Flash Flood in Baling: More Questions than Answers

This paper summarises key findings by Social & Economic Research Initiative, on July 2022
Prepared by Zayana Zaikariah, Nur Sakinah Azlan and Srre Vaishnavi

In the past year, at least eight states in Malaysia have experienced severe flash floods. These occurrences are warning signs of the extreme changes the climate is experiencing, requiring swift and immediate action. Recently, the flooding in Baling, Kedah was reported to be its "worst ever" flood[1], killing gumtree individuals and causing many others to be displaced. A village in Baling known as Kampung Hangus experienced RM 550,000 in losses[2]. While there has been much speculation of human interference being the primary trigger, the Kedah government is still waiting on reports of investigations of the flood and water surge. Meanwhile, MetMalaysia predicts thunderstorms for at least another week in July.

Flooding Events in Malaysia

Flooding is a predictable annual event in Malaysia for states on the East Coast due to the monsoon seasons. However, in recent years, both rural and urban areas have endured the impact of flash floods that may be caused by extreme change in weather, poor disaster management or unreliable infrastructure. On 28 January 2022, the government of Malaysia stated in their report that the floods had devastated much of Malaysia in recent weeks, causing an estimated MYR 6.1 billion in overall losses[3]. Many Malaysians were particularly alarmed when the floods hit Kuala Lumpur and Selangor in December 2021, causing an uproar and opening conversations on adaptation and mitigation plans that should be put in place.

The unusual flooding in December 2021 was followed by multiple flash floods in 2022. In late February 2022, heavy floods impacted all eight districts of Terengganu. This was followed by a string of events across several days in March where heavy downpour caused flooding in Greater Kuala Lumpur, Melaka, Negeri Sembilan and Selangor. About two weeks later on April 25, 2022, continuous heavy rain had resulted in several locations in the Klang Valley being hit by flash floods. More recently, heavy rain caused the nearby river to rise rapidly and triggered flash floods in several low-lying villages and recreational areas in Janda Baik on May 11.

The Baling Floods

Flooding in Baling has occurred multiple times before. On March 10, 2022, there were at least 45 families affected by distressing flash floods[4] with no reported deaths. The most recent event in July however, was the worst the district witnessed due to the water column phenomenon. This phenomenon is a vertical expanse of water[5] stretching between the surface and floor of a body of water. A temporary conclusion made was similar to Gunung Jerai's incident in 2021 where water accumulation from streams gushed down as water heads.

[1] *The Star, 2022, Baling hit by 'worst ever' floods*
[2] *Nasib, Z., 2022. Heavy losses, The Star.*
[3] *International Federation of Red Cross And Red Crescent Societies, 2022, Operation Update Report Malaysia: Flash Floods*
[4] *Kamarudin, S., 2022. Baling family had a scare during flash floods, The Star*
[5] *Kamarudin, S., 2022. Baling family had a scare during flash floods, The Star*

The tragedy has caused at least 2,000 individuals to be evacuated from their homes to relief centres causing interruption to schools and other daily activities. Immediate aid amounting to RM 500,000 was also offered by the Prime Minister. The head of every household affected by the floods, received compassionate payment of RM1,000, basic necessities aid of RM2,500, and electrical appliances aid of RM500 and for house repairs[6]. While many of these assistance may help families in the short term, the government needs to examine and implement long-term solutions immediately.

The Blame Game

Plenty of speculation was brought to light regarding human action as the primary cause of the floods. While the people of Baling are accustomed to minor flooding events, the extreme changes that occurred made many curious as to the root cause of the issue.

Kedah's Menteri Besar, Datuk Seri Sanusi confirmed that the flood was the result of water accumulation at Gunung Inas resulting in a water surge phenomenon after an aerial survey was conducted by PDRM. However, this claim is refuted by an expert, Prof Emeritus Datuk Dr Ibrahim Komoo from UKM's Institut Alam Sekitar dan Pembangunan (LESTARI) who stated that debris flow - usually caused by landslides from mountain tops - is a more accurate explanation of the incident.

There is plenty of scientific evidence reported in journals, particularly from the Intergovernmental Panel on Climate Change (IPCC), on the causes and effects of climate change. Human behaviour was listed as the main cause of extreme changes we observe today. An article by The Star reported that many villagers have blamed durian plantations to be the cause of the horrendous flood[7]. It was said that the deforestation from the Musang King Project was the main source of issues villagers have faced in recent years. Observation shows that deforestation increases flood risk due to the loss of water-retention capacity[8].

There are many questions about the legality of the Musang King Durian plantation: the state's reforestation efforts and whether there is neglect on the part of the authorities. President Damien Thanam Divean of the Association for the Protection of Natural Heritage of Malaysia called the project a ticking time bomb that local NGOs have repeatedly alerted[9].

Moving Forward

SERI calls for immediate actions for those responsible. Our recommendations are:

1. Any agricultural related activities should prioritise long-term effects. In order to cultivate sustainability and ensure the growth of Malaysian agricultural business, all engaged must embrace excellent agricultural methods.

   In this case, RIMBA NGO suggested practises include prioritising the conversion of previously tended agricultural land to durian orchards over clearing native forest for durian farming, establishing new durian plantings in appropriately situated areas, avoiding pure monocrops by intercropping with other fruit trees, and incorporating low-impact and organic pest and tree management practises[10].

   Such measures will ensure the maintenance of pollinator habitat and food supplies, which will aid in the attraction of vital animal pollinators to durian farms. By preserving the survival of these vital pollinator groups, we may also ensure the long-term health and longevity of our local durian sector.

[6] *The Star. 2022. PM orders immediate aid for Baling flood victims.*
[7] *Hilmy, I., 2022. Baling folk blame huge durian project, The Star.*
[8] *Butler, R., 2022. High deforestation rates in Malaysian states hit by flooding. Mongabay Environmental News.*
[9] *The Sun Daily. 2022. Floods: Kedah needs to conduct public commission of inquiry*
Rimba. 2022. Media Statement: Deforestation for durian plantations poses serious long-term risks to industry's productivity and profitability

2. Community preparedness should be prioritised as a short-term solution. Relationships between organisations and the community should be strengthened and maintained in order to promote community readiness via continuing assistance and direction. **Governmental entities must continue to create flood preparation plans that go beyond mitigation and adaptation to include monitoring, warning, communication and distribution, and scheduled evacuations.**

3. A significant problem in controlling flood catastrophes is a lack of cooperation among authorities in carrying out the disaster management cycle. The function of The National Disaster Management Agency within the frameworks of the National Security Council must be clarified through reorganisation and legislative enforcement, and coordination concerns between district, state, and federal agencies must be sorted out through periodic exercises.

4. Malaysia needs improved infrastructure to reduce flood catastrophes and boost existing mitigation measures. The most common flood mitigation measures have been "grey infrastructure" projects, which include physical structures or human-engineered solutions such as flood control dams and reservoirs, channel alterations, floodwalls, and levees. Combining green and grey infrastructure is a tried-and-true method of improving stormwater management. Green infrastructure is a low-cost, high-resilience solution to managing wet weather impacts that makes strategic use of networks of natural lands, working landscapes, and other open places.