

## Sustainable Hunters and Gatherers in Belum-Temenggor Tropical Rainforest

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### ABSTRACT

Belum-Temenggor tropical rainforest is located in the district of Upper Perak, state of Perak, Peninsular Malaysia. Covering an area of 300,000 hectares which represent 5 % of forest and 50% of known species in the world and is home for 80% of primates in Peninsular Malaysia. This complex is a combination of four forest reserves namely Royal Belum Forest Reserve, Temenggor Forest Reserve, Gerik Forest Reserve and Banding Forest Reserve in which only Royal Belum State Park has been fully protected since 2007 [Figure 1]. The Belum-Temenggor rainforest also consists of man made lake known as Tasek Temenggor which is the result from hydroelectric dam project which covers an area of 22,672 acres and is home to at least 42 species of freshwater fish. This tropical rainforest is rich in its diversity of flora and fauna which become the source of subsistence, medicines, domestic and economic to semi-nomadic Jahai hunters and gatherers who live in this area. These negrito subgroupings adapt in the rainforest environment with majority of them built their huts at the lake shores and rivers. The lake and rivers act as a medium of communication and offers source of daily necessities with its abundance of fresh water fish. Apart from that, the sustainable adaptation was also contributed by the element of belief in spirits that inhabited the forest, these peoples ask protection from the spirits through rituals. The Jahai believed that this area is their country and they were the custody of the rainforest. Therefore it is their responsibility to protect and sustain the surrounding area. Based on ethnographic survey conducted in Jahai settlements in Belum-Temenggor rainforest, this paper aims to discuss shortly on how these communities survived and sustained their living pattern within the environment.

**Keyword:** *Belum-Temenggor, rainforest, Jahai, hunters and gatherers, sustainable*

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Figure 1. Belum-Temenggor Tropical Rainforest [Source: NCER 2012]

## RESEARCH METHODOLOGY

Survey using GPS (Global Positioning System) was conducted to map the distribution of settlements of the groups studied. About twenty Jahai settlements were identified and involved in this research. As an ethnographic research, participation observation is the key element applied in order to understand the behaviour and to record the activities involving this people. Researcher was given permission by the Department of Orang Asli to conduct research and stayed in the department camp in Belum-Temenggor area from time to time from January 2012 until December 2013. Within that period researcher have participated, observed and interview (open ended and in-depth interview) with the peoples and informant. Apart from that, recording was implemented using digital recorder, digital camera and video.

### The Jahai

The Jahai is one of the Negrito subgrouping apart from Kensiu, Bateq, Kintak, Mendrik and Lanoh. Majority of their settlements are located at the fringe of Belum-Temenggor tropical rainforest. The current population of Jahai in Belum-Temenggor tropical rainforest is 2328 peoples [Table 1]. The rest of the Jahai approximately around 250 peoples settle in Jeli, Upper Kelantan, about 50 km from Belum-Temenggor. Linguistically the jahai are groups with other Negritos (except Lanoh) under *Northern Aslian speakers in Austroasiatic Mon Khmer family* [Benjamin 2001].

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Culturally and linguistically, they are not a homogeneous group but possess their own identity as Jahai. The highest population are at Kampung Sungai Tiang which represent 97 families with 425 peoples while the smallest population is at Pulau Cheri with only 6 families and twenty peoples.

Based on ethnographic and historical evidence, the jahai are pure nomadic hunters and gatherers which dependent on the rainforest for their diet and subsistence [Hamid 2010]. Currently only a few groups of the Jahai are semi-nomadic hunters and gatherers while the rest live sedentary. Based on the survey it is found that the group in Sungai Kejar A, Sungai Kejar B, Bungor Hilir A, Bungor Hilir B and Charok Bus can be considered as semi nomadic hunters and gatherers. The characteristics is based on their mode of production and their pattern of settlement. The semi nomadic hunters and gatherers usually stayed temporarily in a based camp and went foraging in the rainforest between one to two weeks and will come back. During foraging they will hunt wild game and collect plants like tubers, fruits, shoots, honey etc for subsistence. They also collect various forest products for sale such as sandal wood (*Aquilaria malaccensis*), rattans (*Calamus sp.*), resins etc, while foraging, they will sleep at a temporary shed known as *hanyik* made by palm leaf known as *chahcoh* (*Calamuscastaneus*).

Hunting is done using blowpipe made of a special bamboo known as Sewoor (*Bambusa wrayi*) or Teming (*Schozostachyum jaculans*) which have a longer node compared with an ordinary bamboo that is very suitable for blowpipe. Usually the length of Jahai blowpipe is approximately about 3 meter. Wild game is hunt using a dart fill with poison taken from Ipoh tree (*Antiaris toxicaria*). Wild game is kill using a dart fill with poison taken from Ipoh tree (*Antiaris toxicaria*). Usually the jahai hunters hunt small game especially all kind of monkey such as *Prebytisobscura*, *P.memalophos*, *Macaque* and squirell (*Callosciurus*). Big game such as wild boar (*Sus scofa*) is hunt using spear or trap. While in the forest, they only hunt adequately for their meal but will bring back more meat to based camp and shared with families and neighbours. Usually the hunt wild game will be smoke to ensure it can stand longer before arriving to their based camp. The rest of the Jahai live sedentary in a permanent government built house. However, they still practiced hunting and gathering for subsistence, collecting jungle products for cash return and fishing but the only difference is they began to involve in cultivation.

Jahai catchment area is known as *sakak* (in malay *pusaka*), its made by mutual understanding among various tribe in the Belum-Temenggor rainforest including Temiar. Usually the *sakak* territory is identified by rivers, mountain and fruit orchards. Although it is not written but this social understanding is respected by generation to generation. It is a common practice that people from difference clan or villages cannot hunt or collect forest product in their neighbouring *sakak* territory unless they were given permission. Violence seldom occurs among them as this group are a non-violent peoples and prefer to live in harmony. But based on researcher observation it is common to see a Jahai move from the village and stay away from his communities if he is not satisfied with others, this practiced is rationale as a way to avoid tension and conflict among them.

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Table 1. The Belum-Temenggor Jahai Population

No.	Villages	Population	
		Number of Families	Total
1	Sungai Banun	29	141
2	Desa Permai	4	24
3	Damai	20	80
4	Pengkalan Damai	5	27
5	Desa Ria	18	87
6	Pulau Tujuh	10	89
7	Sungai Raba	24	161
8	Sungai Tekam	13	90
9	Persinggahan	6	60
10	Selaor	19	81
11	Kabel	14	77
12	Bungor Hilir A	26	250
13	Bungor Hilir B	35	80
14	Charok Bus	16	90
15	Cheri	7	20
16	Sungai Chuweh	13	76
17	Sungai Kejar A	25	208
18	Sungai Kejar B	50	50
19	Sungai Tebang	20	114
20	Sungai Tiang	97	425
	<b>Total</b>	452	2328

### The Pattern of Adaptation

This tropical rainforest is rich in bio-diversity is home for the Negritos. They adapt to the rainforest environment with the concentration of settlement at the lake shore and rivers such as Sungai Kejar, Sungai Sanghoi, Sungai Mangga, Sungai Sarah, Sungai Tebang, Sungai Senge, Sungai Selaor, Sungai Banun and Sungai Raba [Figure 2]. This settlement pattern has similarities with the adaptation pattern of the palaeolithic societies during the late Pleistocene period in Lenggong Valley some 100 km from Belum-Temenggor. According to Mokhtar & Jeffrey [2007], the palaeolithic societies adapt to the lake shores and rivers as this environment offers fresh waters, abundance of food and pebbles as raw materials to produce stone tools. The archaeological excavation revealed that artifacts such as choppers, scrapers, pebble tools, hammerstones, anvils and cores were found at the lake



shores. The findings convinced that the site has been used as settlement and working area to produced stone tools.

Paralel with rivers and lake environment the current Jahai communities depend on lakes and rivers as source of fresh water for drinks, cooking and daily necessities. The lake and rivers are also source for fresh water fish and tortoise for their subsistent. Based on the survey it is found that the lakes and rivers is home for at least 42 species from a total of 12 families of fresh water fish (Hashim et.al 2012).The fish is caught by fishing rod, using fishing net or by harpoon. The lake and river were their main medium of communication with outside world and to the neighbouring villages as well as during hunting and gathering. Bamboo raft is the main transportand currently fibre boat is being introduced.

Currently there are three type of Jahai house a) a traditional hut made of bamboo and *chahcoh* palm leaf, usually this kind of hut can be found at the heart of the rainforest especially in Upper Belum (Sungai Kejar A, Sungai Kejar B, Bungor Hilir A, Bungor Hilir B) and also in Charok Bus, b) a house made of split bamboo and supported with pole and c) a wooden government house with asbestos roofing, usually this modern settlement equipped with solar electricity and paip water funded by the government.

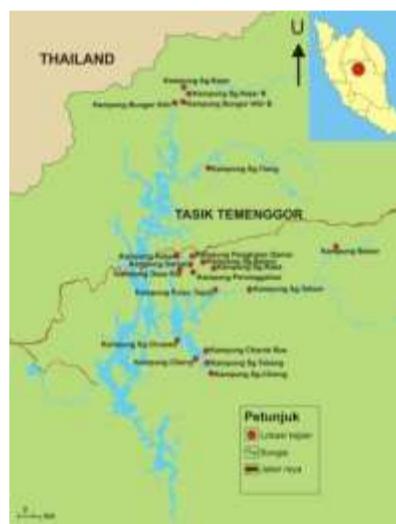


Figure 2. Distribution of Jahai settlements in Belum-Temenggortropical rainforest

### Diet and subsistence

The Jahai environment offers abundance of flora and fauna for diet and subsistence as well as for medicine and other domestic use. Based on the survey it is found that the Jahai still practiced self-sufficient economy and dependent on the rainforest such as hunting and gathering and fishing. Apart from self-sufficient economy they also collect jungle products such as aromatic wood, rattans and various kind of herbs for cash return (Figure 3 ). A survey was conducted by

researcher to examined how this people resilience and sustain their living by being dependent on the environment as a source of diet and subsistence. The survey was conducted by following 2 jahai gatherers tracking the rainforest and collect whatever plants that can be eaten, roots that contain water that can be drink, plants that can be used as medicine and other domestic use. The gathering area involve only 1 km radius arround Sungai Banun vicinity. The survey took 2 days and we spent about 3 hours for each survey. As a result a 2 days or 6 hours time spent for gatherings, we have collected about 73 species of plants that can be eaten, used for medicine or domestics purpose. The collection involved about 7 species of tubers, 25 species of shoots, 18 species of fruits and 5 species of palm leaf use for roofing and for making house wall, 8 species of plants for medicine and about 10 species of bamboo that the Jahai seldom use to make their material cultures (Table 2). The evidence convinced that the rainforest environment is sustainable to the Jahai as it offer abundance of plants for diet and subsistence, for medicine and domestic use.

Table 2. Plants collected during survey

Tubers	Shoots	fruits	Palm leave for roofing	Plants for Medicine	Bamboo
7	25	18	5	8	10

### World view and belief

Another contributing factor toward sustainable living pattern of the Jahai is their world view and belief. It is suggested that their belief is parallel toward sustainable nature and environment. Like most of the Negrito, the Jahai believe in two supernatural deities or *Orang hidup* known as *Yak* and *Kerei*. According to the Jahai, *Kerei* live in the sky and will always monitoring whatever misconduct done by the peoples. There are a certain taboo that should not be break for example laughing at a monkeys, centipede, butterflies etc as this animal is a good friend of *Kerei*. Breaking of taboo will anger *Kerei* and *Kerei* will punish the peoples with lightning, flood, sending a tiger to kill the people and sickness. If it is happened they will performed a blood sacrificing ritual by scratching the leg with knife till the blood flows and the drops will be placed in a piece of bamboo, then they cast them aloft toward the sky to propitiate the angry deities.

Apart from the deities, the Jahai belief that the surrounding environment like trees, mountain, hill, rivers, rocks, lake and etc lived a spirits known as *cennoi* or *Jermol*. The Jahai also believe in the presence of their ancestors spirits known as *Moyang Tapern* dan *Tok Samin*. This spirit should be respected and asked for their blessing to enable them to survive in the environment. The Jahai believe that the spirits will always helps them as long as they behave well and obeys the norms and tradition. The belief in the existence of the spirits make this peoples aware not to harm the environment as this will cause illness, death and curse.

This spirit can't be seen in nature by ordinary people except by shaman or medicine man known as *halak* that has a capability to communicate with the spirits through ritual. The ritual were usually performed to cure sickness cause by the spirit or before opening a new plot of land for swidden where the shaman will communicate with the spirit to ask for permission. The ritual is known as *penninlon* where the *halak* will sang a song that praise upon the *cennoior* the *Jermol* that live in the mountain, flower, tiger etc. Usually the *halak* get the song from the *Chinnoi* or *Jermol* through his dreams. An example of one of the famous *Pennloin* song is Haronggang or eagle [Dalong Pilloi, Sungai Banun, 21st January 2013].

### **Haronggang (Eagle)**

*Hai se harronggangg*  
*Chan jermol lak ayam*  
*Jermol ayam*  
*Yeh beleis chan jermol*  
*Jermol patung*  
*Yek belis chan jermol*  
*Jermol ayam*  
*Yek belis chan jermol*

Hai Eagle  
*Jermol* from the Chicken mountain  
Chicken mountain  
And fell from the mountain  
*Jermol* from the chicken  
*Jermol* of chicken  
Fell from the mountain  
Chicken mountain

### **Food Sharing**

Another interesting aspect practiced by the Jahai is food sharing, the concept of practicing food sharing is known among Jahai as *genhak*. The concept is a universals practiced among most hunters in the world for example among the Eskimos in Alaska, the concept is known as *aviktuuzaaq*. However although food sharing is practiced but the main hunter will get more portion compared to his members, this is known as *pillyuk* [Burch 1988]. Among the Penan in Sarawak, the concept is known as *see hun* means sharing and stingy is a negative attitude among them [Davis & Henly 1990]. By practicing food sharing, the Suku Anak Dalam in Jambi find similarities and working collectively as a group. However sharing of meat will only involve big game like wild boar, deer and a hunter can consumed the meat individually if he hunt small game. Apart from mutual understanding this concept was legitimated by traditional law in Suku Anak Dalam. According to the traditional law, a hunter should be fined if he refused to share among his *rombong* (camp) (Handini 2005). This concept is also acceptable among the Jahai as they depend on each other and priority should be given to the peoples not individual. This concept will be

inherited from generation to generation, the young Jahai will learn to hunt and shared the meat equally with his friends. The Jahai belief that every food obtained in the environment should be shared and element of selfish, stingy, greedy will anger the spirits. The person who break the norms, will fell sick, seizures and find difficulties in his entire live. Therefore they collectively preserved and sustain the environment to ensure their survival.

## CONCLUSION

As a conclusion the Jahai can be concluded as sustainable hunters and gatherers which adapt to the rainforest environment which is rich in it's bio-diversity. There are several factors that contributes in sustaining the Jahai living pattern as hunters and gatherers. The first factor is that this people are symbiotic with the rainforest because they believe that they were the custody and the citizen of the rainforest and it's their responsibilities to preserve them. The second factor is contributed by their simple way of life e.g self sufficient economy and simple technology that enable sustainable development to continues. The third factor is the practiced and respect with the tradition and norms inherited such as food sharing, the existence and respect on mutual understanding on the hunting and gathering territory or *sakak*. Indirectly, the norms and cultural tradition play an important role in the preservation of the rainforest. The fourth factor is their belief that lies on the principle that environment is home for the spirits known as *Cennoi* or *Jermol*, the supernatural deities and ancestors. Therefore to ensure the survival in the rainforest they need to sustain good relationship with the spirits, the supernatural deities and the ancestors.

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