

MediaTitle	New Straits Times		
Date	28 Jul 2016	Language	English
Circulation	74,711	Readership	240,000
Section	Letters	Color	Full Color
Page No	19	ArticleSize	310 cm <sup>2</sup>
AdValue	RM 10,645	PR Value	RM 31,935



## FLOODS

# Adaptive solutions build resilience



Preparing for flash floods requires **collaborative efforts**.

**AS** we know, Malaysia is geographically considered a “disaster-free” region in Southeast Asia compared with our neighbours. However, Malaysia is affected by flooding, landslides, haze and other man-made disasters.

A major disaster for us is floods, which are caused by a combination of natural and human factors. Coupled with natural factors, such as heavy monsoon rainfall, intense convection rain storms, poor drainage and other local factors, floods have become a common feature here.

Flooding occurs seasonally as monsoon floods, monthly as tidal floods and frequently as flash floods in urban areas. Monsoon floods occur during the southwest monsoon from May to September and November to May. In recent times, severe floods have devastated the northern states of Kedah, Perak and Penang.

During a full moon or new moon, the sea waves coming in from the southwest or northwest can be as high as 6m. As reported, the number of flood evacuees in Kedah went up to 400 people in only two days of heavy rain, while in Penang, about 30 families are seeking temporary shelter at two flood relief centres.

Flooding can cause damage in several ways in an urban setting. Flood

impedes the transportation system, covering roads and railways. These cause disruption to commercial and domestic life. Essential services such as electricity and water supply can be disrupted.

The Johor floods of December 2006, January 2007 and January 2011 incurred losses of more than RM1.5 billion. The massive floods in Kelantan, Terengganu and Pahang in December 2014 were estimated to cost RM500 million.

Not surprisingly, such losses are often underestimated. Ideally, intangible flood damage should be included in cost-benefit analyses to reflect the actual damage.

With climate change, we should be prepared for the worst as no place is safe from nature’s wrath.

Preparing for disasters, especially flash floods, requires collaborative efforts from the citizen, local authorities, state and Federal Government. Awareness of this issue is not just the responsibility of the local authorities but all stakeholders, both in the public and private sectors.

For example, the public needs to be made more aware of warning systems and should be taught to respond to them effectively.

Warning systems are of little use if flood victims do not understand them. There should be regular cam-

paigns in the media to publicise flood awareness and preparedness.

Especially before the rainy season, the public must be warned about the dangers of floods and how to respond effectively.

Community-based approaches to disaster risk management are increasingly important. Grassroots action can provide the local knowledge and social capital needed to identify the root causes of human vulnerability and generate adaptive solutions to confront livelihood risk and enhance resilience.

Fostering resilience requires greater attention to understanding community vulnerability and building social capital to increase participation at the local level.

Malaysia needs a new way of thinking about the design, planning, building and management of essential infrastructure, including energy, mobility, water, sanitation, shelter, information, emergency response and other critical services.

A more comprehensive approach combining structural and non-structural strategies as well as incorporating traditional coping mechanisms into official mechanisms, needs to be implemented.

■ **MOHD MUZZAMMIL**,  
Universiti Utara Malaysia