due to high wave, and security because their location most exposed to “kidnapping” activities (Ramliet *et al.*, 2016; Lai, 2014 and 2016). Obviously this study shows that there are significant impacts of transportation on economic growth at the macroeconomic level and on personal welfare of the poor at the microeconomic level.

The burden of transport on household budgets often cannot be determined precisely. Incomes may be difficult to establish, especially where there is some fishing activities is for daily consumption and difficult to disclose the total amount. Household expenditure is therefore probably a better base than merely an income; although it is believed that household consumption in this research tend to understate transport expenditures, while transport surveys tend to overstate them.

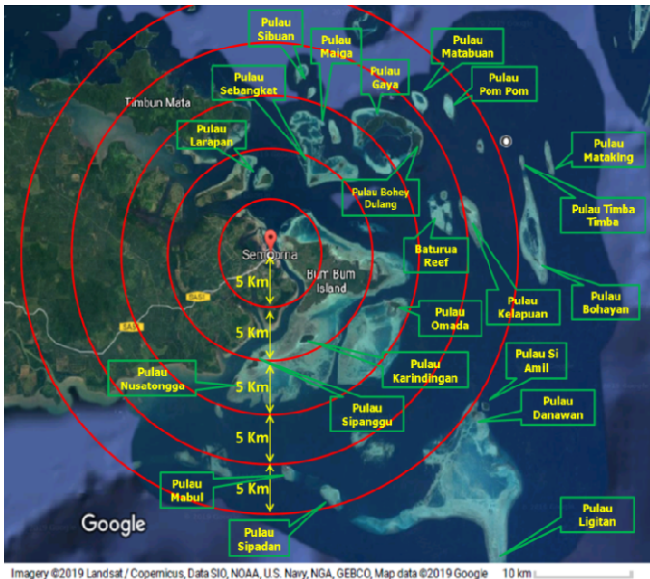
Subject to those caveats, it is estimated that transport accounts for between 50 to 60 percent of household expenditures. In these circumstances, however, the burden of transport expenditure on these people living in the island is considerably very high and in some cases hurt the poor the most. Similarly commercialization in the sea transport sector may lead to higher prices for services that were unaffordable to the poor.

Daily Travel Radius of head of household to Town

Samporna district recorded more head of households categorize as poor live in the island than in town/cities or rural communities. The concentrated poverty rate is still highest in the islands where almost 99 percent compared to 35 percent in urban/town. Suburban communities, however, experienced the largest change in the number of residents living in concentrated poverty. Households with more children tend to travel over twice as much as those without children because to meet the daily needs of the family members such as drinking water and others. Other purpose of trips such as to daycare, school, doctor’s appointments, and social activities are not accounted for. Include all these will add significant number of trips and will cost them more.

Distance and Cost of transportation (RM)

the average number of people go to the town to buy food supplies/drinking water	1.8 times a week
the closest in distance is 2km	RM12 per trip
the farthest in distance is 25.5km	RM50 per trip
the average cost -back and forth to Samporna town	RM31.7 per trip



These urban/suburban poor neighborhoods face many challenges: Poor health, high crime, low-performing schools, and low job density, which make it especially difficult to

climb out of poverty and allow the community to develop and grow in sustainable ways.

IV. DISCUSSION AND RECOMMENDATIONS

It is not possible to address all of these issues in this study, but it does attempt to provide an overview of the various ways in which transport policy has been previously conceptualized within the available literatures, as well as to offer for discussion some newly devised definitions.

This paper uses these different research methodologies to discuss how transportation and poverty are reinforcing and interrelated to each other. This paper also has illustrated how transportation costs have impacted the wellbeing of the island communities particularly the poor. In addition this study also discovers heavily usage of plastic bottles and other plastic related materials by the communities living in the island have impacted the environment in the district.

Accessibility to Transport Facility

Improving transport services from villages located in the island, making them more affordable or more physically accessible. In these particular cases these communities have to be provided public transport services. Such services have never been provided by the authority concerned. Thus, it can ease and help in addressing social exclusion. In addition accessibility in term of sea transportation could help promote socioeconomic integration such as employment, education, health, social service and retail amenities. Availability of public sea transportation will allow these communities access to job opportunities available in nearest town/city or urban areas. In other words their ability to obtain employment and education is highly dependent on the costs and availability of public transport. Based on the feedback from the respondent transport facility indeed is a necessary condition for the island communities to participate in most income-earning activities available in the town or urban areas.

In this study, it is paramount important for the government to allocate special budget for public transportation provided for the island communities throughout the state. The budget will enhance the capacity of transport authorities to introduce new services affecting communities in the island. Otherwise these deprived groups will further expose to poverty or other forms of social exclusion. The contribution of transport operations to poverty alleviation is seen, in general, as indirect and stemming from broadly based economic development. Of course direct poverty-targeted interventions such as schools, health care center such as clinics, nutrition programs, and social services and amenities depend on transport as a complementary input for their effective delivery (Louis Berger International, Inc. 1979).

In the analysis shows that low income families are more dependent on public amenities such as sea transportation facilities. Transportation cost in term of fuel consumption account for a larger proportion of their income and the

cheaper fare deals which involve paying larger lump sums are often unavailable to them.

The oil prices increases restrict the ability of households to meet the transport costs not only for the whole family mobility but most important of their children going to school. Thus, in general transportation costs are considered the most crucial factor or barrier for the head of households affecting their daily needs. Particularly most households spend a greater share of income on transport than on other basic needs of households. In general people in the island spend a higher proportion of their income on transportation expenses thus it has a negative impact on lower income households. Increases in the cost of fuel would in general affect head of households living in the island; however the impacts could be mitigated by, for example the government has to provide facilities such as boat as their public transportation commute from and to the nearest town.

Environmental Impact

Heavily usage of plastic materials such as bottle water, plastic bags and other related plastic materials create externalities to the environment. This study obviously observes these materials impacted the ocean and sea habitats seriously. Furthermore most of the islanders do not have proper and structured waste disposal couple with lack of awareness on matters related to preservation of clean environment. Thus, issues related to preservation of clean environment confronted by these islanders needs to be addressed more strategically at the community level, citywide or across whole regions in the state.

Social wellbeing

With regards to the issue of poverty, generally the study shows that the island communities do not have sufficient resources to meet basic human needs and, in addition because of their lack of human capital, in many cases they may not be able to take adequate advantage of the economic opportunities that they have in their surrounding areas. Improving mobility and job accessibility are very important factors for households to escape poverty. As transportation costs continue to rise, poor households will have an increasing burden with expenses that are necessary to meet basic needs and improve quality of life.

As for the water resources, the authority concern will have to look at technical aspect for long term solution. As suggested by majority of the respondents, four options or alternatives are possible namely transport subsidy, water hauling from the mainland, groundwater extraction, and desalination. Firstly, transport subsidies to be provided to the affected islands. In general transport subsidy are commonly and widely used globally as a direct intervention to help the poor, especially in urban areas. However, transport subsidies are rarely heard provided to the poor living in the island in the state. Thus, transport facilities provided to the very poor communities living in the island should be recognized and prioritized.

Second option is to provide them with underground water equipped with solar system. Third option is to have water supply from the main land through pipeline to the island. However, all of these alternatives require high cost, and concern in installation, maintenance and operation. Another best alternative is rainwater harvesting is seen a sustainable option that supplies water with low energy and cost.

From this study, it is recommended to have better knowledge of the transport needs of the poor people living the island off Semporna water, and how these needs are best met. In this regard, a set of structured case studies should be designed and undertaken as a follow-up to this research, with the objective of establishing best transportation policy and practice guidelines to assist the authority concern in the identification, design, and assessment of transport project components intended to assist the poor living in the island around Semporna in particular and the island communities around Sabah.

V. CONCLUSION

By and large, this study has shown that the transport facilities are seen to be crucial for the island communities' in Samporna. Confronting limited access to transport facilities or lack of options to other public facilities produce a 'poverty trap', which limits their wider access to jobs, education and health facilities, social networks and more generally their 'right to the city'. Having transportation facilities should be one of the top priorities or government agenda as it is economically and socially beneficial to the communities in general in terms of reducing transport costs, improving efficiency, and promoting economic growth. The poor can benefit from transportation facilities provided by the authority, but of course success lies in the implementation and the execution of the program.

As discussed, many benefits and advantages having public transportation provided to the communities living in the island. Public transportation surely can lead to improvements in the standard of living of the affected low-income groups living in the island. The facilities will also be reflected in a reduction in transportation cost for both freight and passenger services to and from the nearest city. In general, this dynamic process can be expected to benefit all income groups in society in the form of their real income effects and increased opportunities in all aspect of life.

This paper concludes that economic, environmental and human resources, reformed administrative and legislative systems, and technological tools are fundamental to achieving good seatransportation and water governance. Moreover, holistic policies involving communities living in the island and technologies related to water security are needed to resolve water governance issues not only in Samporna district but also throughout the state. Indeed political will to implement sustainable water resources management is of paramount important toward sustainable livelihood of the poor

communities living in the island in Sabah and in Malaysia in general.

Last but not least, different methodological approaches might be required to study more detail with regards to the water resources needed by the communities living in the islands. Much comprehensive publically available datasets have to be developed that can be used to explore transportation in relation to poverty and identify some important gaps in these datasets that need to be addressed in order to improve future analysis in this respect. Finally, it offers a flavor of some of the policy approaches that have been brought into play to address different aspects of the problem confronted people living in the island of Samporna, Sabah.

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