

Community experiences at the aftermath of flood disaster based on cultural context

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ABSTRACT

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Flooding is one of the most common natural disaster in Malaysia especially East Coast region of Malaysia like as Kelantan, Terengganu and Pahang. As a result of the northeast monsoon rains that starts from November until March and where these states are going to get maximum rainfall that will cause flooding. Flood disaster that happened in 2014 was stated the most incredible event that seriously affect the community than the previous years. There is limited information available concerning their experiences after the catastrophe. This study tried to explore the experiences of all family members at a community who have been experienced flood disaster based on cultural context by using qualitative approach. The data has been analyzed using qualitative content analysis by Graneheim and Lundman (2004). The prominent themes of community were rebuilding property, struggle for food aids, social accountability, community accountability, ways of community response to insufficient water supply and coping method to illness. These discovered findings were the experiences of family in a community together understanding the value of cultural context encountered by the key informants' aftermath of flood disaster. This in-depth understanding about the flood victims from their cultural context will give some valuable inputs to policy and top management in disaster preparedness, response and recovery for future flood disaster.

Keywords:

Flood disaster, experience, culture, qualitative descriptive

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1. Introduction

In Malaysia, flooding becomes a very common among the natural disaster, especially in the East Coast region, which are Kelantan, Terengganu and Pahang. The northeast monsoon rains start from November until March in which these states will experience a maximum average of rainfall starting on November, December and January [1]. A phenomenon disaster like flood can be concluded as the water released from any source of flowing water such as from lake, creek or natural watercourse,

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any reservoir or dam escaping to the dry land [2]. Among these three regions, Kelantan was the most affected by the incredible massive flood disaster. It was reported that a total of flood victims approximately 151 072 people have been sheltered in 309 evacuation centers [3]. It involved eight districts in Kelantan which are Gua Musang, Kuala Krai, Kota Bharu, Tumpat, Machang, Pasir Puteh, Tanah Merah and Pasir Mas.

Geographically, Sungai Kelantan derived from two main tributaries namely Sungai Galas from the west and Sungai Lebir from the South. Thus, the heavy rain that causes flooding to begin on the inland will flow to these rivers from the northeast towards the Sungai Kelantan and ends in the South China Sea. The entire river affected was monitored by Department of Irrigation and Drainage Malaysia (JPS) who reported increased in the river water level because of the heavy rain [4]. The Chief Minister of Kelantan said the heavy rainfall occurred three days in a row at Gua Musang was equivalent to 64 days of raining. Thus, it gives a sudden massive flood occurred along the river affected at Gua Musang, Kuala Krai and Kota Bharu that leads to massive destruction of property to the surrounding.

As the river affected mentioned above cannot accommodate with plenty of water due to heavy rain, people living along the riverside experienced a lot of property damage and had made them to find another way to save their lives as the water rise too quickly. Hence, the researcher selected Kelantan state as badly affected districts to explore and study the experiences of every member in a household after dealing with the flood disaster based on cultural context. It is essential for the households to handle the disaster effectively that include prevention, preparedness, response and recovery. There is still unclear and inadequate information for managing the community needs in response to disaster relief from cultural context. The ways of human adjustment to flooding are naturally different according to people's living patterns and socio demographic background. The vulnerability of each member in a household is different due to their effect on quality of life and health thus, the qualitative descriptive approach will explain such phenomenon to capture and convey an individual's view by giving attention on the experiences from the key informant in response to catastrophe.

2. Materials and Methods

The qualitative descriptive design that is underpinned by naturalistic inquiry established by **Lincoln and Guba (1985)** was used to explore the experiences of each member in a household based on cultural context and to emphasize on how they react and behave when they faced with flooding that will give meaningful and valued experiences after the disaster. Purposive and snowball sampling method was used and selected three districts such as Kota Bharu, Kuala Krai and Gua Musang which were the most affected by flooding in 2014. The inclusion criteria for participant was the one who had experienced the flood disaster. In-depth interview guides, tape recording of interviews and a diary of the study were used as the research instruments while interviewing. The trustworthiness of the data was maintained by following naturalistic inquiry established by Lincoln and Guba [15]. The credibility of the data was determined by building prolonged rapport between the researcher and the key informants. Dependability was determined by established preliminary codes were compared and discussed within the experts. Transferability was determined by the findings gathered suitable to be applied in another situation and populations. Lastly, confirmability was made by confirming the transcribed verbatim with the key informants, taped record, diary from the researcher and interview report. The approval was taken from Kulliyyah of Nursing Postgraduate Research Committee (KNPRC) and IIUM Research Committee (IREC), and then gets the permission from head villagers and consent was taken from each member in a household. The key informant's real name was replaced by pseudonyms in all written documents and if the key informant was a child, the consent was taken

from their parents to allow in taking part in this study. The qualitative content analysis by Graneheim and Lundman [14] was used to analyze the data gathered.

3. Results

The description of the findings begins with a short summary of the situation as stated in the table 1 below:

Table 1

Themes	Sub-themes
Rebuilding property	Housing relief and temporary shelter Collecting, washing and reusing items
Struggle for food aids	Sharing foods Selfish
Social accountability Community accountability	Humanitarian aids Social activity Spiritual activity
Ways of community response to insufficient water supply Coping method to illness	Use of available water resource Community self-care Health awareness

Rebuilding property

The researcher found that in the large-scale incident, the government and non-government organizations (NGOs) play roles in giving help to the community in rebuilding the property. Both are focused on their basic needs as the flood victims. For example, both organizations gave housing relief for those victims who totally lost their house as their shelter. The aims of this actions are to refurbish their shelters.

...transit houses have been built around 98 houses... (KI 43, KK)

...about 44 houses already built including repairing houses, approximately 60 percent have done repairing... (KI 26, KK)

At Kolam Mas village, about 18 homes have drifted and 18 homes relief have been distributed. (KI 32, GM)

These findings have been proven by the observation of the key informant in their surrounding houses in the diary of the researcher.

Based on the observation, I can see the key informants received transit houses, house container and housing relief after returned back to their house. All the houses were given by NGOs and the government. There also some of them rebuild back their own temporary shelter before receiving the new house. I can see there are a variety of colour that indicates they are coming from different agencies who give the house.

(Diary – 24th August 2015)

To maximize the total loss after flood disaster, the community used to take action by collecting, washing and reusing the items that has been flooded. Some of them able to collect back their own property that has been washed away by flood from the other places to be used again.

We lost our house. We just pick and collect what remains... (KI 35, KK)

After flooding, the villagers use river water, they wash electrical items by using river water, dry it well and worth it enough, but some of the items can use for short period. (KI 16, GM)

Based on the diary, observation has been made by observing the environment of the key informant's house. Below is the diary stated about the finding above:

The key informant showed me the items that they can use again although the condition of the items was not totally functional as well. I can see the hardship and struggle of the key informant in collecting back the items and washed them to survive after the flood subsides. Some of the property that has been washed away by the flood had given sentimental value to the key informant although it was already malfunctioning. (Diary, 20th August 2015)

Struggle for food aids

After a flood disaster, food aids were distributed from all over the place that has made them feel hard because of certain conditions. Some of them experienced in sharing the food fairly within their neighbourhood.

There are some of the food that I received and I shared it's to the others. I divide fairly within this place with other 10 houses. (KI 47, KB)

It is supported in the diary as shown below.

I can see key informant's feeling so relieve when they tend to share the food aids between themselves. Because on that time, the food is really hard to reach since the road are full of water. The key informant feels it was good to share the food in which all of them feel the same hardship together during that time. (Diary, 21st August 2015)

However, some of them took more the food aids without thinking other people who also in need. The key informants mentioned about selfish attitude among themselves as a community.

Some people were selfish. They just took the food without thinking others who were younger than them... (KI 43, GM)

After flooding, there is a problem related to selfish attitude, not share the food aids, they do not think about others. (KI 17, GM)

Based on the diary of the researcher below, it was mentioned the same thing what they were felt on time.

The key informant showed their feeling not comfortable with the certain community that acted like no care with each other. I can feel the key informant really mean what they said. Selfish attitude among them made the situation at that time feel stressful that had made them to be acted like that. (Diary, 24th August 2015)

Social accountability

Since the flood left a lot of mud, the flood victims need to clean their house. Non-governmental Organizations (NGOs), university students and other people who concern about them came to give assistance by cleaning the houses and roads that full of mud. Thus, their help had lessened their burden after the catastrophe.

After the flood, there were people from other states came to help what they could (KI 41, KB)

There were many NGOs came to help after the flood... (KI 43, GM)

Non-governments, universities students come to work in cleaning...a lot of aids from non-government and fairly enough... (KI 26, KK)

In the diary of the researcher also stated that the process of cleaning also took place after the flood by the outsiders who also concerned about them.

The key informant showed me the place where the outsiders like university students, NGOs and others came to clean the roads and the houses affected. Not only that, the key informant also stated to me that humanitarian aids coming continuously after the flood subsides. I can see that the roads can be pass through after the cleaning process took place with them. (Diary, 26th August 2015)

Community accountability

To recover from the catastrophe, communities affected had their own way to rebuild their strength by doing some activities within them. Since most of the community are Muslims, spiritual activities such as recite Surah Yasin and the sermon were done by the community involved. It was done to remember and acts as self-reflection on the disaster that hit them previously.

At the mosque, we also prayed together and recite Surah Yasin and imams of the mosque also give some sermon about the hit of the flood. (KI 42, KK)

The awareness was held after the flood in the sermon on Friday in which the khatib was the one whom give the sermon. In which the khatib told and warned to the jama'ah to remember Allah. (KI 8, KK)

Based on the observation of the researcher below, the key informant showed the place where the spiritual activities took place after the flood disaster.

The key informant showed to me the place where the sermon and reciting al-Quran took place at that time. Mosque always be the centre to do the activities as it was the only place to unite the community. Next, not only mosque, school also was used to do all the activities mentioned by them since the houses were totally damaged. (Diary, 28th June 2015)

In addition, social activities also took place within the community and the outsider after the catastrophe. These activities could relieve and wash away their sadness over what happened.

There were some victims who lost their house; they live in the tents provided. They would sing 'dikir barat' during night time to forget about their sorrow... (KI 43, GM)

There were students from universities came and conduct a program in the school. They made activities such as singing to joy the children... (KI 35, KK)

This finding has been proven by the observation of the researcher in the diary below:

One of the key informants showed to me where the dikir barat took place after flood disaster strikes. Not only that, they also showed the activity done by the outsider to make them happy

after the catastrophe. Happy faces can be seen when they mentioned about the activity they did together, although they feel sad during that time. (Diary, 28th June 2015)

Ways of community response to insufficient water supply

Since the flood had damaged a lot of property, the water source also affected. Water supply at that time need to be shut down for a moment to minimize the effect after flooding. Thus, community activities were disturbed that made them to use flood water and river nearby for all daily routine activity such as cooking, bathing and washing.

I have to take shower at the river near to my house since after flood there's no clean water and cut off water supply in this area. (KI 42, KK)

Continue raining about a week onwards, stop raining only for a while, water abates 4-5 days after, after abating I still stay at grandma's house, helping her clean the house at upper level, at ground still has water, I clean by using river water nearby. (KI 25, KK)

As most of the community is Muslim, it is hard for them to find clean water for ablution. Hence, in emergency condition, they used rainwater, flood water or river water nearby to take ablution for praying.

I cannot pray, others pray by using flood water for ablution, the neighbours pray by using rainwater as well. (KI 25, KK)

In the diary of the researcher below had mentioned about the use of availability of the water at that time:

I was brought by the key informant where they took the water in the nearby river. Not only that, key informant also showed me the source of flood water they always used for ablution and where they put the rainwater for used of routine daily activities. (Diary, 4th July 2015)

Coping method to illness

Fever and cough are common illness faced by the community after the catastrophe. This is because of thick dust from the mud after flood. To minimize the effect of dust, they used clothes as their facemask to cover mouth and nose.

The dust after the flood was very dense and thick. I have to cover up my nose and mouth with my clothes. (KI 42, KK)

Based on the observation of the researcher, it is proven in the diary about how they cope with the situation:

I was really impress where they only used their clothes at that time to cover the nose and mouth as there was really thick dust after the flood. I thought they just ignore the dust by covering with their hands when outside. But then, they showed me how they tied the clothes to cover mouth and nose. (Diary, 23rd August 2015)

During that time, they also search for medical attention available at that time as they aware about their health problems.

Two months drought create dust because of muds, fever and cough are common... there is health checkup in term of giving medications and check to house by house. (KI 10, KK)

“after flooding, healthcare sectors come here to do health check-up....” (KI 26, KK)

This finding has been proven by the observation from the environment around the key informant’s house below:

Based on the observation, I can see the remaining available tent left around the key informant’s house. The tent left is for the medical check-up purpose where the victims can seek medical attention if they are sick. The tent also was used as the meeting place of the health care provider before meeting the victims. (Diary, 20th August 2015)

4. Discussion

In this study, the findings showed there are few response actions taken by certain individuals or NGOs after the catastrophe in giving physical aids to the victims. For example, housing relief and temporary shelter. The housing reliefs offered by them came with different designs such as temporary tents in which it is the quickest and easiest to reach, temporary plywood houses or longhouses and permanent prefab houses [5]. Moreover, instead of receiving physical aids, the community had another way to rebuild their makeshift shelter. They collected the remaining household items and managed to rebuild back the rest of the house destroyed by flood. This activity helps them to manage their own shelter, according to their own creativity that match with the

situation [6]. Thus, this type of physical aids and rebuilding their own shelter help them to recover from the catastrophe by physically and psychologically as they might feel relief from feelings of anxiety and depression due to damage of crops and livestock, property and loss of income.

Due to limited food aids, the culture of sharing the food aids among themselves had made them to cope with the situation. However, when comparing to the Bangladesh community, the poorer the household had to endure the trouble to survive after the flooding by borrowing the food and other expenditure [7]. Most of them need to borrow money from the richest neighbour and friends [8]. Thus, when comparing in both situations, coping mechanism among both countries after flooding is differ according to their culture in struggling for food. This showed that in this study, the flood victims had better livelihood compared to Bangladesh in which the flood victims mostly been helped.

However, although this finding found that the community shared their food, but there also a selfish attitude among them. This study showed that food aids given was still insufficient. Thus, had made them to be acted such attitude in a desperate situation. Next, social accountability can be seen immediately after the flood in which many agencies such as NGOs entered the village to give assistances in whatever they can. The post-flood cleanup activities were done by the volunteers with the flood victims [9]. However, in Jakarta, there was no post-flood cleanup activities done by the community and other agencies to clean the river or drainage channel [10]. But in this study, it showed both community and other assistances from the outsiders came to help them in term of cleanup activities like cleaning the road. Not only that, they also help in repairing the destruction by building temporary shelter from the remaining pieces of the house. This is one of the unambiguous evidence where the researcher learnt from the social aspects where such activity that involve cooperation between all authorities is necessary after the catastrophe.

Different community had a unique way to reduce their sadness after the catastrophe. In Nepal, song and proverbs were practiced by them as indication to understand and remembering the previous flood [11]. Interestingly, in this research showed that community coping adaptation after flooding through spiritual activity such as sermons, reciting Surahs from the Al-Quran and congregational prayer were performed as remembrance of Allah after what had happened. Moreover, social activity such as “dikir barat” and joyful activity programs that conducted by certain university in Malaysia were done as their recovery method to the catastrophe. Thus, it helps the community to improve their spirit, feeling more motivated, and cheering up their emotional status [12].

This study also revealed the used in flood water, rain water and river water as water supply has been cut. Flood water, rain water and river water were used as their main source of water supply for daily routine activity such as washing, cooking and bathing. Moreover, since most of the community affected is Muslim, they need to take ablution from rain water for praying. However, another study mentioned that the community used centralized plant and local wells as sources of water supply in which the community suggested the locations for the NGOs volunteers to dig tube wells for temporary communal use [5]. Thus, this finding discovered about the needs of preparedness of water supply in emergency situations within the community after a flood disaster. In terms of health of the community, fever and coughing were the most prominent features stated by the key informant. This is because of the very thick dust after flooding. Thus, by covering their mouth and nose by their own clothes is the only way response to both illnesses. Other than that, health checkups were available after the flood disaster that has made the community seek for medical assistance to prescribe medications. It showed they were aware about their health status by seeking medical attention available at that time. Conversely, health care provider also acted by doing home visits after the catastrophe from house to house. It aims to avoid the health of the victims from worsening into an emergency [13].

5. Conclusion

As a conclusion, these findings showed that the community experiences after flood disaster had unique way to adapt and cope with the situation. Their hardship after the catastrophe showed that the value of reusable items and used of available water to survive in the emergency are very important to reduce the effect of the catastrophe. Moreover, based on the findings, the resilience of the community in reducing the effect of the disaster can be seen through their cultural and spiritual activities after the catastrophe. In addition, the behavior between the community and the NGOs showed that cooperation between both parties are very necessary to give pleasure and well-being of everyone to live in harmony environment.

References

- [1] Malaysian Meteorology Department. Iklim Malaysia [online]. Available at: http://www.met.gov.my/index.php?option=com_content&task=view&id=75&Itemid=99999999&limit=1&limitstart=0. Accessed September 15,2015
- [2] Geoscience Australia. What is flood? [online]. Available at: <http://www.ga.gov.au/scientific-topics/hazards/flood/basics/what>. Accessed August 30, 2015.
- [3] Bernama. Jumlah mangsa banjir di Kelantan, Terengganu, dan Pahang meningkat [online]. Available at: <http://www.astroawani.com/berita-malaysia/jumlah-mangsa-banjir-di-kelantan-terengganu-pahang-meningkat-50767>. Accessed December 23, 2014.
- [4] Wan Nik Wan Yussof. Banjir Kelantan 2014 – Satu Muhasabah [online]. Available at: <http://pks.kelantan.gov.my/?p=82>. Accessed September 15, 2015.
- [5] Malaysian Institute of Architects, Strategic initiatives in flood disaster preparedness and mitigation for Malaysia:2015. Available at. http://www.uia-architectes.org/sites/default/files/STRAT-INI_Feb2015.pdf
- [6] ALNAP Lesson Paper, ALNAP: Responding to Flood Disaster: Learning from previous relief and recovery operations. , 2012, ALNAP Overseas Development Institute, London. Available at: <http://www.alnap.org/pool/files/alnap-lessons-urban-2012.pdf>
- [7] Beck, T. Learning lessons from disaster recovery: the case of Bangladesh. 2005, Disaster risk management working paper series no.11, Washington: The World Bank. Available at <http://www.recoveryplatform.org/assets/publication/bangladesh.pdf>
- [8] Ninno C, Dorosh P.A, Smith, L.C, Public policy, food markets, and household coping strategies in Bangladesh: Lessons from the floods 1998. FCND Discussion Paper No. 156, 2003, International Food Policy Research Institute, Washington. Available at <http://ageconsearch.umn.edu/bitstream/16425/1/fc030156.pdf>
- [9] Ahmad, Wan Ibrahim Wan, and Syarif Muhidin Abdurahman. "Kelantan Flood 2014: Reflections from Relief Aid Mission to Kampung Kemubu, Kelantan." *Mediterranean Journal of Social Sciences* 6, no. 3 S2 (2015): 340.
- [10] Marfai, Muh Aris, Andung Bayu Sekaranom, and Philip Ward. "Community responses and adaptation strategies toward flood hazard in Jakarta, Indonesia." *Natural hazards* 75, no. 2 (2015): 1127-1144.
- [11] Dekens, Julie. Local knowledge for disaster preparedness: A literature review. International Centre for Integrated Mountain Development (ICIMOD), 2007.
- [12] Mustaffa, Che Su, Najib Ahmad Marzuki, Mohd Taib Ariffin, Nurul'Aaina Salleh, and Nur Haffiza Rahaman. "Relationship between social support, impression management and well-being among flood victims in Malaysia." *Procedia-Social and Behavioral Sciences* 155 (2014): 197-202.
- [13] Christie, Nicola, Liza Griffin, Natalie Chan, John Twigg, and Helena Titheridge. "Private needs, public responses: vulnerable people's flood-disrupted mobility." *Disaster Prevention and Management* 25, no. 2 (2016): 244-260.
- [14] Graneheim, Ulla H., and Berit Lundman. "Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness." *Nurse education today* 24, no. 2 (2004): 105-112.
- [15] Lincoln, Yvonna S., and Egon G. Guba. *Naturalistic inquiry*. Vol. 75. Sage, 1985.
- [16] Graneheim, Ulla H., and Berit Lundman. "Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness." *Nurse education today* 24, no. 2 (2004): 105-112.
- [17] Hamid, R. A., and S. M. Amin. "Social support as a moderator to work-family conflict and work-family enrichment: a review." *Journal of Advanced Review on Scientific Research* 2, no. 1 (2014): 1-18.
- [18] Rashidi, M. Nor, R. Ara Begum, M. Mokhtar, and J. J. Pereira. "The Conduct of Structured Interviews as Research Implementation Method." *Journal of Advanced Research Design* 1, no. 1 (2014): 28-34.