



NTS ALERT

Wild Wet Weather

In the past 2 months, Nature has displayed its violent wrath in various parts of the world. In Asia, climate change coupled with the La Nina effect has left a trail of devastation for many innocent and poor lives. This edition takes a look at several countries that have been badly hit by the extreme weather conditions.

Flooding in South Asia

Just when there seemed to be some respite from the extreme rainfall in mid 2007, South Asia has had to bear more rounds of heavy rainfall throughout the month of August.

The death toll from two weeks of heavy rains, in late August 2007, across South Asia rose sharply as rescuers reached remote submerged villages in northern India amid a respite in the annual monsoon. The rains across much of northern India, Bangladesh and Nepal have flooded rivers and submerged villages and farmlands, killing at least 521 people and stranding some 19 million more.

According to the Indian government, the death toll from floods triggered by heavy monsoon rains and snow melt in South Asia since June 2007 approached 3,200 as some rivers in India continued to overflow. Though the rains have abated, dozens of villages and much farmland remain under water and without electricity. Many communities have thus been evacuated to higher ground, such as the estimated 22,000 flood victims in the Indian state of Gujarat.

In this edition

-  Flooding in South Asia
-  Rice Gets Pricey
-  Flooding in Northeast Asia
-  When Development Can Turn Disastrous
-  Flooding in Southeast Asia

In the massive flood plains of the *eastern Indian state of Bihar*, one of the worst-hit areas, the death toll reached nearly 500 with 20 million people affected. According to government sources, more than 800,000 people have been housed in government shelters and thousands of boats were being used to rescue people. Moreover, within the last two weeks of August, 29 people were reported dead from rain-related causes, according to the state's disaster management committee. Another 16 deaths were reported in *northern Indian state of Uttar Pradesh*, where nearly 2,300 villages remain submerged.

In *India's northeastern state of Assam*, fresh flooding in late August brought misery to another 100,000 people who were displaced after their houses were inundated. Traffic on a main highway in the state's Barpeta district was stopped and people evacuated after two children drowned overnight in the area. According to Bhumidhar Burman, Assam's relief and rehabilitation minister, water flowing down the rivers from Bhutan had caused the flashfloods thus further aggravated the flood situation.

At least five people drowned overnight in separate areas of the state and several streets in the capital city of *Kolkata* were still flooded. A resident remarked that "filthy water" had seeped into their water pipes and thus caused the floods.

In *Nepal*, more than 21,500 families, or around 127,000 people, have been displaced by floods and



landslides, while at least 26,500 houses have been damaged or destroyed.

In **Bangladesh**, the death toll from flood-related incidents rose to 728. The Information Ministry further noted that 16 million people of around 2.3 million families in 39 out of the country's 64 districts have been hit by the flooding since late July. Of the affected people, over 23,357 took refuge in 90 shelters.

The floods had also caused damage to an estimated 1 million houses and 8,000 educational institutions. In addition to this, crops on over 1.54 million acres (about 622,000 hectares) and some 28,000 km of roads were completely or partially damaged by swirling floodwaters.

The causes for the deaths throughout South Asia were more than just drowning. Other causes include electrocution, collapsed houses and snake bites. The death toll is predicted to soar even higher if vital medicines and clean water is not delivered promptly to the victims. With flood waters receding and thousands of villagers returning to their homes, aid workers have rushed food, clean drinking water and medicine to flood-hit areas to ward off an epidemic.

International aid agencies have warned that stagnant waters left by the floods are a lethal breeding ground for germs causing diarrhea, waterborne diseases, and various skin diseases, with children, who make up 40 per cent of South Asia's population, particularly susceptible. In Uttar Pradesh, an estimated 1,000 people have been treated for cholera and gastroenteritis. Thousands were suffering from water-borne diseases in the neighbouring state of Bihar, where widespread flooding has claimed 321 lives so far.

In Bangladesh, health workers have been struggling to contain diarrhoeal attacks, which had so far infected about 61,000 people. The International Centre for Diarrhoeal Diseases and Research, Dhaka is said to receive about 1000 diarrhoea cases every day. From 30 July to 16 August, Bangladesh has reported 61 403 cases of acute diarrhoea from flood-affected districts of the country, but only fifteen deaths.

Rice Gets Pricey

Aside from health insecurity, food security has also taken a beating. In Bangladesh, basic cereal prices had risen by up to of 22 percent overtime in August 2007. In line with international commodity prices and rising fuel costs, food prices in Bangladesh are already prohibitively high. The floods - some of the worst in recent years - have only serve to exacerbate the situation.

The local Daily Star newspaper noted that the international price for the best quality rice had risen from US\$260 per metric tonne [mt] in 2005 to \$340 in 2007, while wheat had risen from \$160 to \$245 per mt over the same period of time. This surge in food prices has alarmed many, including the UN World Food Programme (WFP), which noted that opportunities for replanting once waters have receded would be limited as the sowing period of the main cereal season normally ends in July in India and Bangladesh and by mid-August in Nepal.

In addition to this, the World Bank, in a preliminary assessment entitled, Bangladesh Floods 2007: Preliminary Impact Assessment, noted that an already high inflation rate of 9.2 percent in June 2007, could accelerate in the following months. The average price of rice in Dhaka had been between 0.25 to 0.28 US cents a kilo. Presently, however, it costs 40 cents or more. This is, therefore, potentially destabilizing for a country like Bangladesh, where rice is a critical determinant of household food security and has had several incidents of riots and protests as a result of (for instance) shortage of electricity and lack of government accountability. Recent riots in late August 2007 against the country's current interim government broke out at Dhaka University, resulting in curfews in six different cities.

Continued on page 3...

With effective treatment for diarrhoea and dehydration in place, the main cause of concern is the spread of infection. The number of people infected could potentially skyrocket as the inundated areas are densely populated. While the recent monsoon flood waters have affected about 20-22% of Bangladesh--far less than the area affected in 1988, 1998 and 2004, the number of people affected is much larger. According to government estimates over five million out of a population of 140 million

in Bangladesh are affected by the recent monsoon floods.

What has been done?

The World Food Program (WFP) and UNICEF have been distributing emergency food supplies to thousands of people in Bangladesh and Nepal. India however has not requested any aid.

In Bangladesh, the WFP has also continued to monitor the number of people still living in shelters, as well as those who took refuge along river embankments and are likely to stay there until flood waters recede further. Currently over one million people are receiving food assistance through WFP, the government and the non-governmental organisation community - a response that will likely need to be continued until the end of the year.

...Continued from page 2

Fortunately, the government has taken a number of measures: In a bid to rein in potential price hikes during the upcoming holy month of Ramadan, the authorities will sell rice at 27 US cents per kilo through the country's Open Market Sale (OMS) scheme. Initiated whenever a potential food crisis is perceived in which prices can rise rapidly, a person can buy 3kgs of rice at a time from OMS outlets. To feed the OMS plan, the government will buy 118,000mt of rice at 29 US cents a kg and supply it to 15,000 dealers at 26 US cents, providing a three cents subsidy for each kg. Of the government's 683,000mt of rice and wheat reserves reported at the end of July, 15,000 has already been allocated or dispatched to the flood-affected areas.

Food prices in the flood-affected areas could still rise further, as suppliers struggle to get their products to market, with trucks which normally take three hours to make a delivery now taking 12, resulting in additional transport costs. This is dependent on the extent to which crops have been affected, which can only be determined after the Aman rice harvest expected later this year. Initial estimates in the local media suggest that the country's agricultural sector has suffered losses of between US\$80 to \$100 million.

Source

Bangladesh : Flood Victims face rising food prices, Reuters, 29 Aug 2007

As part of that, WFP is providing food assistance to 822,000 people, comprised primarily of 20 kilos of rice per family. WFP officials note however that there may be a need to extend the programme for another four months given the loss of livelihoods, crops and livestock in the flood-affected areas. By extending the programme, food security will be provided for the flood victims thus giving them sufficient time and a safety net to rebuild their lives effectively.

In Nepal, the International Federation of Red Cross and Red Crescent Societies launched an appeal for US\$1.7 million to help those affected by flooding in south of the country.

The Food and Agriculture Organization (FAO) of the UN has assured its cooperation in fighting cattle diseases by providing vaccines while the UN Population Fund (UNFPA) is working in flood affected areas to ensure the health of expectant mothers

The WHO is also doing its part by raising awareness of the proper use of water purification tablets and the crucial need for personal hygiene to avert diarrhoea. Health education is being conducted in the local language. WHO is also concerned about the scarcity of safe drinking water. Drinking water sources remain contaminated even in areas where floods have started to recede.

Other members of the international community have also chipped in to assist the region. The Singapore government, for instance, has donated US\$80,000 for relief operations in flood-stricken areas in India, Pakistan, Bangladesh and Nepal. Thailand has provided financial assistance of US\$ 20,000 for the flood victims in Nepal.

Bangladesh has so far received commitments of 5 billion taka (about US \$71.4 million) from foreign countries. Saudi Arabia tops the list of donors by providing relief good worth US \$50 million via bilateral contacts and coordination.

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US\$20,000 Thai Aid for flood victims, *Kantipur Online*, 24 Aug 2007

Flooding in Northeast Asia

The reclusive communist state of **North Korea** has reported about 300 people dead or missing after torrential rain earlier this month, 300,000 homeless and 11 percent of the grain harvest - equivalent to 450,000 tonnes - lost. Severe damage to infrastructure, including waterways, reservoirs, agricultural structures bridges, railways electrical sub-stations, water pumps and tidewater dykes have been reported. Some villages still remain inaccessible due to the damaged roads and bridges.

Deforestation has been blamed for the frequent flooding, which has caused a great deal of destruction to crops. Ironically, the hillsides were cleared to make way to grow more crops. This has only further worsened the food scarcity situation in the country. North Korea faced a food shortfall this year of one million tonnes, or 20 percent of its needs, even before the floods hit. It suffered famine in the mid to late 1990s which killed hundreds of thousands.

Fortunately, North Korea has made an urgent appeal to the international community to deal with the disaster. The World Food Programme (WFP), the United Nations food relief agency, has announced a three-month programme to feed 215,000 flood victims in North Korea. WFP noted that the North Korean government had authorised it to start distribution in 37 counties across six provinces, with deliveries to begin immediately.

The WFP appealed for international help to meet the five to six million dollar cost of the emergency flood

aid, to avoid having to cut back on its existing programme which feeds children and expectant and nursing mothers.

The WFP said visits by its own assessment teams to 11 counties in two provinces have confirmed the extent of the losses there, adding that more visits would be made. It has reported diarrhoea outbreaks among children lacking clean water. Other UN agencies have said half the main health centres have been submerged and the situation could worsen unless aid arrives rapidly.

In addition to the flood aid, an existing programme feeds 700,000 children and mothers. A recent 19.5 million dollar donation from South Korea to the WFP means the existing programme can be extended to 1.9 million people.

At least 12 nations have offered or begun to provide flood aid, the United Nations has said. The International Federation of Red Cross and Red Crescent Societies Monday launched a global appeal for 5.5 million dollars.

In 2005, Pyongyang asked the world body to focus on development aid rather than emergency relief, prompting OCHA's departure from the country. Other agencies like the WFP and UNICEF remained in North Korea. According to UNICEF spokeswoman Veronique Taveau, UNICEF is poised to distribute emergency health supplies for some 520,000 people in North Korea. World Health Organisation said it too had been approached for help.

In **China**, floods have affected at least one in 10 residents and killed 1,138 in the country this year. Southern China had been especially vulnerable with heavy rains destroying homes and sections of highways around the city of Zhaotong in Yunnan province. Schools, mines and factories were also damaged. In some areas, rainfall was as high as 15 cm, thereby making water levels of the four rivers flowing through the city dangerously high. The resulting floods and landslides have also killed several people while others have been reported missing. Flooding is a perennial woe for southern China, and claims hundreds of lives each year.

Nonetheless, better prevention and relief procedures have helped reduce loss of life and property. Minister of Water Resources Chen Lei noted that improved flood defense facilities, timely evacuation of people and early warnings have been able to cut the death toll in 2007 by nearly half compared with the same period of an average year.

In June and July 2007, the Huaihe River, the country's third longest, suffered the worst flooding since 1954. But losses were significantly lower thanks to floodwater diversion and a new batch of river-harnessing projects, which started in 2003 and will be completed this year at a cost of 44.6 billion

yuan (\$5.9 billion).

Mr Chen, however, commented that while the country was better prepared to contain flooding of its major rivers, it was not effectively prepared for flash floods in smaller tributaries and severe urban rainstorms. The country still faces an uphill battle against floods and droughts in the months to come, partly because of extreme weather and damaged infrastructure. He also noted that September and October 2007 would be highly challenging as it would be likely that China be faced with more typhoons and more rainfall in the tributaries of the Yangtze and Yellow rivers, the two longest rivers in

When Development Can Turn Disastrous

A joint study* by Care Earth, a non-governmental organisation, Loyola College and the Department of Physical Geography, University of Freiburg, Germany, noted that Pallikaranai, (a town in the Southern Indian State of Tamil Nadu) and its surrounding areas will suffer from devastating floods in the future if there is no sustainable planning of natural water run-off. According to the study, the analysis of meteorological data combined with the extended main water body clearly showed that the flood risk in and around the marshland was due to man-made changes in the area.

Marshland was cited as an important retention area for heavy rainfall during the monsoon season. However the loss of these natural habitats would not only reduce the area's ability to withstand extreme weather conditions but also aggravate the frequency and intensity of floods.

The socio-economic analysis of risk perceptions and management strategies underlined the inter-related reasons for floods, which were due to economic globalisation, labour migration and rapid urbanisation. The pressure on cities and their planning authorities grew with its inhabitants. As such, this increasing demand for developing areas led to the ecological destruction of the marshland

Garbage dumping, both legal and illegal, was also seen to be a hazard. Garbage had initially been used to fill up upper parts of marshland so as to create new land for settlements or industries. This assumption however was wrong as the process of decomposition from the garbage would produce gases such as methane for at least the next 20 years. The effects of this would be detrimental to both the safety of inhabitants and environment as methane is not only highly flammable but also a greenhouse gas that contributes to further global warming.

Rapid urbanization also made the management of public goods and infrastructure more tedious. Canals were dysfunctional, storm water drains were not cleaned regularly and water bodies were not efficiently maintained. Such lack of maintenance of these public facilities would only increase the intensity and magnitude of a crisis.

In addition increased urbanization, illegal encroachment into natural habitats caused further environmental degradation. The study noted that the northern area of marshland had constructions of buildings that totally violated governmental norms and rules. This thus resulted in the collapse of the natural drainage system in the marshlands, thus reducing the regions ability to cope with heavy rainfall.

**The team that took up the study included Prof. Dr. Axel Drescher, Prof. Dr. Rudiger Glaser, Dr. Constanze Pfeiffer, Dr. Jayshree Vencatesan, Dr. Ranjit Daniels, Dr. Paul Dostal, Dr. S. Vincent, March Lechner, Elke Schliermann-Kraus and Stephanie Glaser.*

Source

Pallikaranai vulnerable to devastating floods: study, *The Hindu*, 25 Aug 2007





the country.

It is therefore important to further fortify its defences such as repairing water-control facilities, such as reservoirs, that had been damaged in recent floods. In fact, 37,000 of the 85,000 reservoirs require maintenance. This is due to the fact that many of these reservoirs had been built in between the 1950s and 1970s, thus have inherent design defects or are poorly maintained. It is therefore vital to ensure that these reservoirs are repaired so that they can effectively be used for ensuring flood control, water supply and irrigation in the event of further extreme weather conditions. The central and local Chinese governments have thus planned to budget 51 billion yuan (\$6.7 billion) to reinforce or eliminate the dangers to 6,200 large and important reservoirs in three years.

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Flooding in Southeast Asia

In late August 2007, **Thailand's** southern provinces of Surat Thani and Phang Nga and upper central province of Phitsanulok were hit by sudden flooding. About 800 houses and 4,000 acres of farmland in Surat Thani's Phanom district, have been flooded with damages estimated at more than Bt30 million, thereby declaring the area a disaster zone.

Although the water levels have receded in Phang Nga, more than 10 schools remained closed. Seven bridges and 80 minor roads were damaged, while over 5,400 local residents have been affected by the flood and 18,400 acres of farmland are inundated. The main highway connecting Surat Thani and Phang Nga remains covered by one metre deep of floodwater, thus forcing motorists to use a secondary road instead.

More than 50 military personnel from the Armed Forces Development Command have assisted villagers in relief and recovery operations. Mobile medical staff have visited flood victims to protect

them from waterborne illnesses after the flood water receded.

In the upper central province of Phitsanulok, forest run-off from the Phuhinrongkla mountain range had flowed into some areas in Nakhonthai district. No homes were destroyed but local residents in low-lying areas along the river have been warned of impending floods as more rainfall had been forecasted by a local weather centre.

Flash floods had also struck five villages in Thailand's northern province of Lampang, triggering at least one local landslide closing a road. Floodwaters have since then receded, while highway workers have been clearing a provincial road blocked by a landslide.

Local disaster prevention and mitigation chief Sanlek Kamjai noted that forest run-off from the Wiengkosai National Park in Prae rapidly flowed into mountain streams and caused sudden flooding in five villages downstream in Lampang's Maetha district. A landslide of topsoil, rocks and forest cover slipped down the mountainside, blocking some portions of the Lampang-Denchai highway, but the roadway remained passable.

The Maetha district chief said that he would talk to national park officials to maintain surveillance of possible floods to warn local residents in advance. The local authorities will also inspect reservoirs and waterways in the national park to determine the cause of the flood, which occurred without apparent warning.

In **Indonesia**, floods and landslides on the island of Sulawesi in late July 2007, had left thousands of people stranded and even hampered relief operations in the remote area where about 85 people have died and nearly 8,000 people displaced from their homes submerged by landslides and floods up to three metres deep.

According to Mr. Sutrisno, head of emergency aid at the national disaster relief co-ordination agency, Indonesian helicopters dropped 20 tonnes of food and medicines (enough to last for three days) to thousands of people stranded on Sulawesi island by floods and landslides. The breakdown in communication and infrastructure due to the

disasters, has greatly impeded relief operations. Damaged roads have hampered the transportation of heavy machinery and equipment, without which has slowed down relief workers ability to rescue victims or pull out bodies from the disaster areas. The only limited possible means of carrying out relief operations has thus been by air. Syamsul Ma'arif, head of the disaster relief co-ordination agency, said air and sea transportation was able to reach people in remote areas thanks to good weather. Delays, however, had to be made for refueling.

Similar to North Korea, deforestation has been a contributing factor to the frequent occurrence of landslides in Indonesia. Experts note that deforestation in Indonesia has increased the impact and magnitude of flash floods and mudslides. With trees gone heavy rains pour down unobstructed - penetrating and dislodging soil which results in massive landslides.

Torrential rains on the Indonesian island of Sulawesi have wreaked havoc in low-lying farmlands. The rising waters are displacing people and animals alike, with many affected areas remaining out of help's reach. Over 1,000 displaced livestock face disease and starvation, which if not dealt with, may result in outbreak of infectious diseases.

To assist in animal relief operations, the International Fund for Animal Welfare (IFAW) has mobilized an Emergency Relief team to the island and will collaborate with local group the Center for Animal Rescue and Education (CARE). The IFAW/CARE staff will conduct vaccination and de-

worming campaigns and will provide food and vitamins to cattle and other farm animals in Sulawesi's Toili region.

The floods have also crippled the island's economy by destroying its prized cash crops.. Indonesia is the world's third largest producer of cocoa beans and Central Sulawesi is one of Indonesia's key cocoa growing areas.

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