International Journal of Business and Society, Vol. 18 S4, 2017, 791-799

ACCESSIBILITY AND DEVELOPMENT. A CASE STUDY FROM RURAL SARAWAK, MALAYSIA

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ABSTRACT

Accessibility has an important influence on the geography of development especially during periods of de-agrarianisation, when rural population disengage from rural farm work and venture into other mainly non-agricultural pursuits. This paper explores just how different levels of accessibility to market affect the way in which households amend their livelihood strategies as alternatives to agriculture open up. The findings are based on data collected at twenty villages in Kapit District, Sarawak, Malaysia, which were randomly selected in three different accessibility zones. Interviews were conducted at three different levels: village head, head of the household and selected individuals within the household. The findings show how level of accessibility to urban markets influenced the livelihood strategies adopted at the different accessibility zones. It is found that as rural dependence on agriculture as the main source of income lessened, the source of rural income has become more diversified. The nature of this diversity has been heavily influenced by the degree of accessibility villages, households and individuals have to the closest urban area. The study highlights how accessibility to market raises opportunity for development (as proxied by income sources) but also increases inequality among communities, households and individuals.

Keywords: Accessibility; Rural Development; Rural Livelihood Strategies; Rural Sarawak.

1. INTRODUCTION

Accessibility to markets and services has been identified as one of the key factors in enabling economic development. In developing economies, where there are marked differences in standards of living between large urban centres and remote rural villages, increasing accessibility to local commodity and labour markets is seen as fundamental to raising standard of living.

The implications of differential accessibility to markets are widespread, ranging from enhancing rural economic opportunities (Ogunsanya, 1987; Windle & Cramb, 1997) to encouraging migration (Rigg & Salamanca, 2011), and associated remittances (McKay, 2003; Kelly, 2011). Windle (2002) has, for example, shown how new roads have acted as conductors or accelerators of changes that made life in rural communities more complex.

Accessibility is an agent of development, and that it does influence incomes and standard of living. Accessibility is not just about accessibility to local markets but also about accessibility to other (outside) markets as well as access to resources and opportunities. Accessibility to other markets and opportunity enables family members to reap the benefits outside of the local market and

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bringing those benefits back to the rural households. At the same time, this leads to greater inequality among communities, households and individuals.

Therefore, this paper seeks to discuss rural household and its livelihood strategies in the context of accessibility. The key question concerns the way membership within an accessibility zone influences development of the rural village, as proxied by the different definition of income and sources of income, and the location decisions of associated households. The paper draws on the experience of one of the least developed areas in rural Sarawak, Malaysia.

2. ACCESSIBILITY AND LIVELIHOOD STRATEGIES

Studies on rural livelihoods have highlighted the need for rural population to reconsider alternative living strategies in order to improve their livelihoods (Bryceson, 1996; Ellis, 2000; Soda, 2000; Kelly 2011). For example, studies by Bryceson (1996) and Ellis (2000) have observed that the generally held assumption that rural communities can survive on subsistence activities alone is no longer true. In fact, Rigg and Salamanca (2011, p. 552) state that observers in Thailand began to note that in the late 1960s and 1970s village-based activities were not always sufficient to meet household needs and, therefore, rural populations have increasingly relied on multiple sources of livelihood. These observations also highlight the precariousness nature of rural livelihood and, as Ellis (2000) points out, the reasons why diversification has become a rural survival strategy.

Both the need and the opportunity to diversify increases when rural area and rural population are facing changes brought about by external influences, particularly as a result of the processes of de-agrarianisation and urbanisation. The term de-agrarianisation was coined by Bryceson (1996, p. 99) to describe rural change in sub-Saharan Africa. The term focuses on economic activity re-orientation, occupational adjustment and spatial realignment of human settlement away from agrarian patterns. Significantly, Bryceson (1996) explains that the trend of de-agrarianisation is not just observable in her case study area but were also noted in most rural areas worldwide.

Studies in Thailand (Rigg, 1998; Rigg & Salamanca, 2011), and the Philippine (McKay, 2003; Kelly, 2011), amongst other, have highlighted several key characteristics of de-agrarianisation: migration; livelihood diversification, remittance income economy and shifts in gender relations. One of the major propellers of de-agrarianisation is improved accessibility to markets and opportunities, particularly as a result of improved infrastructure. This was shown in studies by Ogunsanya (1987), Windle and Cramb (1997), and Olsson (2009).

In addition, Ellis (2000, p. 290) states that diversification is emerging as the predominant household strategy in rural areas, and it is not confined to developing countries as such activity is also prevalent in industrial countries. Other studies (e.g. Bryceson, 1999; Hew, 2011; Cramb, 2012) have also illustrated the reality of rural economy in 21st century whereby more and more households are depending on multiple sources of income rather than a single source i.e. agriculture or farming. This change has been predominantly encouraged by the availability of economic opportunities and increased personal mobility (Kelly, 2011; Rigg & Salamanca, 2011) as well as by the necessary push for rural livelihood survival (Ellis, 2000).

Improved accessibility means it is now relatively easier for rural population to travel outside of their rural villages in search for employment and better livelihoods. This, in turn, has resulted in the emergence of a new type of household, one that is multi-sited and distributed over multiple locations. Soda (in Hew, 2012: 610) notes that as men get steady, regular jobs both in public and private sectors, wives and children follow as the city is seen to provide better educational opportunities for their children. This rural-urban movement has been widespread in Southeast Asia in recent decades (McKay, 2003; Kelly, 2011; Rigg & Salamanca, 2011) and is expected to remain the same in the near future. This phenomenon is, in turn, linked to the rise of remittances as members of the family share income earned at different locations.

3. BACKGROUND OF CASE STUDY AREA

Sarawak, located on the island of Borneo, is one of the thirteen states incorporated into Malaysia in 1963. It is the largest Malaysian state at 124,449.5 square kilometres and partly because of its size and rugged terrain, Sarawak has a very low population density compared to other Southeast Asian economies, a poor infrastructure and a modest level of development. As of the latest census in 2010, Sarawak had a population of 2,487,100 and a population density of only 20 persons per square kilometres (Malaysia, 2012). This compares with a population density of 86 persons per square kilometres for Malaysia as a whole.

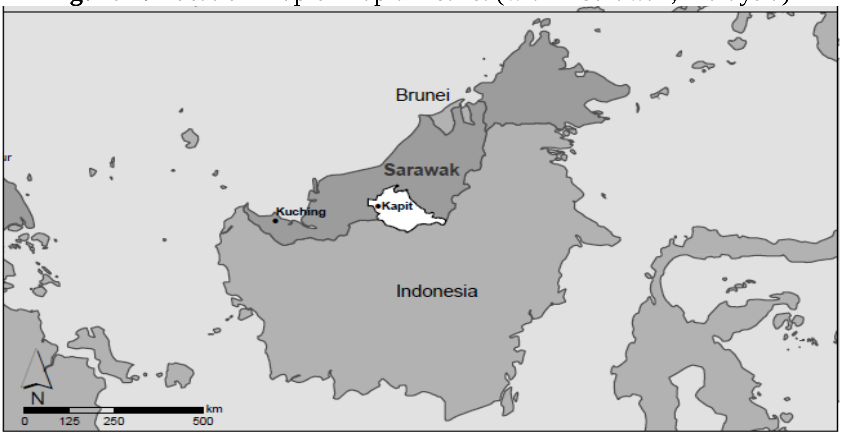
The 2010 Census showed that approximately 25% of the State's labour force is employed in the agriculture sector. Despite that, only a small proportion of its Gross Domestic Product (GDP) comes from this sector. Its main source of GDP comes from the export of liquefied natural gas and crude petroleum (Malaysia, 2010). Because of its relatively low productivity, Sarawak's agriculture sector has shown a decline in the number of labour force as noted in several studies (e.g. Morrison, 1997; Windle & Cramb, 1997; Cramb, 2012). Morrison (1997, p. 303), for example, explains that while the proportion employed in agriculture has fallen, population growth has meant that more people are directly dependent on that sector than ever before.

Limited access to markets and to other basic services is common in interior parts of Sarawak. The problem of remoteness has meant that a majority of its rural areas lag behind in terms of development and infrastructure provision (Windle & Cramb, 1997) which in turn affect the livelihood strategies adopted by rural communities. The concept of remoteness, or rather its opposite, accessibility, has been used in rural studies to evaluate performances of rural areas as well as the rural economy in Sarawak (Windle & Cramb, 1997; Windle, 2002). Similar concepts have been used by other scholars working in the Philippines (Olsson, 2009) and Africa (Ogunsanya, 1987).

One of the remote areas of Sarawak where accessibility remains highly variable is the Kapit Division, located in the central part of Sarawak (see Figure 1). Identified as the Seventh (administrative) Division, Kapit is often referred to as the last frontier due to its remoteness and inaccessibility. Kapit Town, which is the administrative centre of the Division, is only accessible by river transportation from Sibu, a getaway town to the rest of Sarawak and beyond. It is the only administrative division in Sarawak which is not linked to the rest of the State by any major road networks. The mountainous terrain and the existence of two major river systems (Rajang River and Baleh River and their tributaries) in the area make it highly inaccessible except by river, and very costly to connect by road. The people in Kapit have been relying on water transportation since time immemorial and even today, over 50 years after Sarawak's became part of an independent

Malaysia, the people in the area are still dependent on water as their mode of getting in and out of Kapit Town and its surrounding hinterland.

Figure 1: Location Map of Kapit District (within Sarawak, Malaysia)



4. METHODOLOGY

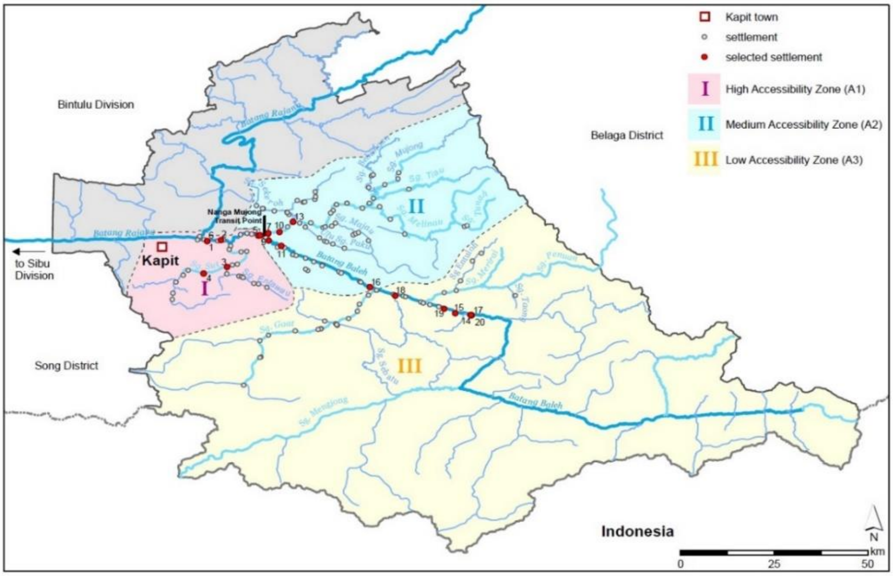
Evidence of sources of livelihood and accessibility in this study are based on the responses obtained from face-to-face interviews. A total of 20 villages in Kapit District, Sarawak were randomly selected. Each village typically has a population of about 25 households with an average household size of eight may contain approximately 200 residents. A total of 184 interviews were conducted in this study, involving 20 village heads, 82 heads of household and 82 individuals.

The relationship between accessibility and development is examined by using the different definition of income: income from vegetable sales, income from commodity sales and in-situ income. It should be noted that the author acknowledges that income is not the only proxy for development, and that other measures may include, amongst other, human capital indicators, community development indicators and social well-being indicators. In this paper, however, discussion is only focused on using income as the proxy for development.

Three unit of analysis were identified and sampled separately. The first unit of analysis is the village community, which refers to those who are acknowledged members of a village. In this context, a village community is represented by its village head. Household refers to the independent domestic family units whose members may consist of up to four generations. As a single household, they share resources and collectively have usufruct rights to household property and land. The third unit of analysis is the individual, a term that refers to individuals who are part of the household. These individuals are also a member of the village community, although the individual may or may not be living in the village and/or under the same roof as his/her household. Therefore, the three units of analysis are organised hierarchically: households sit within village communities and individuals within such households.

In order to identify the role of accessibility, villages along Baleh River basin were being grouped into mutually exclusive accessibility zones based on their levels of accessibility prior to sampling (see Figure 2 below). Their level of physical accessibility was based on the distance to Kapit Town and the mode of transportation used. In this study, every village in the Baleh River basin are assigned to one of the three mutually exclusive accessibility zones: High Accessibility Zone (A1), Medium Accessibility Zone (A2) and Low Accessibility Zone (A3).

Figure 2: Case Study Area, Baleh River Basin, Kapit District, Sarawak



5. RESULTS AND DISCUSSION

It is found that, despite their rural residence, farming was not the main source of livelihood for almost half of the 'farm households' in the District. A total of nine out of 20 village heads identified the primary source of income of their village as wage or salary. Additionally, an overview of the area shows a more diversified secondary source of income: remittances (35%), followed by farming (25%) and wage/salary (20%).

This distribution of income differs starkly from the findings from Freeman's (1970) descriptions of the economic activities in the same region during the 1960s. All of Freeman's three case study villages in the region were directly dependent on agriculture (i.e. hill paddy) as their main source of income. During those periods, physical accessibility in and out of the region was very similar to the river transportation still being used today. The respondents, aged in their 70s, mentioned that the main difference now is that the river transport is more advanced i.e. faster vessels and more frequent trip up and down the river to transport people and goods throughout the region. This improved accessibility was said to have played a major role in enticing the rural population to venture out of their respective villages in search for employment elsewhere (see a later section).

When the primary income source is analysed against the pre-determined accessibility zone, it can be seen that farming (predominantly vegetables) is more likely to be the main sources of income in the high and medium accessibility zones of A1 and A2. The reason, as indicated by the interviews with the village heads, are that those villages in A1 and A2 have better physical accessibility to Kapit Town, where the main market for their produce is located.

In this context, farming in zone A1 refers predominantly to market gardening and vegetable planting. Respondents from A1 claimed that they have been involved in market gardening and/or selling their farm surplus for decades. In fact, market gardening and selling vegetable produce is a main part of their household income strategies. They proudly introduced themselves as the pioneers of market gardening in the District. The income of market gardeners ranges from RM800 to RM1200 a month from vegetable sales. This, according to the respondents in A1, was facilitated by the direct road access connecting their villages to Kapit Town. Figure 3 below clearly shows that half of the respondents in A1 identified the main market in Kapit Town as their primary market. This proximity enables the villagers in A1 to gain better access to market compared to the other two accessibility zones.

Figure 3: Main Market Place for Selling Vegetables as Identified by Head of Households.

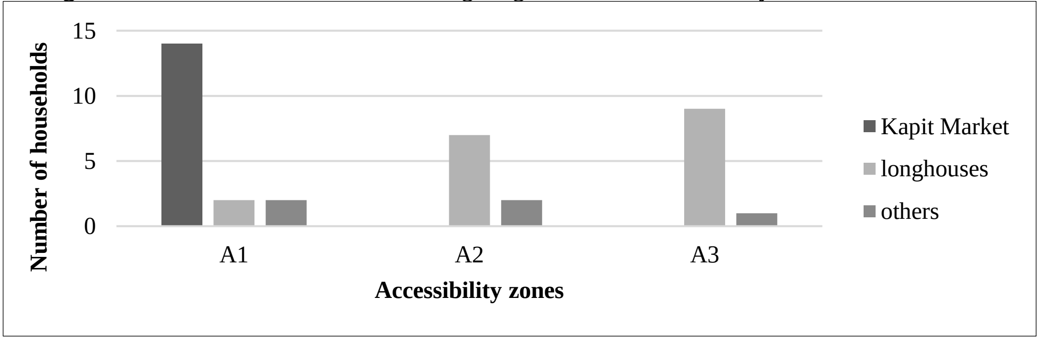


Figure 3 also shows that more respondents in the other two zones are selling their vegetable produce at their own longhouses or nearby longhouses (i.e. smaller sized but locally based markets). It is argued that selling vegetables or other perishable products to Kapit Town from zone A3, for example, was not an option due to inaccessibility. One of the respondents commented that,

> "…because we do not have direct road access to town and rely on river transportation, it is not feasible for us to sell our surplus vegetables …the (return) trip alone costs us RM30 and it is not even profitable for us to do so." (Respondent from zone A3).

The study found over 70 percent of those who live within approximately half an hour travel time to Kapit Town sell vegetables at the Kapit market. However, the study also indicated that as travel time to Kapit Town increases, the likelihood of farmer selling at Kapit Town decreases with an estimated drop to under 33 percent within an hour of travel. No household living an hour away considers it worthwhile selling vegetables to Kapit Town and that time threshold effectively delimits the agricultural margin for vegetable sales. This point illustrates how travel cost to market, which is directly proportional to travel distance, matters in determing income from farming – all other things being equal.

Other than vegetables, the sampled households also sell commodities. In this study, 'commodities' refers to other non-vegetable products but includes products gathered from jungle foraging, fishing, livestock rearing and farming. Due to the nature and demand for the commodities (e.g. wild boars, fish, rubber), the respondents indicated that they sell these products in Kapit Town. These commodities fetch higher price at a larger market and this explains why the respondents are willing to travel despite the distance. Study found that the average monthly income from commodity sales in the three accessibility zones, A1, A2 and A3, was RM430, RM206 and RM208 respectively. Again, those in A1 seems to have the advantage due to their proximity to town.

This illustrates how respondents from the medium and low accessibility zones face higher cost of travel, both financially and in terms of the time taken to travel, which render market gardening products and agricultural commodities unprofitable. This result echoed the findings from Windle and Cramb's (1997) study that highlight how the size of the market and proximity to access road influence food crop production.

As income from commodity sale is insufficient to support most households at any distance from Kapit Town, it begs the question of how does the people who live in the least accessible zone survive? Using the proxy of in-situ income, i.e. combined income earned by members of the households residing in the villages (and excludes remittance and income from non-resident members of households), it is found that those in the least accessible zone adapt to their lack of accessibility to market by looking for alternative market – both local and outside markets.

Instead of selling commodity in traditional commodity market, they 'sell' their labour in 'labour market'. Since there are a high number of timber companies and timber-related employment opportunities in the proximity of A3, it is not surprising that approximately 63 percent of households in A3 indicated that their main income come from timber-based employment. Additionally, 45 percent of the households in A3 has at least one family member working in the nearby timber companies. The study found that households in the least accessible zone, A3, have a higher average in-situ income level that those in A1 and A2; approximately RM1550 in A3 compared to RM1300 and RM1100 in A1 and A2 respectively. It is shown that villages which are located further away from Kapit Town were more dependent on wage and/or salary.

The second livelihood strategy adopted in this area as a way to overcome inaccessibility to market is by practicing multi-local living. Multi-local living is a practice where member(s) of a household live separately from the main home in the village, either temporarily or permanently while at the same time maintaining their membership to that household. This practice allows rural residents to improve their accessibility to markets outside of their own District and, therefore, presenting the rural residents with opportunities in an otherwise market deficient areas like Baleh River basin. For instance, in the least accessible zone, A3, an average of eight individuals per household are practicing multi-local living; compared to five in A2 and seven in A1 respectively. This result is similar to that of Cramb's (2012) findings in his study of Batu Lintang community in another part of Sarawak, Kelly's (2011) study of rural Philippines and Rigg and Salamanca's (2011) study in rural Thailand.

This situation essentially highlights the role that non-commodity and outside markets play in terms of influencing 'development' in the case where residents has poor access to its own local market (i.e. Kapit Town).

6. CONCLUSION

This study concludes that development in the sense of standard of living of rural dwellers (as proxied by income and income sources) is no longer simply a function of farmers being able to access markets, although that remains important. Nowadays, development is increasingly associated with how family members access the alternative income generating opportunities at locations, both within and outside of the District. This, in turns, determines which households have higher income and which households are constrained by their physical accessibility to market. Bearing in mind that individuals and households have different gender composition, education attainment and socio-economic status, the likelihood of increased inequality between households as well as between individuals within a household cannot be disregarded. In fact, increased accessibility to market, both traditional and non-conventional markets, is associated with better standard of living but, at the same time, create greater inequality at household and individual levels.

In this sense, accessibility has taken on a much more complex meaning as an agent of development. Modern accessibility is no longer tied to the transportation of produce to market but now, as other non-conventional accessibility becomes significant, it allows the rural family in areas with limited physical accessibility to continue to function as an economic unit but from a quite differently configured household economy, one which has become spatially as well as economically diverse.

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