

## **Surviving the flood: The case of indigenous Batek of Malaysia**

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### **Abstract**

In Kelantan, the occurrence of flood is common, but a massive tsunami-like flood due to the receipt of high-density rain in Hulu Kelantan which happened on the 24th December 2014 was an exceptional event. Among the victims were the traditional semi-nomadic indigenous Batek who practice hunting, gathering and farming small plot of plants for their own consumption. To date, no data are yet available regarding the exact impact of this flood to their living conditions. As such, this study highlighted the coping strategies employed by the Batek people to survive this catastrophic flood, since they had never experienced any disaster events, neither naturally nor related to any unsustainable development activities. This study was carried out through qualitative approach utilizing focus group discussion. All the transcripts were coded and grouped by the themes that emerged from comparing shared characteristics and meanings using the software package for handling qualitative data, NVivo 10. The findings revealed that most of the participants believed that deforestation for the agricultural activity caused this massive flood. They had to build raft from bamboo to save themselves and other important things such as their personal documents. They survived for four days up on a hill with wild food sources such as 'umbut bayas', wild tubers and wild shoots before receiving basic needs from the relief teams. Data and information generated from this study can be used to provide a true understanding on the surviving strategies practiced during flooding on remote settlements, such as in the case of this Orang Asli Batek community. This is imperative so that in the future a more effective and systematic flood management can be provided in timely manner.

**Keywords:** Flood, indigenous Batek, Kelantan, surviving skills

### **Introduction**

A flood is one of the world's most common natural phenomena, with billions of people reported to be affected by this catastrophe (Lee & Vink, 2015; WHO, 2019). The World Resources Institute (WRI) recognises countries in Southeast Asia as the world's most flood-prone region (Luo et al., 2015), characterised by flood frequency, magnitude and severity, number of countries affected, the size and extends of inundation as well as number of people involved.

In Malaysia, there are two main types of flood; flash flood and monsoon flood (Buslima et al., 2018). According to Bari and colleagues (2021), flash floods are rapid, may occur at any time of the year, varied between areas and are mostly unpredictable events. In contrast, the monsoon flood phenomenon in Malaysia usually occurs during the Northeast monsoon season between the month of November and March. Heavy downpour during this time particularly for the east coast of Peninsular Malaysia, as well as in certain parts of Sabah and Sarawak, resulted in greater risk of flooding (MetMalaysia, 2019; Buslima et al., 2018). During the northeast monsoon seasons, majority of the population in Kelantan are highly exposed to floods due to the geographical location adjacent to the coast of South China Sea and the expansion of settlements on plain topography (Yahya et al., 2016). To date, the 2014 Malaysia flood event has been described as the most devastating flood disaster in decades, with Kelantan being the hardest hit (Syed Azhar, 2014; Akasah & Doraisamy, 2015).

Studies in Malaysia have shown that rapid land development activities are responsible for almost 10% of floods hazard, with 22% of Malaysian population are directly affected by this disaster (Salleh et al., 2013; Othman et al., 2014; Aliagha et al., 2015; Khalid & Shafiai, 2015; Tan et al., 2015). Domestically, flood often occurs due to the frequency of rainfalls and rise of the sea levels in certain parts of this country (Aliagha et al., 2015). Annually, Malaysia experiences heavy rainfall recorded between 2,500 to 3,500 mm (Khalid & Shafiai, 2015; Tan et al., 2015) or even more in monsoonal seasons (Suhaila et al., 2010), resultant in the risk of flood. This is aggravated by intense changes in land use and poor drainage systems that were unable to accommodate with the heavy downpour (Nadirah, 2017; Rizanizam, 2017).

On the 24th December 2014 a massive tsunami-like flood has hit Kelantan and many have been severely affected. The floodwaters or also known as “Bah Kuning” (yellow flood) due to its high mud contents and murky colour (Baharuddin et al., 2015) has wildly ravaged homes and lands to many people within many districts of this state. The magnitude of this disaster has superseded the earlier legend flood of “Bah Merah” recorded in 1967 that affected almost 80% of the Kelantan population during its time (Sani, 1973; Chan, 1995). For three consecutive days prior to the 2014 tragedy, an intense precipitation was observed that achieved a record-breaking of 1295mm collection which was equivalent to the amount of rainfall collected for more than two months (Wan Hussin et al., 2015).

Furthermore, Tahir (2015) also elaborated that the amount of extreme downpour recorded in Gua Musang in December alone has surpass 50% of the annual rainfall for that year. As a result, over 20,000 people had to be relocated to a safer ground (Akasah & Doraisamy, 2015) and 10 mortality cases were reported state-wide (Yahya et al., 2016). Direct physical damages of this flood were also very alarming. It was reported that all the east coast train networks were totally disrupted, with hundreds of rail tracks, stations and coaches were either fully or partially inundated in three metre water (The Star, 2014). Worst, only one hospital in Kelantan that remained fully functioning during this calamity with a massive surge of referral cases received from across the state (Baharuddin et al., 2015). In total over RM203 million were spent for restoration of three main essential sectors which include water, roads and infrastructure (Akasah & Doraisamy, 2015).

The 2014 Kelantan flood was considered as the most unprecedented tragedy in its history with no districts being spared. One of the communities that were gravely impacted by this natural disaster was the community of the Orang Asli Batek. In general, Orang Asli in Peninsular Malaysia is recognised as one of the ethnic minorities and only accounted for 0.7% from the total population (Hansen et al., 2017). They are categorised into three major groups namely Negrito, Senoi and Proto Malay, with each group being further sub-divided into different sub-ethnics. The Orang Asli

Batek is placed under the umbrella of Negritos. They normally settled in a lowland forest, often by the riverside and can be commonly found in states of Kelantan, Pahang and Terengganu (Lye, 2002). The Orang Asli Batek identify themselves as forest people, where forest is regarded as their true home (Bonta, n.d). Their settlements are usually non- or semi-permanent. In these modern days, the Batek have a permanent centre, a settlement set-up by government known as Pos Lebir located in district of Gua Musang, Kelantan. Pos Lebir is made up of four villages (kampung); Kampung Pasir Linggi, Kampung Machang, Kampung Kuala Koh and Kampung Aring 5. Even so, the Batek ethnic group can still enjoy the freedom to congregate and form temporary camps between the forest and this permanent settlement (Bahuchet, 1992). The semi nomadic lifestyle of the Orang Asli Batek is still strongly being practised. The Batek often escaped into the forest particularly when there is a death occurring within their community or to escape from any health crises (Yunus et al, 2014). This can be seen clearly during the recent measles outbreak that affected this community (Abas, 2019; Mohd Rosman et al., 2020).

Up till now, the Batek ethnic is still practicing and heavily relying on traditional economies – hunting, fishing and farming. Men normally hunt while women gather vegetables. Men sometimes seen to pick vegetables, though women rarely hunt, but both genders collect rattan to trade for outside goods. Despite these old practices, collected goods are valued equally and both sexes are part of the food-sharing network in their camps. Indeed, there are no rigid rules separating their sex roles (Bonta, n.d). When it comes to hunting, these activities take place all year round. They prey on almost every species of vertebrate, without anything being spared; from different species of mammals, fish, birds, reptiles to amphibians. The Batek also gather many wild products such as tubers, fruits, fungi, nuts, and young shoots that are widely available in the forest. Bee larvae and honey are collected by smoking out the bees (Bahuchet, 1992). While their forest activities seem to be endless, their farming activities are only limited to planting rubber trees and having small allotments for their own consumption (Endicott, 1988). Even with this traditional economy, the Batek still hold firmly to the concept of open sharing. From knowledge of forestry, to collected goods and cooked meals, all things are shared equally and freely within their community (Bonta, n.d).

Impacts of flood include structural damage and erosion, loss of property, food and water pollution, disturbance of socio-economic activities such as transport and communications, as well as damage to agricultural land (Chan, 2012; Chan & Parker, 1997; Rahman, 2014; Nott, 2006; Hossain et al. 2017). Considering the scenario above, the impacts of the past massive flood to the Orang Asli Batek settlements are of substantial concern not only because they had never experience any disaster tragedy in the past, neither naturally nor related to any unsustainable development activities, but moreover given to the pre-existing vulnerabilities and low adaptive capacity of this community. Ariyabandu and Wickramasinghe (2005) observed that some groups are more vulnerable to floods than others are. The poor tend to be the most vulnerable due to their lack of choices. These vulnerabilities relate to, for instances, levels of poverty, poor health and malnutrition status, settlement in outskirts areas, reliance on traditional activities for food security and income, low education levels, inadequate access to facilities and resources as well as limited public health services. It was reported that during the flood event, the humanitarian aids to this group was impeded due to the collapsed of main bridge that connected these settlements to the nearby relief centre [Mohamad Insan, personal communication, February 17, 2015]. Furthermore, this calamity was truly unprecedented as this was a first time for the community to be affected by massive flood [Village Chief of Kampung Pasir Linggi, personal communication, February 25, 2015].

A recent study conducted by Sadeka et al. (2020) among another sub-ethnic group of the Orang Asli, the Jakun in Tasik Chini found that they have a low level of disaster preparedness despite experiencing frequent flood events in their settlement which directly disrupted their livelihoods. This situation makes the Jakun less resilient as the flood reduces their ability to adapt and recover from disaster. It is well established that in any disasters, the low socioeconomic community faced more serious consequences. To the best of our knowledge, there is no research done on the experiences and responses of these populations during flood disaster. Therefore, this paper aims to explore these issues by reporting on the findings of a qualitative study on the meaning of flood, the reason for the flood, surviving skills, and food in surviving the devastating flood from the lived experience of Batek community.

## **Study area**

The location of this research was at Pos Lebir, Gua Musang, Kelantan, Malaysia. There are four settlements under Pos Lebir administration, however, only three were badly affected by the flood which were: Kampung Pasir Linggi, Kampung Machang and Kampung Kuala Koh.

## **Method**

The research was conducted on May 2015, five months after the occurrence of the flood disaster. This study is a part of a larger study conducted in the Orang Asli Batek settlements. The study was carried out through qualitative methods utilizing focus group discussion sessions of six to seven people (nine groups), all of whose homes had been flooded. A total of 59 participants took part in nine focus group discussions: three groups each from Kampung Machang, Kampung Pasir Linggi and Kampung Kuala Koh. Focus group discussion method was used in this study as it is a useful and effective mechanism for deriving collective opinions, values and beliefs. The key areas of questioning were related to their responses prior to, during and after the floods, their experiences, their surviving skills, the meaning of flood to them and possible reasons of flood. The key questions were developed to directly answer the research questions and based on literature review. The focus group discussions (FGD) were semi structured with the researcher being able to allow the respondents to develop the area's most pertinent to respondents. Each FGD took around 45 minutes to one hour to complete. All participants were given false names for anonymity. Narrative analyses were done after every recording. All focus group discussions were audio-taped and video recorded (with permission) to allow the facilitator to focus on the group responses and non-verbal behaviour and these were then transcribed from oral language to written language. The participants were engaged in as natural communication process as possible in order not to make them feel the presents of the technical instruments so that the interaction can be as natural as possible. All the transcripts were coded and grouped by the themes that emerged from comparing shared characteristics and meanings using the software package for handling qualitative data, NVivo 10. Both manifest and latent themes were identified, using an inductive approach. Final agreement on themes was reached by all researchers. Reliability of data was established by comparing responses from the nine focus groups discussions. Trustworthiness of inferences was ensured by multiple coding, audit trail and member checking with focus group participants who reviewed the themes

for validity. The protocol of this study has been approved by the Human Research Ethics Committee, Universiti Sains Malaysia (FWA Reg. No.: 00007718; IRB Reg. No.: IRB00004494).

## Results and discussion

### *The meaning of flood*

Flood is a common natural disaster in Kelantan during monsoon season, although some areas are spared. This includes the Pos Lebir settlements of Orang Asli Batek. However, the Bah Kuning of 2014 have tragically destroyed the homes of this indigenous community. In this study, all of the FGD participants from all locations agreed that the flood is an unpredictable event. The following excerpts show the unity in the response:

“At first, we did not think that water is... aaa... did not think the water was going to be like this (bad...) haa been occasionally think of... haih usually not like this.. usually not like this... been thinking why this year's flood is like this.” (Ibrahim, male, 45, Kampung Pasir Linggi)

“... then we do not expect this suddenly to become huge, during the previous it was not like that... that what surprised us...” (Halim, male, 23, Kampung Machang)

“Before this it was never flooded like that... it is usual; flood is there but there's nothing to worry.” (Hanisah, female, 34, Kampung Kuala Koh)

Floods were frequently regarded as unavoidable and unbearable by our ancestors (Yan, 2019). The meaning of “flood” depends on one's belief. A common-sense belief is that floods are damaging excesses of water flow that lead to practical consequences such as destruction to property. Among the hydrologists, floods are flows of water specified by technical measures of magnitude and frequency (Baker, 2007). For the Batek people, they believe that flood is water that will become frozen as soil with the help of filter. According to Mamat from Kampung Kuala Koh, “we still believe that flood frozen because of our ancestors... if we look at the water, its yellow like soil”. Whereas in Indonesia, the rural community as suggested by Halim and Zainuddin (2017) believe that flood is a deity's strength, a sign that a conflict is taking place 'under water,' and a proof of God's benevolence because flood has both negative and positive sides.

### *The reasons of flood*

Globally the occurrences of flood disasters seem to be increasing (Douben, 2006). Analysis has shown that over the period of three decades, there is a rising trend in both frequency and magnitude of extreme flood in certain continents of the world (Berghuijs et al., 2017). The possible causes of this hydrologic changes include increased in climatic variability, the expansion of human settlement in flood plains (Eakin, 2008), use of land, growth of urban and human activities such as deforestation, infrastructure development across the watercourse and encroachment of land in high risk flood areas (Amini et al., 2011; Chan, 1997; Kourgialas & Karatzas, 2011).

For the Batek, many participants believed that deforestation for the agricultural activity cause this massive flood. When the irresponsible party destroyed forests for agricultural activity; there are no more catchment areas, thus this will lead to floods.

“Haa... because people do farm over there.” (Mamat, male, 25, Kampung Kuala Koh)

“For me... for me... my view... during the flood... the flood means... I don't really blame the logging people... for example the palm estate... when it is raining... from the sky... it means it does not stick... no attachment... to stop, means... now the rain, the water flows... is very big... it will cause something...”(Alang, male, 36, Kampung Machang)

“As for my opinion... what is happening during the flood... it was caused by farm... the farm... is from us... in Kelantan... we did farming... from there the flood occurs... when the forest was cleared for plantation... the forest was destroyed... the reserved forest was explored... it will caused the mudflows...” (Nasir, male, 30, Kampung Pasir Linggi)

However, several participants believed that the flood was sent by God to test them.

“I think... I... God created this... He intended it to happen... if we want to search for more, I don't know... if... if... all indigenous people believe... everyone believes... so this is a sign, sign... to make us realize... because everything that happened... God wanted to show to us... whatever we did... the bad things... we need to repent.” (Harun, male, 60, Kampung Pasir Linggi)

“This huge flood... caused by... it has something to do with us... among us... it may be part of Allah SWT wanted to give us... (test).” (Ghani, male, 27, Kampung Machang)

The label “act of God” is frequently linked to flood disasters which implies a divine or natural cause for which those in power have no influence. According to Furedi (2007), the term “act of God” classifies flooding as something over which humans have no control. A study of the Segeri people revealed that they think the flood is God's will and retaliation. Someone's misdeeds will be reduced by putting them through an ordeal. They also believe that the flood will have a good impact on their life and bring God's blessing (Halim & Zainuddin, 2017).

### *Flood surviving strategies*

The Batek built their houses near the river for easier access to water, as such it is quite common for them to experience high rising of water level during monsoon season. Nevertheless, this was not considered as a flood. However, the 2014 flood incident has altered their typical experiences. After two consecutive days of high-density rainfall, they started to feel insecure. They did not sleep at night as Ibrahim reported “I have to save myself.. on..that night I didn't went to sleep.. I was thinking”. Some were monitoring the level of water in the river. Ibrahim added “in the

morning.. after some fighting.. I saw.. we saw the water rising..”. Realising that the water level was increasing vigorously, they started to prepare their boats with some of them began to build raft from bamboo in order to save themselves and their belongings, particularly personal documents. As Harun mentioned, “when everyone is waking up that morning.. the water is so heavy... so fast.. all of them pick their children.. pick their IC (identity card).. run..”. Those in Kampung Pasir Linggi dan Kampung Machang moved to three different hills to save themselves from the rising water.

“Emmm... find high bit high.. three hills... three hills to run from the water... climb the first one, submerged... climb the second one, submerged... the third one, okay.. only half of the hill left.” (Aisyah, female, 38, Kampung Pasir Linggi)

In some cases, extreme flood leaves a devastating impact not only on individual’s physical health but in a long term this calamity may influenced one’s psychological health and wellbeing; namely stress, anxiety, depression and post-traumatic stress disorder (Johana & Najib, 2013; Walker-Springett et al., 2017). Many participants described their experience of the floods using strong emotional terms, such as, “panic stricken”, “terrified”, “agitated”, “petrified”, “sad”, and “shocked”. Mamat mentioned that, “I feel panic.. terrified..”, while Aisyah stated, “at that time.. I don’t know how to tell.. I don’t want to remember it.. if it comes across my mind.. it is truly.. truly sad..”. There was genuine fear and many lives in danger. According to Ralf and Ute (2001), although the flood disaster can be anticipated and discerned several days before the incident, it still causes shock and pressure to the flood victims. Orang Asli Batek in this study had never experienced any similar massive flood before thus most participants were surprised by the power and depth of the flood waters and they did not have enough time to save their possession. Eventually they lost everything that remained on the ground floor during the flood.

“Save oneself... bring nothing...”(Razak, male, 36, Kampung Pasir Linggi)

“Firstly Mat is sad because my home down there drifted away.” (Muhammad, male, 30, Kampung Machang)

Some of the participants also mentioned that they did manage to bring food together with them but only in small quantities. According to Azman from Kampung Pasir Linggi “there was rice, we need to bring rice, we brought fire, machete.. need to bring... and salt”. It has long been a practise among the Orang Asli to build close bonds with family members and neighbours through food sharing (Gan et al., 2020). The Batek are known as people with strong social bond who will share everything with their families and friends. Thus the rice was shared with everyone even though it was only in small quantities as stated by Mamat “sometimes when our friends come to us then we give some, we share”. This was agreed by Hanisah where she noted that “the food would not last long, a lot of people.. not for one couple, not for one family only..”. Food was prioritised for the children, as Jamilah stated “mother consumes a small amount (of food) only.. sometimes we eat, sometimes no.. give to the children..”.

When the participants were asked about what they consumed during the flood event, most of them answered that they relied on the wild food sources such as ‘umbut bayas’, wild tubers and wild shoots before receiving basic needs from the relief teams.

“Maybe from the forest only... bamboo sprout... bayas plant... maybe some wild roots... but water to drink is from rain water...” (Harun, male, 42, Kampung Pasir Linggi)

“Consume something like tubers, we dig the tubers and consume... haa wild shoots, bamboo shoots, we take... the bamboo sprout.” (Halim, male, 23, Kampung Machang)

“Our experience of eating the tubers in the forest, that’s all, luckily we know... we have the experience... for example *takop* tubers.” (Mamat, male, 25, Kampung Kuala Koh).

Early preparedness is another crucial measure to reduce the impact and risk of flood events through protecting the health and safety of family members, vulnerable populations and community members (Sutton & Tierney, 2006; Miceli et al., 2000) This includes storing necessary food, clothing and first aid box, emergency shelter, training and information on safety procedures, risk assessment, and the capacity building for quick response and recovery operations. The Batek however are lacking early preparedness measures such as storing necessary food due to the unpredictable flood event. Thus they will have to depend upon wild tubers and wild shoots as stated by Endicott (1984), that usually there is no higher ranked food available during flood season. Similarly, the Orang Asli Temiar had identified fourteen types of plants and tuber as alternative food sources during the monsoon flood (Ayob et al., 2016). Consumption of a variety of wild local plants readily available will contribute to a diversified diet needed to meet daily micronutrient requirements (Odhav et al., 2007; Mutheeswaran et al., 2011).

## **Conclusion**

This paper discusses the coping strategies and surviving skills employed by the Orang Asli Batek people during the 2014 catastrophic flood tragedy. The finding revealed that the meaning of flood for this community is highly influenced by their belief, understanding and personal experience. Deforestation and agricultural activities were named as main caused for the disaster to happen. Fortunately, good basic knowledge regarding natural forest and strong moral values of helping and sharing that are instilled within the Batek community has enable them to cope and survive the massive flood.

## **Limitation and study forward**

The present study only focuses on the Orang Asli Batek subgroup pertaining their survivorship during the worst flood in Malaysia history. As mentioned earlier, this study is only a part of a larger research project. As such, no other Orang Asli communities were involved or any other life aspects were investigated. Perhaps in the future, this study can be expanded to include multiple Orang Asli subgroups and other life elements such as cultural, spiritual, financial or psychological impact that can enrich the current findings. In addition, another issue to highlight is the researcher’s presence during focus group discussion, which is often unavoidable in qualitative research, may



have somehow affected the participants' responses. It is hoped that data and information generated from this study can be used to provide true understanding on the impacts and risks of flooding on remote settlements, such as in the case of the Orang Asli Batek community. This is imperative so that in future effective and systematic flood management can be provided in timely manner. For the Batek population and to any other communities who are in still mostly relying on the traditional economy, livestock-related support and crop, as well as horticulture agriculture can be adopted as alternatives for intervention strategies. Comprehensive knowledge and experience sharing from this remote population after a flood disaster can assist in better emergency preparedness plans in the future.

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