

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

Anticipations for and Perceived Barriers of Development among the Sarawak's Highlanders

Kuok Ho Daniel Tang

Department of Environmental Engineering, Curtin University Malaysia, 98009 Miri, Sarawak, Malaysia

ABSTRACT

There is a renewed interest of the Sarawak government to develop the highlands in the Sarawak Corridor of Renewable Energy (SCORE). However, studies on the perception of the highlanders towards development are scanty. To understand the anticipations of the highlanders and the perceived barriers of development, this study adopted a quantitative approach involving a questionnaire survey among 236 households in the Upper Baram and Mulu. The survey shows that the participants generally welcomed development but were unsure of the modes of development to adopt. In terms of the type of development, most participants preferred rice cultivation and handicraft-making. Most participants in Mulu desired to engage as entrepreneurs while those in Bario and IHAS area were keen on employment. A lack of capital and manpower was perceived as the major barrier of development at individual level. At the community level, the major barriers are remoteness of the settlements and the lack of basic infrastructure and facilities. To optimize the outcomes of development, this study calls for an in-depth understanding of the highlanders' worldview.

Keywords: Bario, development, highland, Mulu, Orang Ulu, Upper Baram

INTRODUCTION

Sarawak, located on Borneo Island, is the largest state of Malaysia with an area of 124,450km². The state had an estimated population of 2.79 million and a per capita

ARTICLE INFO

Article history:
Received: 22 April 2019
Accepted: 10 December 2019
Published: 26 June 2020

E-mail address: daniel.tang@curtin.edu.my gross domestic product of RM49327 in 2017 (Department of Statistics Malaysia, 2018). Kuching is the most populous district of Sarawak with approximately 684,900 residents, followed by Miri with about 342,800 residents and Sibu with about 277,700 residents (Department of Statistics Malaysia, 2018). The natives, known as the Bumiputera locally, comprising the Malay, Iban, Bidayuh, Melanau and other smaller groups, constituted approximately

71% of the total population in Sarawak. The largest native group is the Iban with an estimated population size of 797,700 while Malay comes in second with a populace of approximately 639,400. The Bidayuh holds the third largest native population size of about 217,800 individuals and the Melanau fall in the fourth place with 142,200 individuals. The collective number of individuals of the other native groups is estimated at 179,000 (Department of Statistics Malaysia, 2018). These other native groups consist, among others, of the Kayan, Lun Bawang, Kelabit, Kenyah, Penan, Sebup, Bisaya which are collectively known as the Orang Ulu. Other instances of the native groups besides the Orang Ulu are the Tagal and Punan Bah (Zahari et al., 2011).

The Orang Ulu is a local term meaning people of the upriver. They make up about 5% of Sarawak's population and inhabit the interior of Sarawak, particularly the upriver and uphill areas (Zahari et al., 2011). The highlanders of Sarawak often refer to the Orang Ulu that reside in the uphill or elevated regions, particularly the Kelabit of the Bario Highland and the Lun Bawang of the Ba'Kelalan. Nonetheless, the meaning of the term has become obscure as more and more of the Kelabit and Lun Bawang migrate to the lowland and cities in the pursuit of education and jobs. The highlanders now refer to the Orang Ulu that still remain in their uphill settlements.

Development of the highlands has been embedded into the agenda of the Sarawak Corridor of Renewable Energy (SCORE), marked by the establishment of the Highland Development Authority (HDA) in 2017 (Recoda, 2017). The Federal Government of Malaysia has proposed five corridors of economic development to bring in investment which propels rural development and SCORE is one of them. SCORE extends over an area of 70,000 km² with an estimated population of 600,000 (Recoda, 2018). The HDA has been mandated to expedite development in the highland areas via commercial agriculture production and an ongoing project under its purview is the construction of the Integrated Highland Agriculture Station (IHAS) (Recoda, 2017). The focus of highland development is in the SCORE zone spanning from Long Lama and Upper Baram to the highlands in Limbang and Lawas (Recoda, 2017). The HDA currently endeavours to establish the necessary infrastructure and facilities to spur its highland development plan which could simultaneously promote local economic activities by providing jobs and stimulating local demands (Recoda, 2017). With the highlanders of Sarawak now in the limelight of the state's development agenda, studies of their aspiration for development is instrumental to churn up a development plan that fits the socioeconomic characteristics of the communities, rather than one that would create significant barriers for their adoption. In doing so, understanding the barriers of development currently perceived by the communities is equally important so that the barriers can be bridged (Marimuthu et al., 2018).

However, as the number of Orang Ulu in Sarawak is significantly lower

than the Dayak comprising the Iban and Bidayuh, research among the Orang Ulu is unsurprisingly less (Weinlein, 2017). Besides, the geographical distribution of the Orang Ulu in the remote parts of the state could also deter research attempts. Much research among them is diseaserelated for instance the investigation of rickettsial infection, prevalence of anemia and intestinal parasite infection in their remote villages (Sagin et al., 2000, 2001, 2002). Few research is political in nature examining the voting pattern among the Lun Bawang in the Ba'kelalan constituency (Puyok, 2006). Religious research among the highlanders also received particular interest because of the wide adoption of Christianity among them, especially the Kelabit and Lun Bawang, attributed to the work of the early Christian missionaries (Tan, 2008). Tan (2008) investigated the drive for and barrier of indigenous church development while discussing the mass conversion of the ethnic groups.

Researchers have also probed into the adoption of information communication technologies (ICTs) among the indigenous people of Sarawak, the barriers hampering such adoption as well as the ensuing socioeconomic impacts but it was not limited to the Orang Ulu (Walid et al., 2015). A study concentrating on bringing the ICT to the Kelabit highlanders was conducted by Bala et al. (2004) with the aim of promoting the socioeconomic and cultural development of the community via technologies. A study has been conducted to investigate the entrepreneurial intention

among the Dayak but it revolved around the correlation between personality traits, social learning and the emergence of such intention without delving into the development model they desired which could further spark their entrepreneurial intention (Tateh et al., 2014). The implementation of hydropower projects in Sarawak has drawn interest to the social sustainability of such projects mainly due to the impacts of resettlement with the Bakun dam alone resettling nearly 10,000 indigenous people (Ahsan & Ahmad, 2016; Tang, 2020). The article of Aiken and Leigh (2015) on displacement and resettlement of the Malaysian indigenous due to dams warned against the lack of readiness among the indigenous for cash-based economies which resulted in high unemployment and poverty among the re-settlers.

Identity has been identified as a concern in the endeavour to develop the indigenous in Sarawak. While aiming to promote development among them via modernizing their agricultural practices and economic activities, the indigenous long for input into how this modernity could weave around their ethnicity, thus, cultural retention (Boulanger, 2010). It seems clear at this point that there is a need to carefully plan the development among the indigenous, particularly the highlanders which are already on the agenda of the state government. Development is not forcing what the decision-makers think is the best to the existing socioeconomic fabric and demanding adaptation to such plans. There have been cases of failure from such doings due to displacement and resettlement. This study, therefore, aims to examine what the highlanders anticipate in the development plan the state government is drawing up for them and the factors that can potentially hold them back from development.

METHODS

The study adopted a quantitative method which involved the use of questionnaire in collecting data related to the anticipations for and barriers against development among the highlanders. The development in this study refers to economic development promulgated by the HDA formed under the SCORE to promote rural development (Recoda, 2017). Different from an imposed development, the development in this context is perceived as facilitated development based on the models and types of development the highlanders prefer (Aiken & Leigh, 2015). It is an initiative towards inclusive development that aligns the local economic development to the state and national economic development, thus promoting intra-generational equity (Weinlein, 2017).

The survey questionnaire consisted of three sections. The first section focused on the demographic of the sampled population, particularly the gender, age, ethnicity, education level and occupation. The second section probed the existing land ownership and use of the respondents. The third section revolved around anticipations for and perceived barriers of the survey participants on development, encompassing the models of preferred development, the types of development, the patterns of

participation in development as well as the factors obstructing economic expansion at household and community levels. The questionnaire required the respondents to answer both open-ended questions such as the utilization of land and the types of development desired as well as close-ended questions such as the willingness to participate in a specific model of development and the form of participation preferred. Quantitative surveys are common in social studies.

The questionnaires were administered among 236 households residing in the Upper Baram of Bario Sub-district (Figure 2) and Mulu otherwise known as the Mulu Sub-district (Figure 2) located in the Miri Division of Sarawak (Figure 1) between January 2018 and December 2018. The survey spanned over a duration of about one year due to the remoteness of the study areas, the need for multiple visits to the study areas which are geographically apart, and time constraint which limited the duration of stay during each visit. The households surveyed were equivalent to 31.6% of the total households in the region. This confers a confidence interval of 4.91 at 95% confidence level. The sampling strategy adopted was random stratified sampling targeting at the households of three sub-populations. The households in the Upper Baram region particularly Bario and the Integrated Highland Agricultural Station (IHAS) area, as well as Mulu were the priority of the survey due to the intention of the HDA to develop the region ahead of the highlands in Limbang and Lawas. The

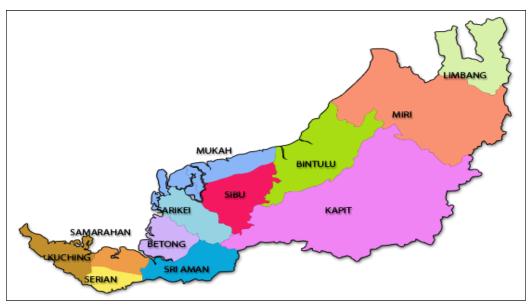


Figure 1. Divisional map of Sarawak (Jabatan Agama Islam Sarawak, 2019)

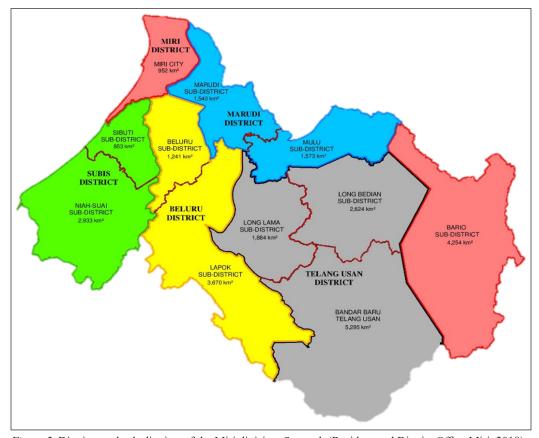


Figure 2. Districts and sub-districts of the Miri division, Sarawak (Resident and District Office Miri, 2018)

villages surveyed are shown in Table 1. The households in each of the three areas were then randomly selected for interview. The questionnaires were collected and the responses were analyzed mainly using percentage which is best-suited for the

design of the survey. Certain parts of the returned questionnaires might have been incomplete. The incomplete responses would be denoted as 'percent not responded' in the results.

Table 1
Profile of villages surveyed and household sample size

No.	Villages	No. of Households	Sample Size	Population
	Bario in Bario Sub-district			
1	Bario Asal	29	9	192
2	Arur Dalan Pa Tik A	10	3	131
3	Arur Dalan Kubaan	14	6	104
4	Arur Layun	11	3	66
5	Ulong Palang A	23	7	230
6	Ulong Palang B	12	4	145
7	Pa Remapoh A	13	4	109
8	Pa Remapoh B	11	3	194
9	Padang Pasir	25	8	136
10	Pa Derong	26	8	156
11	Kpg. Baru	14	4	70
12	Pa Berang	18	1	65
13	Pa Ukat	26	8	230
14	Pa Umor	12	4	98
15	Pa Lungan	32	10	213
16	Pa Mada/ Long Dano	11	3	98
17	Pa Dalih	41	12	300
18	Batu Patong	8	2	53
19	Ramudu	18	11	87
	IHAS Area in Bario Sub-district			
20	Long Peluan	30	9	189
21	Long Beruang	40	12	250
22	Long Balong/ Puak	16	3	136
23	Long Banga	36	11	216
24	Long Pulong	12	4	260
25	Long Lamai	57	9	351
	Mulu or Mulu Sub-district			
26	Batu Bungan	36	26	250
27	Long Iman	46	15	210
28	Kpg Melinau Mulu	120	37	350

Source: Research fieldwork (2018)

RESULTS AND DISCUSSION

Demographic

The Kelabit, Saban, Penan and Berawan are the major Orang Ulu tribes in the study area. The Kelabit comprised the major population of the Bario Highland (Figure 3) and certain areas of the Integrated Highland Agricultural Station (IHAS), particularly Long Peluan. The IHAS is located at Long Bangan-Long Beruang-Long Peluan of Ulu Baram. The survey covered six villages in and around the IHAS, i.e. Long Peluan, Long Beruang, Long Balong/ Puak, Long Bangan, Long Pulong and Long Lamai where the Penan were the most abundant, followed by the Saban, the Kelabit, and the Kenyah sequentially (Figure 4). In

Mulu, the Penan also constituted the largest population, followed closely by the Berawan (Figure 5). The presence of other ethnic groups in Bario and Mulu was mainly due to intermarriage. Among the surveyed population, the male was slightly higher in number than the female except for the Kenyah showing the opposite (Figures 3, 4, and 5).

The surveyed population was mostly in the economically active age of 18 to 65 (Figure 6). The economically active population is usually in the labour force, capable of producing and distributing goods and services. The IHAS region had the largest economically active population (70.8%) followed by Mulu (67.9%)

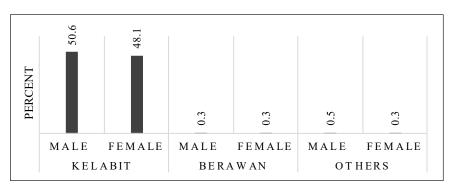


Figure 3. Sampled population by gender and ethnic group in Bario

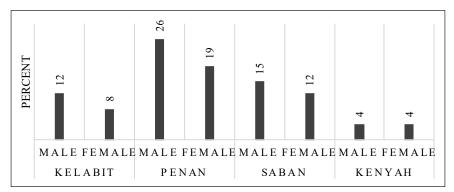


Figure 4. Sampled population by gender and ethnic group in the IHAS area

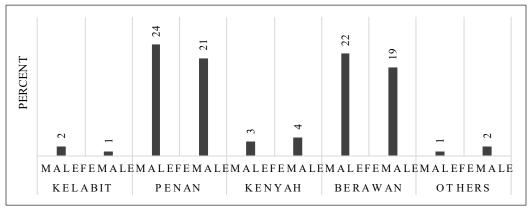


Figure 5. Sampled population by gender and ethnic group in Mulu

and Bario (59.4%) (Figure 6). This is comparable to the 65% of the state's other Bumiputera who are in economically active age (Department of Statistics Malaysia, 2018). In terms of education, most of the sampled population of the IHAS area completed primary school education though a large proportion of them did not receive any formal education (Table 2). 29% of the sampled population in the Mulu area was not formally educated while 18% was educated to lower secondary level. In Bario, though

those without formal education formed the largest group, a substantial proportion of the sampled population completed lower and upper secondary education (Table 2). This shows a stark difference to the education profile of the state's population with 57.8% attaining secondary education and 20.1% attaining tertiary education (Department of Statistics Malaysia, 2018). The education attainment of the surveyed population which consisted of the households in the remote regions of the state was generally low and

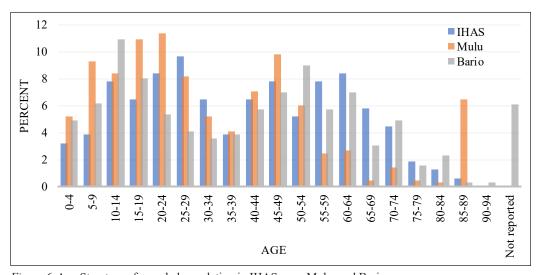


Figure 6. Age Structure of sampled population in IHAS area, Mulu, and Bario

Table 2

Education profile and employment of the sampled population

T.	Percent Sampled Population		
Item	Bario	IHAS Area	Mulu
1. Level of Education			
Completed (Degree)	1.8	0.0	1.0
Completed (Diploma)	5.0	2.0	3.0
Completed (Upper secondary)	19.0	6.0	9.0
Completed (Lower secondary)	15.0	11.0	5.0
Completed (Primary)	11.0	31.0	8.0
In progress (Tertiary)	1.2	1.0	2.0
In progress (Upper secondary)	7.0	7.0	11.0
In progress (Lower secondary)	8.0	11.0	18.0
In progress (Primary)	11.0	8.0	14.0
No formal education	21.0	23.0	29.0
2. Employment			
Not employed	49.1	22.0	55.8
Pastor	1.0	1.0	0.3
Construction worker	1.2	1.0	0.5
Offshore employee	1.0	2.0	0.8
Teacher	0.0	2.0	0.0
Farmer-labourer	1.5	2.0	1.1
Farmer-shopkeeper/community leader	1.5	3.0	3.0
Full-time farmer	27.7	61.0	13.4
Other	17.0	6.0	25.2

Source: Research fieldwork (2018)

this is also reflected in other remote regions of the state. The reasons could be limited access to formal education and the distance of the settlements from institutions of higher learning (Resident and District Office, 2018). However, it cannot be ruled out that the household members who had migrated to urban centers were better-educated than those who stayed in the villages.

The survey revealed a large number of respondents in Mulu (55.8%) and Bario (49.1%) was unemployed or jobless at the time of the survey (Table 2). This aligns with the percent unemployed active registrants

with the Labour Department in Sarawak at 54.2%, as of 2017 (Department of Statistics Malaysia, 2018). Most of the respondents in the IHAS area identified themselves as full-time farmers and a substantial fraction of those in Bario was also full-time farmers. The respondents in Mulu engaged in full-time farming was comparatively less. They were involved in other occupations not specified in the questionnaire (Table 2).

Existing Land Ownership and Use

More than 85% of the surveyed households in the study areas claimed to own land

(Table 3). The Sarawak Land Code provides for indigenous land rights via the Native Customary Rights (NCR). The NCR to land is fundamentally the rights granted for land cultivation, collection of forest produce, hunting, and fishing, as well as burial and ceremonies on the land and such rights are transferable and inheritable (Richards, 1961). Based on the Land Code, NCR is attainable via clearing and occupying of virgin jungle, planting fruit trees on the land as well as conducting the activities mentioned previously on the land (Land Code Chapter 81 1958). Though there are different perspectives on the ability of NCR to protect indigenous land rights, the land owned by the sampled households is likely of NCR status. Few households responded that they did not have land ownership and the number was higher in Mulu. A reason could be the increasing loss of customary land to commercial plantations and other

development activities due to the transfer of land ownership or conversion of land status by the government. This is particularly evident in Mulu where plantation activities have set in (Howitt & Lunkapis, 2016).

The verification of the land size was beyond the scope of this study and would involve extensive groundwork. While 48% and 36% of the respondents in the IHAS and Mulu areas respectively expressed that their land parcels were left vacant, a significant percentage of the sampled households used the land for paddy planting (Table 3). The majority (40%) of the households surveyed in Bario planted paddy on their land. Cultivation of pineapple also prevailed in Bario and IHAS area though to a much lower extent than paddy. The demands for the famed Bario rice and pineapple have bolstered the cultivation of both the crops (Chan, 2011; Nicholas et al., 2014). Thirteen (13)% of the sampled households

Table 3 *Land ownership and use*

Item	Percent Sampled Population		
	Bario	Mulu	IHAS Area
1. Land Ownership			
Yes	93.6	88.5	89.6
No	6.4	11.5	10.4
2. The Main Crop Planted on Land			
Paddy	40.0	25.0	40.0
Rubber	0.0	13.0	3.0
Banana	2.0	3.0	1.0
Pineapple	8.0	2.0	4.0
Coffee	4.0	1.0	2.0
Durian	2.0	6.0	1.0
Others	11.0	14.0	1.0
None	34.0	36.0	48.0

Source: Research fieldwork (2018)

in Mulu planted rubber trees on their land and 6% planted durian (Table 3). In the interview, the land-owning respondents informed that they inherited the land. Most of the Penan households sampled did not own land due to their nomadic lifestyle. They were conventionally hunter-gatherers but many of them had begun to settle from 1950 onwards due to programs by the Sarawak government and foreign Christian missionaries (Bending, 2006). The settled Penan resided in the Ulu Baram district mainly.

Surveyed households that did not carry out planting consisted of those who left their land vacant and those who did not own any land. Further conversation was conducted with the respondents who left their land vacant. The main reasons for doing so for the households in the IHAS region were due to the land being too far from their villages, the lack of manpower and the lack of capital. The lack of manpower and capital were the major concerns of the respondents in Bario while the distance from villages and flooding were the major concerns of the respondents in Mulu.

Anticipations for Development

When asked about their willingness to let government agencies develop their land, most of the respondents in Mulu and Bario expressed positivity while the majority of the respondents in the IHAS region were unsure (Table 4). In fact, 31% of the IHAS respondents did not welcome such development. In terms of development by private investors, the uncertainty among

the respondents was even higher. Most respondents in Mulu and 32% of the respondents in Bario did not welcome land development by private investors (Table 4). The high uncertainty was attributed to a lack of understanding of the development model. A similar response characterized by high uncertainty was also registered when the respondents were asked of their willingness to come into joint ventures with government and private sectors in land development due to the same reason mentioned (Table 4).

With the models of development aside, the survey participants were enquired on their willingness to participate in any development projects. More than 75% of them in all survey areas expressed their willingness (Table 4). They were then enquired about their preferred type of development projects. Most respondents (37% and 42% respectively) in Bario and IHAS area preferred commercial cultivation of paddy while the majority (21%) in Mulu preferred handicraft (Table 4). 11% of the survey participants in Bario, 19% in the IHAS area and 9% in Mulu opted for the planting of suitable cash crops. The same percentage (9%) of Mulu's respondents expressed their interest in rearing livestock and providing tourism services respectively (Table 4). The increasing effort of the state government to promote ecotourism, for instance via its support of 'Visit the Heart of Borneo' campaign launched in 2017, has sparked interest among the respondents to engage in tourism-related activities such as providing homestay and tourism services, as well as producing handicrafts (Then, 2017).

Table 4
Anticipations for development

Item	Pe	Percent Sampled Population		
item	Bario	IHAS Area	Mulu	
1. Land Development by Governmen	nt Agencies			
Yes	49.0	13.0	40.0	
No	11.0	31.0	27.0	
Unsure	40.0	56.0	33.0	
2. Land Development by Private Inv	vestors			
Yes	16.0	6.0	26.0	
No	32.0	29.0	38.0	
Unsure	52.0	65.0	36.0	
3. Land Development via Governme	ent-Private Joint Ventu	re		
Yes	24.0	17.0	27.0	
No	18.0	19.0	27.0	
Unsure	58.0	64.0	46.0	
4. Willingness to Participate in Dev	elopment Projects			
Yes	82.0	88.0	78.0	
No	5.0	2.0	4.0	
Unsure	13.0	10.0	18.0	
5. Type of Development Projects				
Tourism services	6.0	0.0	9.0	
Homestay	7.0	6.0	6.0	
Handicraft	2.0	0.0	21.0	
Cottage industry	3.0	0.0	0.0	
Planting of suitable tree species	3.0	0.0	1.0	
Planting of rubber	0.0	2.0	10.0	
Fisheries with 'tagang' system*	3.0	0.0	0.0	
Aquaculture	14.0	6.0	4.0	
Livestock farming	12.0	6.0	9.0	
Cash crops cultivation	11.0	19.0	9.0	
Paddy cultivation	37.0	42.0	12.0	
Other	0.0	15.0	1.0	
Unsure	3.0	4.0	18.0	
6. Mode of Participation in Develop	oment Projects			
As worker	33.0	40.0	14.0	
As operator/ manager	8.0	19.0	18.0	
As entrepreneur	29.0	17.0	44.0	
Offer land	8.0	13.0	3.0	
Not sure	22.0	13.0	22.0	

Source: Research fieldwork (2018)

Note: *The 'tagang' system is a form of control and conservation to sustainably increase freshwater fish production, promote ecotourism and reduce river pollution (Department of Agriculture Sarawak, 2019).

Other than paddy cultivation, a substantial fraction of the Bario's respondents were interested in aquaculture projects. The reason that paddy planting has received substantial interest in Bario and IHAS area is that the varieties of paddy, often collectively known as the Bario rice, planted are much sought after due to their soft texture and exquisite taste. There are four varieties of Bario rice, i.e. Adan Halus, Bario Tuan, Bario Merah and Bario Celum. Adan Halus is the most commercially grown variety (Nicholas et al., 2014). In Mulu, the planting of Bario rice is not common and the Penan comprising the largest population in the area are generally famous for their artistry which is often demonstrated via handicraft making. With the increasing inflow of tourists to Bario and Mulu, there was also increasing interest among the locals to provide homestay and tourism services (Borneo Post Online, 2016).

In addition to the mainstream development activities above, homestay, cottage industry, rubber planting, tree planting and fisheries were also mentioned as potential development. Further to the development activities, the respondents' desired modes of participation were probed. 33% and 40% of the respondents in Bario and IHAS area respectively were content with working for or finding employment with the development. 44% of the surveyed households in Mulu wanted to be involved as entrepreneurs. In Bario, 29% of the respondents desired entrepreneurship while 19% of the respondents in the IHAS area were interested to become operators or managers (Table 4). A study by Tateh et al. (2014) revealed that Dayak was generally less inclined to entrepreneurship due to personal and social factors particularly the lack of knowledge and training as well as upbringings, though their interest to involve in such endeavor is high. This could probably explain the relatively low intention to engage as entrepreneurs among the Orang Ulu highlanders in Bario and IHAS area. Nonetheless, the intention was high in Mulu.

Perceived Barriers towards Development

The majority of the sampled households in the three study areas expressed that a lack of capital was the major barrier towards expanding their economic activities and a large proportion of them also opined that the lack of manpower was a barrier (Table 5). 10% of the respondents in the IHAS area thought that frequent illness among family members slowed their economic expansion. There was a host of other problems faced by the respondents in Bario and Mulu particularly such as difficulty in product marketing, a lack of access road and transportation as well as a lack of basic facilities and amenities. This was also reflected from a newspaper article highlighting the hardship of marketing the popular Bario pineapples due to the absence of proper access road to the nearest urban centres (Chan, 2011).

At the community level, the major obstacle in Bario and IHAS was the distance from urban centres (Table 5). This obstacle also affected economic activities at

Table 5
Perceived barriers of development

Aspect	Percent Sampled Population		
	Bario	IHAS Area	Mulu
1. Barriers at Household Level			
No male member in the family	3.0	2.0	8.0
Lack of manpower	30.0	40.0	18.0
Family members are often sick	2.0	10.0	4.0
No capital	36.0	44.0	40.0
Not enough suitable land	8.0	0.0	1.0
Others	1.0	0.0	6.0
Unsure	20.0	4.0	23.0
2. Barriers at Community Level			
Distance from urban centres	76.0	96.0	32.0
No water and electricity supply	2.0	0.0	38.0
Expensive goods and supplies	0.0	0.0	5.0
Decreasing wild animals and fish	0.0	0.0	0.0
Costly and long transportation	15.0	2.0	6.0
Others	2.0	0.0	5.0
Unsure	5.0	2.0	14.0
3. Willingness to be Resettled			
Yes	21	2	15
No	56	88	55
Unsure	23	10	30

Source: Research fieldwork (2018)

household and individual levels. While Mulu also had the same obstacle, the respondents there perceived that a lack of water and electrical supplies was more pressing. 15% and 6% of the households surveyed in Bario and Mulu thought that transportation was costly and time-consuming due to the distance from urban centres (Table 5). As the distance from urban centres was raised as the main factor thwarting development, the respondents were asked if they were willing to be resettled. More than half of them in all survey areas did not welcome the idea (Table 5). The primary reason was that they felt comfortable with the present way of life.

The second most important reason was their attachment to the current settlements.

The trend of out-migration to urban centres is common among the villagers in search of better education and job opportunities. Unless their homeland has better prospects of economic development to offer, the trend is not foreseen to reverse (Chan, 2011). This could probably have led to the general fluctuation of the population aged 25 to 50 in the study areas. The households sampled were those who stayed behind for various reasons, one of which was attachment. It is therefore natural that they were not receptive to the idea of

resettlement. Besides, resettlement does not always promise a better future and there have been instances of failure. The population resettled to Sg. Asap under the Bakun Resettlement Scheme faced the hardship of not having sufficient and fertile land for farming. The attempts of planting pepper, cocoa, dragon fruits and other crops by the re-settlers on land only suitable for oil palms were not fruitful. The Penan children at Sg. Asap were particularly disadvantaged as they were not as well-educated as those of other communities. Many of the Penan and Ukit were traumatized by the new life they once thought would be better. The hardship had resulted in the out-migration of the Lahanan and Ukit young adults from Sg. Asap (Rose, 2010).

Despite much research interest in the indigenous groups of Malaysia, the development outcomes are disproportionately low, pointing to a gap in understanding what the indigenous communities want for development (Marimuthu et al., 2018). The gap can only be filled with cultural knowledge of the indigenous and a shift from the mainstream perspectives (Bird et al., 2013). Foley (2007) suggested that government bodies and development organizations should listen to the opinions of the indigenous during planning and decision making. This study is an initial effort to understand the views of development among the highlanders in Sarawak. It has been reported that the indigenous will accept changes they understand through their worldview (Champagne, 2005).

Limitations

As with many studies involving surveys, this study is limited in its sample size. Though a larger sample size could be possible, the sample size of 31% households is deemed sufficient to provide a reasonably representative view of the respondents' anticipations for development and the barriers they perceived to hamper development. Another limitation of the study is the survey items. Descriptive survey items probing further into their anticipations and concerns could be included. For instance, the cultivation of paddy as an economic interest could be further probed to understand the specific aspects the respondents need to further encourage them in paddy cultivation.

CONCLUSIONS

This study concluded that the highlanders in the Upper Baram and Mulu longed for development but at the same time, feared that they were not able to cope with development especially due to the lack of capital and manpower. A large proportion of the highlanders preferred development facilitated by government agencies and is interested in rice cultivation, handicraftmaking and other agricultural activities such as the cultivation of cash crops. They also perceived that inaccessibility as well as the unavailability of basic infrastructure and facilities were the major barriers to development at the community level. This study, therefore, provides valuable information to policy and plan makers who have channelled resources into developing the highlands only to

yield limited outcomes. This study also calls for a shift of perspective from the mainstream and a better understanding of the highlanders' worldview to bridge the gaps of development. This study recognises that the out-migration of the highlanders to urban centres will continue unless there is renewed development in their homelands which provides new opportunities. It advocates that facilitated and inclusive development aligning local economic growth to the state and national economic growth is crucial to social equity, hence sustainability.

ACKNOWLEDGEMENTS

The author wishes to express his deepest gratitude to the participants of the study and the enumerators who had rendered their help in collecting the data for this study.

REFERENCE

- Ahsan, R., & Ahmad, M. H. (2016). Development, displacement and resettlement a challenge for social sustainability: A study on mega development project (Bakun Dam) in Sarawak. *International Journal of Advances in Agricultural & Environmental Engineering*, 3(1), 47-51.
- Aiken, S. R., & Leigh, C. H. (2015). Dams and indigenous peoples in Malaysia: Development, displacement and resettlement. Geografiska Annaler Series B Human Geography, 97(1), 69-93.
- Bala, P., Harris, R. W., & Songan, P. (2004). E Bario Project: In search of a methodology to provide access to information communication technologies for rural communities in Malaysia. In S. Marshall, W. Taylor, & X. Yu (Eds.), *Using* community informatics to transform regions (pp. 115-131). Hershey, USA: Idea Group Publishing.

- Bending, T. (2006). *Penan histories: Contentious narratives in upriver Sarawak*. Leiden, the Netherlands: Brill.
- Bird, D., Govan, J., Murphy, H., Harwood, S., Haynes, K., Carson, D., ... & Larkin, S. (2013). Future change in ancient worlds: Indigenous adaptation in northern Australia. (NCCARF Publication; Vol. 117/13). Gold Coast, Australia: National Climate Change Adaptation Research Facility.
- Borneo Post Online. (April 7, 2016). Dayak Chamber of Commerce and Industries holds training programme for homestay operators.

 Retrieved March 16, 2019, from https://www.theborneopost.com/2016/04/07/dayak-chamber-of-commerce-and-industries-holds-training-programme-for-homestay-operators/
- Boulanger, C. L. (2010). Inventing tradition, inventing modernity: Dayak identity in urban Sarawak. *Asian Ethnicity*, *3*(2), 221-231.
- Champagne, D. (2005). Rethinking native relations with contemporary nation-states. In D. Champagne, K. J. Torgesen, & S. Steiner (Eds.), *Indigenous peoples and the modern state* (pp. 3-23). Walnut Creek, USA: AltaMira.
- Chan, Z. (2011, November 24). Idris: New economic activities will stem tide of rural-urban migration. *The Star Online*. Retrieved March 15, 2019, from https://www.thestar.com.my/news/community/2011/11/24/idrisnew-economic-activities-will-stem-tide-of-ruralurban-migration/
- Department of Agriculture Sarawak. (2019). *Tagang system*. Retrieved March 16, 2019, from https://doa.sarawak.gov.my/page-0-0-196-Sistem-Tagang.html
- Department of Statistics Malaysia. (2018). *Statistics* yearbook Sarawak 2017. Kuching, Malaysia: Department of Statistics Malaysia.
- Foley, T. (2007). Environmental conflict resolution: Relational and environmental attentiveness

- as measures of success. *Conflict Resolution Quarterly*, 24(4), 485-504.
- Howitt, R., & Lunkapis, G. J. (2016). Coexistence: Planning and the challenge of indigenous rights. In J. Hillier & P. Healey (Eds.), The Ashgate research companion to planning theory: Conceptual challenges for spatial planning (pp. 127-152). Surrey, England: Ashgate.
- Jabatan Agama Islam Sarawak. (2019). E-masjid. Retrieved December 3, 2019, from https://emasjid.sarawak.gov.my/emasjid/emasjid/dashboard/ticket/
- Land Code Chapter 81 1958 (Sarawak) (Malaysia).
- Marimuthu, M., Gan, C. C., Yusof, M. A., & Karim, N. A. A. (2018). Understanding the indigenous mindsets in Malaysia: A future research agenda. *Journal of Fundamental and Applied Sciences*, 10(3S), 64-67.
- Nicholas, D., Hazila, K. K., Chua, H. P., & Rosniyana, A. (2014). Nutritional value and glycemic index of Bario rice varieties. *Journal of Tropical Agriculture and Food Science*, 42(1), 1-8.
- Puyok, A. (2006). Voting pattern and issues in the 2006 Sarawak State Assembly Election in the Ba' Kelalan Constituency. Asian Journal of Political Science, 14(2), 212-228.
- Recoda. (2017). HDA's agenda to fast track development in the highland. Retrieved March 11, 2019, from http://www.recoda.com. my/pressrelease/hdas-agenda-to-fast-track-development-in-the-highland/
- Recoda. (2018). What is SCORE? Retrieved March 11, 2019, from http://www.recoda.com.my/what-is-score/
- Resident and District Office Miri. (2018). *Taklimat pembangunan bahagian Miri* [Miri development briefing] [PowerPoint slides]. Retrieved March 12, 2019, from https://miri.sarawak.gov.my/page-0-224-242-Penerbitan.html

- Richards, A. J. N. (1961). *Sarawak land law and adat.*Kuching, Malaysia: Government Printing Office.
- Rose, D. (2010, May 1). Life after Bakun. *The Star Online*. Retrieved March 16, 2019, from https://www.thestar.com.my/story/?file=/2010/5/1/business/6027520&sec=business
- Sagin, D. D., Ismail, G., Fui, J. N., & Jok, J. J. (2001). Schistosomiasis malayensis-like infection among the Penan and other interior tribes (Orang Ulu) in upper Rejang River Basin Sarawak Malaysia. *The Southeast Asian Journal of Tropical Medicine and Public Health*, 32(1), 27-32.
- Sagin, D. D., Ismail, G., Mohamad, M., Pang, E. K., & Sya, O. T. (2002). Anemia in remote interior communities in Sarawak, Malaysia. Southeast Asian Journal of Tropical Medicine and Public Health, 33(2), 373-377.
- Sagin, D. D., Ismail, G., Nasian, L. M., Jok, J. J., & Pang, E. K. (2000). Rickettsial infection in five remote Orang Ulu villages in upper Rejang River, Sarawak, Malaysia. Southeast Asian Journal of Tropical Medicine & Public Health, 31(4), 733-735.
- Tan, J. H. (2008). The Borneo Evangelical Mission (BEM) and the Sidang Injil Borneo (SIB), 1928 – 1979: A study of the planting and development of an indigenous church (Doctoral thesis), Oxford Centre for Mission Studies, Oxford, England. (Record No. 27747749)
- Tang, K. H. D. (2020). Hydroelectric dams and power demand in Malaysia: A planning perspective. *Journal of Cleaner Production*, 252, 119795.
- Tateh, O., Latip, H. A., & Marikan, D. A. A. (2014). Entrepreneurial intentions among indigenous Dayaks in Sarawak, Malaysia: An assessment of personality traits and social learning. *The Macrotheme Review*, 3(2), 110-119.
- Then, S. (2017, October 1). Joint tourism initiative to focus on Heart of Borneo. *The Star Online*.

- Retrieved December 4, 2019, from https://www.thestar.com.my/metro/metro-news/2017/10/11/joint-tourism-initiative-to-focus-on-heart-of-borneo-joint-effort-to-tap-tourism-potential-of-twomil
- Walid, N., Ibrahim, E. N. M., Ang, C. S., & Noor, N. M. (2015, August). Exploring socioeconomic and sociocultural implications of ICT use: An ethnographic study of indigenous people in Malaysia. In *International Conference on Cross-Cultural Design* (pp. 403-413). Cham, Switzerland: Springer.
- Weinlein, E. (2017). Indigenous people, development and environmental justice: Narratives of the Dayak people of Sarawak, Malaysia. *EnviroLab Asia, 1*(1), 6. doi:10.5642/envirolabasia.20170101.06
- Zahari, M. S., Kamaruddin, M. S., Kutut, M. Z., & Langgat, J. (2011). The level of alteration of ethics native food: A case of Sarawak, Malaysia. *International Journal of Humanities and Social Science, 1*(6), 137-144.