



NTS ALERT

Extreme weather conditions have yet again caused prolonged wet seasons in many countries and immense damage to property and human life. This edition takes a look at the recent extreme weather incidents worldwide as well as the preventive measures, relief operations and post-flood processes that have been implemented to deal with them thus far.

Extreme Weather in “The West”

In Europe, the Netherlands and Britain experienced strong storms, which resulted in a tidal surge as high as 3 meters, along its coasts. The tidal surge struck the southern coast of the Netherlands early yesterday but did not breach the storm barrier near Rotterdam in Britain.

Prior to the storms, British authorities closed sea defence barriers, airlifted North Sea oil rig workers and evacuated thousands of people from homes. British police had even gone door to door in the eastern region of Norfolk to tell people to leave their homes as the east coast braced for severe flooding in the face of the surge coinciding in places with high tides. Fortunately,

Floods: Are We Ever Ready?

the region was spared massive flooding as tides receded after peaking about 20cm below levels that had been feared.

While the government’s flood preparations are commendable, there are fears that taxpayers in Norfolk could be asked to foot a bill of half a million pounds for the flood alert. Norfolk's councils have estimated the bill for one night’s emergency preparations - in which roads and schools were closed and hundreds of people evacuated from their homes - will run into "several hundred thousand pounds". Hence, unless British Prime Minister Gordon Brown agrees to help the region's councils and police forces cover their costs, households could face higher council tax bills.

It is interesting to note that even in a First World country such as Britain, there still seem to be financial constraints in assisting its own people. According to a report by Reuters, there were claims of people living in Norfolk's coastal communities, who would not be given government assistance for flood defences because the government has deemed them impossible to protect or save. Reports in the national media claim thousands of acres of land, including several villages such as Happisburgh and Overstrand, will go unprotected over the next 30 years, meaning families face either having to move out or risk losing their homes to floods. These claims have, however been denied by

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Charles Beardall, the East Anglia area manager at the Environment Agency, who notes that the agency is doing all it can to save as many lives as possible with its limited funding.

The region's public bodies are hoping the government will provide financial aid under Whitehall's Bellwin scheme of emergency grants. The calls for the prime minister to stick by his pledge during flood alert "that the national government stands ready to help communities with any difficulties that arise" were led by Barry Coleman, leader of Yarmouth Borough Council. According to Coleman, the cost to the borough is an estimated £150,000, which is a large sum for a small borough council on a tight budget. This therefore would provide the council with a strong case to request for government aid.

In southeastern Mexico, torrential rains since late October have caused the overflowing of seven rivers thereby causing floods and leaving 15 cities in the state of Tabasco (approximately 80% of the state's total area) inundated. Hundreds of thousands have been forced from their homes. Within two weeks, an estimated 500,000 people had their homes damaged or destroyed by the flooding. The floods have also caused blackouts and disrupted water supplies in the affected areas. Transportation has been paralysed and many victims are still awaiting rescue from their flooded homes

The state's agricultural areas have been flooded and vast numbers of cattle have drowned. Heavy rains also caused flooding in the neighboring state of Chiapas. There, rescue workers are still searching for 21 missing villagers believed buried by a huge mudslide. So far the floods have killed at least 17 people. While colds, respiratory illnesses and foot fungus have become common as a result of the flooding, doctors fear outbreaks of more serious diseases like cholera.

Japan has pledged emergency relief items worth 14 million yen to flood-affected Mexico. The relief items include 110 tents, 700 blankets, 10 power generators, 10 water purifiers, 720 jerrycans and five water tanks with capacities ranging from 3,000-4,315 litres. The humanitarian aid was sent in response to a

request from the Mexican government for international help for over 1 million people affected by the flooding. The relief supplies have been flown from Japan's overseas stockpile base in Miami to Mexico City.

Sources

The true cost of Norfolk's floods, Northwich evening news, 12 Nov 2007

Flood barriers hold against surge in Britain, Netherlands, Reuters, 10 Nov 2007

Floods devastate agricultural production in Mexico, CCTV.com, 11 Nov 2007

Japan to send tents, other emergency flood relief items to Mexico, BBC, 10 Nov 2007

Southeast Asia's Recent Flood Efforts

Indonesia

Weather-related disasters hit several regions in Sumatra, Java and Bali over the weekend, killing one man, injuring scores of others and damaging hundreds of houses. Authorities warned that more such disasters were likely.

In Bekirin village in Ponorogo, East Java, heavy rain triggered a landslide on Saturday that destroyed five houses. A villager was killed in the process when a heavy roof beam fell on his head. Strong winds in Purwokerto Kidul sub-district in Banyumas, Central Java, had also destroyed at least 21 houses. Wind were so strong that it carried pieces of corrugated iron roofs hundreds of meters. The Jakarta Post noted that according to an eyewitness account in Banyumas, the incident occurred around 1:45 p.m and seemed tornado like. He described the wind to be moving "in a circular motion... It looked like a mushroom, its head was black and its lower part was white."

In Bali, violent winds tore through the village of Ketewel in Gianyar. Twenty-two people were injured in the incident and at least 118 houses damaged. Injured residents are being treated at Gianyar Hospital. Bali Governor Dewa Made Beratha visited the village in the afternoon and promised the victims government assistance in rebuilding their homes.

Parts of Aceh and East Java were also affected by extreme weather conditions as heavy rains triggered floods in Aceh Jaya and South Aceh regencies, and in Wonosoco village in Kudus, East Java. In Aceh, the ensuing floods inundated three districts and cut off the villages of Cot Bayu and Seunebok Jaya. In Wonosoco village, the Juana river burst its banks and inundated more than 30 hectares of paddy.

Experts such as Hadi Utomo, head of the Meteorology and Geophysics station in Tegal, Central Java, suggests that the weather situation is likely to worsen. Utomo noted that the accumulation of cumulonimbus clouds over the ocean along southern Java means heavy winds and torrential rain will continue over the next few days. He warned fishermen in Java to be very vigilant for sudden weather changes and high waves. Similar to the case in Europe, Utomo said that waves as high as 3 meters are predicted, in light of the current weather situation.

The capital city Jakarta was not spared from the damage as several parts of the flood-prone Kampung Melayu and Manggarai districts in South Jakarta were under 30 centimeters of water following heavy rains. Residents of Bukit Duri subdistrict in Kampung Melayu said the level of Ciliwung River rose dramatically after hours of heavy rainfall. Dozens of houses along the riverbank were flooded.

One resident interviewed by the Jakarta Post expressed the helpless situation that arises due to the floods. "We are already used to the flood cycle. The water first rises to knee level, then subsides before it later hits our roofs and forces us to leave our homes," said Rina, whose house is inundated several times a year. Rina also noted that there was little residents could do to prepare for the annual floods and relied on help from others and the authorities for evacuation, shelter and daily meals. During major floods in February 2007, Rina and hundreds of Kampung Melayu residents were evacuated to a nearby school where volunteers ran a public kitchen to feed the evacuees. The floods, which inundated about 70 percent of the city, killed 48 people across Jakarta and forced thousands to take refuge.

The Manggarai district administration has since then drawn up contingency plans to deal with a possible repeat of February's floods. However, these plans have been hindered by a lack of proper rescue equipment such as rubber dinghies. According to Boedi Vincent, head of the Manggarai district youth organization Karang Taruna, they require at least four dinghies to efficiently cover three neighborhood units in Manggarai. At the moment, however, they only have one.

In anticipation of an outbreak of flood-related disease in Jakarta, the Indonesian Medical Association (IDI) is working to attract new volunteers to join its team. IDI chairman Fahmi Idris said that volunteers would be deployed to offer medical treatment to flood victims across the city if such a tragedy was to strike again. The association would also establish numerous health posts headed by medical professionals in badly flooded parts of the city. Common flood-related diseases to have hit the city in recent years are tetanus, leptospirosis, diarrhea, dengue fever and dermatitis. People suffering from severe forms of these conditions would require immediate medical treatment.

The team of volunteers is part of the IDI's Disaster Mitigation Committee, which was established at the end of 2006 to help people directly affected by disasters. During the February 2007 floods in Jakarta, the committee set up 10 posts across the city, which were manned by a team of 30 doctors working in shifts.

In addition to medical treatment, the association would also provide food, and clothing. The IDI will also work to provide clean water – a vital element in ensuring proper sanitation and stemming the spread of diseases – to flood victims through its partnership with the Bandung Institute of Technology's Indonesian Research Affiliation Institute and the Public Works Ministry.

The association's Disaster Mitigation Committee is also currently mapping out areas vulnerable to floods, enhancing partnerships with other





institutions and organizations, expanding its networks and conducting familiarization activities about its programs. It has 363 branch offices throughout the country, which have had started recruiting volunteers. It is hoped some 3,000 people would be recruited, with both medical and non-medical backgrounds. The volunteers would receive training in East Kalimantan in December 2007 and be sent to any area of the country hit by a disaster in the future.

Dangers in Floodwaters

While the effects of floods have often been associated with damages to property, loss in sources of livelihoods and poor sanitation and spread of diseases, floods – as we have seen in Southeast Asia – also pose another problem. Crocodiles on the loose in flooded areas of Malaysia and Vietnam pose a threat to communities. This has slowed down residents' ability to repair their property in areas which remain submerged under floodwaters. According to a resident in Kelantan, Malaysia, "With the crocodiles around, we are dicing with danger every time we take a deep swim to repair the houses."

In Vietnam, a number of crocodiles have escaped from a farm in Vietnam's central Khanh Hoa province after their cages were damaged by flash floods. An identified number of big and small crocodiles in nearly 40 cages in the farm raised by local corporation Khanh Viet have been on the loose after the two floods damaged the cage. The farm houses some 5,000 crocodiles, including around 500 parent ones but director of Khanh Viet General Company (Khatoco) Nguyen Van Phong said it was impossible to calculate how many of the animals had escaped despite receding flood water. Most of the freed reptiles are now living in a nearby lake.

Fortunately, authorities have mobilised local soldiers, militiamen to assist Khatoco staff and residents in hunting down the escaped crocodiles. So far a total of 29 crocodiles, including nine adult ones have been shot dead or caught alive. They are still searching for the reptiles on the loose. Local people have been warned not to go swimming in rivers and streams near the farm. The company has also been requested by the province's people's committee to move its crocodile farm to a new location to ensure safety and to protect the environment.

Sources

Heavy rains, floods claim more lives in Khanh Hoa Province, *Vietnam News*, 12 November 2007
Crocs add to worries, 10 November 2007, *New Straits Times*
Domestic Crocodiles on the Loose in C Vietnam, *Xinhua News*, 12 November 2007

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Bad weather hits regions in Java, Sumatra and Bali, *The Jakarta Post*, 12 November 2007
Heavy rain puts two S. Jakarta districts under water, *The Jakarta Post*, 12 Nov 2007
Medical association prepares for floods, *The Jakarta Post*, 10 November 2007

Malaysia

In preparation for floods, the Malaysian government has stepped up its preventive measures and relief capabilities for flood victims. In the Malaysian state of Kelantan, residents have been alerted to be prepared for more destruction from floods. In addition to the increased frequency of extreme weather conditions, the floods are exacerbated by the fact that the Kelantan River (Sungai Kelantan) is currently shallower than before due to land clearing activities at the nearby Lojing Highlands. According to Natural Resources and Environment Ministry parliamentary secretary Datuk Sazmi Miah, logging being carried out in the highlands results in soil and silt being washed down into the river. This therefore, could cause riverbanks to burst and the water flowing faster, thus inundating surrounding areas.

Lessons Learnt

Measures have also been taken in the eastern Malaysian state of Sarawak. Nearly 500 boats are on standby for fast evacuation of any flood victims as Sarawak gears up for the rainy season. According to Deputy Chief Minister Tan Sri Dr George Chan Hong Nam, the state has prepared various types of boats that could reach flood victims faster. Dr Chan, also state disaster relief committee chairman, noted that the purchase of boats was based on past flood experiences in 2003. In addition to boats, 1,050 four-wheel drive vehicles and heavy trucks as well as 10 jetskis were ready for deployment.

Dr Chan said 486 evacuation centres, including 185 schools, had been identified, and that the Welfare Department had registered 161 shops which had promised to supply food and daily essentials to flood victims.

The number of evacuation centres has also been increased. According to Deputy Prime Minister Datuk Seri Najib Razak, a total of 4,565 evacuation centres with a capacity for 1,230,290 flood evacuees have been identified across the country. This is an increase of 532 centres since 2006, which allows for an additional capacity of 174,585 people. Speaking after chairing a meeting of the cabinet committee on the management of disasters, Najib noted that the added preventive measure did not involve any costs, as public infrastructure such as schools and multi-purpose halls were identified for use in the event of floods. The Malaysian state of Kelantan has the highest number of centres (869) followed by Pahang (625), Selangor (493) and Johor (482).

In addition to this, a central depot for equipment, such as rescue boats, diving gear and water pumps, has been set up at the armed forces store in Sungai Buloh, Selangor. Early warning systems had been activated and were operational. The government integrated radio network (GIRN), a communication facility to be used by rescue personnel during disasters, was also being tested.

Members of the public and private companies wishing to donate to victims in kind have also been told to liaise with the state's Welfare Departments for better co-ordination and distribution of aid. This would be important to avoid past mistakes. During the 2006 floods in Johor, the donations were sent directly to victims at evacuation centres. This, however, caused dissatisfaction to other flood victims in other parts of Malaysia who did not receive the aid.

Measures have also been taken to create Malaysia's most sophisticated flood mitigation system in the state of Johor, costing more than a billion ringgit (RM), within 10 years. This comes after the intense flooding in the state in December 2006 to January 2007, which amounted to RM1 billion in damages to public infrastructure and losses of about RM3 billion in terms of belongings, livestock and property.

Drainage and Irrigation Department director-general Datuk Keizrul Abdullah said the project

would be completed in three phases. The first phase – a short-term solution to remove sedimentation that had collected in the rivers that were flooded in December 2006 and January 2007 and repairing damaged infrastructure – costing RM250 million, is nearing completion. The second phase is a mid-term solution to effectively mitigate future floods, which involves a master plan to systematically widen and deepen Johor's six main rivers. Budgeted at RM 840 million, the second phase is scheduled to be completed within five years. The third phase is a long-term solution which is still being drafted.

Sources

Kelantan folk told to prepare for floods, *The Star (Malaysia)*, 3 November 2007

More flood relief centres, *New Straits Times*, 3 November 2007

RM1b system to check floods, *New Straits Times*, 10 November 2007

Sarawak ready for rainy season, *The Star (Malaysia)*, 8 November 2007

Vietnam

In Vietnam, heavy rains over several days have caused water level of rivers from the Thua Thien-Hue and Binh Dinh provinces to rise above the third warning level, higher than the peak level of the 1999 floods. The current floods have killed seven people and left two missing in the central region. The disaster has also submerged 46,500 homes and damaged a number of road sections and many public works. Since early October, the death toll from floods in the province has reached 21. Losses in property are estimated at VND19bil.

It has also affected transportation systems. The Viet Nam National Railway Corporation noted that north-south railway is at a standstill as many sections in Thua Thien-Hue and Quang Nam provinces and Da Nang city have been submerged, leaving more than 4,000 passengers on 10 trains stranded. The deluge also stopped traffic along many routes in Kon Tum Province. Dangerous landslides occurred in the Violak mountain pass of the National Highway 24 pertaining to area between Kon Tum Province





and Quang Ngai Province. Drivers are being warned of the risk of large rocks falling onto the road. Flood water has also severed telecommunications between communes in Kon Plong District.

Prime Minister Nguyen Tan Dung has ordered ministries, branches and local administrations to take measures to mitigate damages caused by floods. Particular agencies involved include the Central Steering Board for Flood and Storm Control, the National Committee for Search and Rescue and localities to mobilise all forces and resources to evacuate people from flooded and landslide-ravaged areas. He also asked for prompt measures to prevent hunger and epidemics.

Army units have taken part in the rescue work and evacuating people from flood-prone areas. Border forces in Quang Nam , Da Nang , Thua Thien-Hue and Quang Ngai provinces have sent 858 soldiers and 25 ships to rescue flood victims. They have assisted in evacuation exercise by

moving 1,000 households with a total of nearly 4,320 people in Cam Kim commune to safe places in Hoi An township (Quang Nam province).

Sources

Heavy rains, floods claim more lives in Khanh Hoa Province, *Vietnam News*, 12 November 2007
 Prime Minister orders measures to control floods, 12 November 2007, *Vietnam News Agency Bulletin*
 Rescue work in central flood-ravaged areas, *Vietnam News Agency Bulletin*, 12 November 2007

Thailand

Heavy rainfall and flooding in Thailand has caused seven districts of the Nakhon Si Thammarat region to be declared disaster zones after one resident drowned and some 100 schools closed. According to Pensri Kaewkumpai, head of the Provincial Office of Disaster Prevention and Mitigation, an estimate of 31,700 residents

New Dam in China to Alleviate Flood Woes

A new upcoming hydropower plant in China, the second largest of its type in China after the world's largest concrete dam at Three Gorges, is likely to be an answer to alleviating the increasing occurrence of floods in the country. The planned Xiluodu Hydropower Plant will improve China's ability in harnessing the Yangtze River in times of heavy rainfall. China has begun damming the Jinsha River, the biggest tributary to the Yangtze in preparation for the Xiluodu plant, which is expected to open in 2015.

According to Fan Qixiang, vice president of China's Three Gorges Project Corp., (CTGPC), which is also the builder of the Xiluodu project, the completion of the Three Gorges Dam in Yichang, Hubei Province, in 2006 has provided 22.15bn cubic meters in maximum flood holding capacity to safeguard only the middle and lower reaches of the Yangtze. The Xiluodu project would therefore cover the 1,030-km upper portion of the river (in Chuanjiang) which is still vulnerable to flood disasters. Xiluodu, located upriver of Chuanjiang, has a designed reservoir capacity of 12.67bn cubic meters, of which 4.65bn cubic meters are for flood control. The reservoir can dam one-third of floods to the Three Gorges in Yichang, which is 770 km away from Xiluodu.

According to research from the Yangtze Water Resources Commission, a simultaneous flood-control effort by the dams of Xiluodu and the Three Gorges could instantly prevent 4bn cubic meters of flood surge from inundating the densely-populated plains in the middle and lower reaches of the Yangtze, where China's economic powerhouses like Shanghai, Nanjing, and Wuhan are located.

The CTGPC said the Three Gorges project contained 6.8bn cubic meters of floodwater in total this summer, when the world's largest dam was first used to control a flood crest. The results have been positive. With the dam, water levels downstream in Shashi, Hubei Province have fallen from a peak of 42.97 meters to 42.69 meters within hours, avoiding the danger of water rising over the 43-meter danger mark. Hence, the Xiluodu project is likely to further improve China's safety nets for its socio-economic security.

Source

Xiluodu Hydropower Plant To Ease Three Gorges Dam's Pressure in Flood Control, *Xinhua News*, 8 November 2007

Existing Dam Threatens Human Security

While dams have been a significant tool for mitigating the effects of climate change and providing alternative energy sources, they could also be a source of socio-economic insecurity. A coalition of 175 environmental groups, known as Terra (Towards Ecological Recovery and Regional Alliance), has warned that the dams, set to come up on the lower part of the Mekong, will displace up to 75,000 people and threaten the food security of millions more. The Bangkok-based coalition has thus called on international donors to review their support for the Mekong River Commission (MRC), which is overseeing six dam projects on the vital waterway. The MRC's donors include the World Bank, the United States, Japan, Australia and many European governments.

The coalition notes that the MRC - which comprises Cambodia, Laos, Thailand and Vietnam - has, since its creation in 1995, failed to carry out adequate environmental impact assessments or consult those people affected by the dams. Terra also wants the donors to pressure the MRC to make sure people are compensated for any loss of livelihood. Around 60 million people in six countries - Cambodia, China, Laos, Myanmar, Thailand and Vietnam - depend directly or indirectly on the Mekong River basin's resources. The six dam projects will together generate 9,645MW of electricity, much of which will be bought by Thailand.

However, one of the proposed dams - the Sambor dam in Cambodia's Kratie province - will block a critical migratory passage for fish moving upstream from the giant Tonle Sap lake. This will affect the Cambodian fisheries industry, which provides roughly 12 per cent of the country's gross domestic product (GDP). The environmentalists further noted that dams across the upper reaches of the Mekong in China have already triggered a 50 per cent drop in the fish catch downstream in Thailand's Chiang Rai province, forcing many fishermen to seek jobs in the cities. This view has been challenged by MRC chief executive officer Oliver Cogels in late 2006, who expressed that the downstream effects of dams in China was often exaggerated. Moreover, the dams play a significant role in alleviating the problem of scarce water resources during the dry season.

Nonetheless, information regarding the dam projects has not effectively been channelled down to people at the grassroots level. According to Ms Pianporn Deetes of the Living Rivers Siam organisation who visited dam-affected areas, she noted that the public had not been informed about the dams or been allowed to participate meaningfully in any decision-making processes. Professor Surichai Wungaeo, director of Chulalongkorn University's Social Research Institute and a member of Thailand's National Legislative Assembly, thus notes that the MRC 'needs to be more responsive to civil society voices' as they are, ultimately, at the receiving end of governmental policies.

Source

Mekong dams 'will displace 75,000 people', *The Straits Times*, 15 November 2007

from more than 10,100 households have been affected by the floods. Overall damage from the floods was estimated at 15 million baht. Authorities have taken preventive measures by building embankments to prevent flooding in the municipality and local officials continue to monitor the situation closely and dispatch immediately provincial disaster workers when needed.

Heavy rainfall and flooding have also been a blow to Thailand's tourism sector as many tourist

areas were affected. The resort island of Koh Samui was declared a disaster zone after torrential rains pelted and flooding across the popular Gulf of Thailand tourist destination and left many key locations and roadways awash or otherwise inaccessible. Damages to roads and public utilities amounted to about 100 million baht. More than 1,000 tourists were left stranded at Samui airport as flights were grounded on the first day of heavy rainfall.





Fortunately, water levels in some areas have receded and local authorities have made a concerted effort to dredge drains around the island and pump floodwater out of the affected areas. Retailers on the island have already resumed business and foreign tourists have begun roaming the island's entertainment areas again. However, heavy rains still continue to flood some parts of Koh Samui and this is further aggravated by forest run-off and high tides. As such local government officials face difficulty in draining water into the sea due to the immense volume of water involved.

Other parts of Southern Thailand have also been put on alert as a low pressure cell covering lower southern Thailand was continuing to cause widespread heavy rainfall. Residents of Chumphon, Surat Thani, Phatthalung, Songkhla, Nakhon Si Thammarat, Pattani, Yala, Phang Nga, Phuket and Krabi have thus been advised to brace for torrential rainfall and floods.

Sources

Floods hit Nakhon Si Thammarat, *The Nation (Thailand)*, 11 November 2007

Flooding on Samui takes a heavy toll; Mayor says B100m in damage to island, *Bangkok Post*, 11 November 2007

Thailand: Flights resume at Samui airport; rains continue, *Thai News Service*, 12 November 2007

Breaking News in Bangladesh

Barely 2 months since the recent wave of floods, Bangladesh has yet again been put on high alert. On the evening of 14 November 2007, the Bangladesh Meteorological Department issued a bulletin putting the low-lying country's three major maritime ports — Chittagong, Mongla and Cox's Bazar — on the highest alert.

Volunteers have helped evacuate thousands of people from Bangladesh's southern coast and the government warned ships to seek shelter as a cyclone roared offshore.

The cyclone was in the Bay of Bengal, about 420 miles south-southwest of Cox's Bazar, with winds of up to 134 mph. The southern seaside resort town of Cox's Bazar appeared deserted after the warning was issued, with rough seas.

Bangladesh, a South Asian nation crisscrossed by river deltas, routinely suffers large-scale loss of life and property from cyclones and floods. In September 2007, more than half a million people being forced out of their homes by 2 flood spells.

Source

Cyclone Prompts Bangladesh Evacuations, *Associated Press*, 15 November 2007

S Asia flood devastation worsens, *BBC News*, 11 September 2007

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