

**Managing Double Trouble:  
Indonesia's Earthquakes and the Philippines' Typhoons**  
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The string of disasters to hit the Asia-Pacific region in September and October have not only caused a great deal of alarm on the increasing frequency of disasters, but also raised questions and even comparisons on the level of preparedness of these countries in mitigating the effects of the disasters. This presentation will hone in on the recent earthquakes and typhoons that have struck Indonesia and the Philippines respectively, and highlight how the increasing frequency of these disasters has posed a challenge to national disaster preparedness and capacity. The final section will discuss the prospects of regional efforts in supporting national disaster preparedness.

### **The Disasters**

Typhoon Ketsana, which hit the Philippines on 24<sup>th</sup> September, is said to have caused the worst floods in more than 40 years, with a death toll rising to at least 250, and displacing more than 500,000 people – particularly in the National Capital region and Central Luzon. Shortly after, the country was hit by another typhoon – Typhoon Parma (Pepeng). Tropical Storm Parma largely affected northern Luzon Island, bringing heavy rains to a larger area than meteorologists initially anticipated. According to the Philippines' National Disaster Coordination Council (NDCC), the two storms have affected more than 7.4 million people, leaving 712 individuals dead, more than 300,000 people displaced in shelters, and more than 137,000 houses damaged or destroyed.<sup>1</sup> In the case of Typhoon Parma, landslides in Luzon were the primary cause of death.

In Indonesia, several earthquakes have occurred in various provinces such as Maluku, West Papua, Sumatra and Java in September and October.<sup>2</sup> While most have been of relatively low intensity, 2 incidents in particular stand out as intense earthquakes: an earthquake of 7.2-magnitude in West Java Province on 2<sup>nd</sup> Sept, and another measuring 7.6 on the Richter scale in Padang, Sumatra on 30<sup>th</sup> September. Though the latter incident was said to be the more intense of the two, the former earthquake was followed by approximately 22 aftershocks.<sup>3</sup>

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<sup>1</sup> Statistics as of October 14.

<sup>2</sup> See North Maluku jolted by 5.7 earthquake, *Antara News*, 18 Oct 2009; North Sulawesi rocked by magnitude-5.0 Earthquake, *Antara News*, 12 Oct 2009; Indonesia hit by 5.8-magnitude earthquake, *United Press International*, 23 Oct 2009

<sup>3</sup> CWS emergency appeal: 2009 Indonesia (West Java) earthquake, Reuters and Alertnet, 9 Oct 2009, Available from: <http://www.alertnet.org/thenews/fromthefield/284081/125509651577.htm>

## **Insecurities arising from the disasters**

The disasters have without a doubt reduced the availability and access to food and water resources. In Padang, local authorities noted that only 20 percent of its population has access to clean water and it would take at least six months for the network to become functional again. According to UNICEF's Andrea Oess, leader for the Water, Sanitation and Hygiene (WASH) group, this is further exacerbated by the lack of funds available to cover the costs of providing fuel for water trucks to transport the clean water to Padang and Pariaman.<sup>4</sup> The situation is worse for villages in remote areas, as local markets are no longer accessible for some communities while their food stocks steadily deplete.

In the Philippines, agricultural damage wrought by Ondoy and Pepeng amounted to P23.5 billion pesos (US\$496 million) and has reduced the National Food Authority's buffer stock of rice from a 90-day to 60-day reserve.<sup>5</sup> In addition to this, news reports of food aid shortages and the lack of sanitation facilities in overcrowded shelters have led to a great deal of anger and frustration within the local population towards perceived government inefficiency. The tough conditions in these temporary shelters has only exacerbated the problem with some flood victims refusing to evacuate from their homes with rescue workers as they would rather take the risk and remain behind to protect their property from looters.

As the Philippines government struggles to provide for the victims still living in water logged areas, reports have recently risen on the outbreak of Leptospirosis – a disease caused by swallowing or absorbing contaminated water through cuts in the skin. The infection is commonly transmitted in floodwaters tainted by the urine of rats and other animals.<sup>6</sup> Such developments only serve to complicate relief operations by raising costs and fatalities.

The disasters have also wiped out sources of income generation, primarily in the agricultural and business sector. In West Sumatra, 50 per cent of revenues come from tourism, as much of the economic and commercial life centres around the hospitality industry<sup>7</sup>, while many retail shop owners in Manila have lost their goods which have been damaged by the floods. Disasters have also meant that education is put on hold, as initial data on damaged schools in Sumatra that 241 schools are severely damaged; 175 moderately; 87 slightly. In the case of the Philippines, many schools that have not been damaged continue to function as shelters for victims who have lost their homes.

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<sup>4</sup> Clean water running out for Sumatra earthquake survivors, *Reuters Alertnet*, 27 Oct 2009

<sup>5</sup> Typhoon-Stricken Philippines Fights Disease, Faces Another Storm, *Environment News service*, 27 October 2009, Available from <http://www.ens-newswire.com/ens/oct2009/2009-10-27-01.asp>

<sup>6</sup> Leptospirosis cases hit 2,046, *Philippine Daily Inquirer*, 24 October 2009

<sup>7</sup> Padang: earthquake strikes economy, putting 200,000 jobs at risk, Mathias Hariyadi, *AsiaNews.it*, 21 Oct 2009

## Depressing news, yet nothing new

While the extent of these disasters is alarming, this is not uncommon in the region. Moreover, several studies have demonstrated the vulnerabilities of these areas and are thereby a clear signal to governments to fortify their disaster preparedness capabilities. According to Mr Jerry Velasquez, senior regional coordinator of the UN International Strategy for Disaster Reduction (UNISDR) agency - who cited findings from a January 2009 study funded by Canada and Sweden - the Philippines scored the highest amongst ASEAN countries on the study's multiple climate hazard index. In addition, Philippines cities that were most affected by Typhoon Ketsana and Parma, were also cited as the most vulnerable provinces or districts in Southeast Asia, with the National Capital region ranked as 7<sup>th</sup>, the Cordilleras 27<sup>th</sup> and Central Luzon 30<sup>th</sup>.<sup>8</sup>

Geologists have also noted that Indonesia's West Sumatran province is likely to experience more earthquakes with stronger magnitudes in the next 30 years. Prof Kerry Sieh from the Earth Observatory in Singapore, estimates that the magnitude of future earthquakes would reach around 8.8 on the Richter scale.<sup>9</sup> The damage from these earthquakes would certainly be a liability for other disasters in Indonesia, particularly those stemming from climate change. According to the Indonesian National Coordinating Board for Disaster Management, in 2003 to 2005 alone, climate/hydrological-related disasters accounted for 1,429 cases or 53.3 percent of the total number of disasters that occurred in Indonesia.<sup>10</sup>

Given these circumstances, disaster preparedness must go beyond emergency relief and incorporate long term aspects. Failure to address this early would only cause further strains on national capacities in dealing with the increasing high frequency of disasters, which serve to feed into a vicious cycle of poverty and economic insecurity. The recent disasters in Indonesia and Philippines have demonstrated how the increasing costs of relief, rehabilitation and reconstruction are far beyond the existing means of governments. Appeals made by the UN for the recent events have so far not been sufficiently met. Of the \$38.1million and \$74 million was appealed for the Sumatra earthquake and Philippines' typhoons respectively, only \$7 million and less than a third has been raised for these respective humanitarian emergencies.<sup>11</sup> It is therefore imperative for Governments to strengthen their own capacities so as to reduce their reliance on international aid, make the best use of local resources and ultimately reduce the insecurities amongst its people.

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<sup>8</sup> Tubeza, P. UN on RP disasters: Worst yet to come, *Philippine Daily Inquirer*, 28 Oct 2009

<sup>9</sup> More quakes to occur in Indonesia's West Sumatra in 30 years: expert, *Xinhua News*, 16 October 2009

<sup>10</sup> Fitriani Ardiansyah and Nazir Foead, The new Cabinet and its new climate challenge, *The Jakarta Post*, 20 October 2009

<sup>11</sup> Misery for 1.5 mln a month after Philippine storms, AFP, 27 October 2009

## **Are governments prepared?**

Given the frequent occurrence of disasters in the region, such suggestions on improving disaster preparedness are, for the most part, nothing new. That said, how prepared have the Indonesian and Philippines governments been in addressing these disasters? In assessing government's preparedness, we will use the following criteria: infrastructure resilience, community resilience, review of past relief efforts, and mainstreaming of disaster risk reduction into national and local development and climate adaptation policies. Many disaster preparedness initiatives and responses created established (at the very least in theory) would fall under these broad categories.

### *Infrastructure resilience*

Infrastructure resilience largely refers to improving urban and rural planning, and fortifying infrastructure that can withstand the effects of disasters. While the Indonesian authorities have been commended for their efficient response to the earthquakes, there is still the need to apply stricter rules regarding building codes and increase supervision in meeting these standards. This is because poor construction has often been responsible for the increased death toll in disasters. In the case of floods, there is a need to improve drainage facilities in both urban and rural settings. Several victims in Manila continue to live in flooded areas with very low levels of hygiene, which resulted in the outbreak of Leptospirosis. The Philippines has, in fact, been aware of the need for infrastructure resilience since the 1970s. According to a World Bank financed study entitled the MetroPlan report, several areas in Metro Manila were identified to be excluded from development until problems of sewage disposal and flooding were addressed; and which recommended two infrastructure flood-mitigating projects – the Manggahan Floodway and Parañaque Spillway. However, due to what seems to be a combination of bureaucratic indifference to in the project and the lack of institutional memory as a result of changes in government, only the former was built.<sup>12</sup>

### *Community resilience*

Sustaining a resilient community is also vital in times of crisis, to reduce the likelihood of panic and chaos. This would include increased awareness of disasters, education and training for early warning and early action. While not something new, it would seem that the Philippines has faltered in this aspect during Typhoon Ketsana, given the lack of cooperation between victims and government aid workers. This was evident by the refusal of some victims to evacuate to overcrowded shelters and would rather risk protecting their property.

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<sup>12</sup> Collas-Monsod, Solita, Why we've sunk deeper than Burma, 29 October 2009, Business World, Available from: <http://beta.bworldonline.com/main/content.php?id=504>

Community resilience can also be enhanced by improving the coordination and channeling of resources between central and local governments. In the case of Indonesia, while it has made some improvements, particularly at central level, there still remains criticism on preparations, warning systems, and responses at regional and community level. For instance, each of Indonesia's 32 provinces is meant to have regional disaster management agencies but so far only 18 provinces have managed to set these up.

In the case of the Philippines, the disjuncture between President Arroyo's claims of preparedness in previous years and the slow relief support given to victims, is a reflection that disaster preparedness is still mainly on paper and has yet to translate into efficient channeling of resources to local governments. Furthermore, in an interview with Al-Jazeera, a member of the Philippines' National Disaster Coordinating Council also admitted that the authorities were inadequately prepared to respond to several affected provinces all at the same time. Thus, the assumption that annual floods would only affect a few provinces occasionally has strained limited resources, especially at the local government level.

There are nevertheless gradual improvements being made. Typhoon Ketsana has in fact galvanized calls for better legislation, such as the Disaster Risk Reduction and Management (DRRM) bill to place more emphasis on community preparedness and education on disasters.<sup>13</sup> In terms of effectively informing communities, Mapcentral, together with abs-cbnNEWS.com, is working on a hazard map that could be updated in real time. The map, which will show crucial information on hazards and factors that affect the vulnerability of communities to certain disasters, can be used by local governments and communities to plan their responses when natural hazards strike. In addition, data from rain gauges can also be sent in electronically via SMS to show the amount of rainfall certain areas are getting. Geologist Emmanuel Ramos, one of the co-founders of Mapcentral, said that the system is currently used to help the NDCC and the Philippine Red Cross in tracking personnel involved in disaster relief efforts.<sup>14</sup>

At the time of writing this paper, a third typhoon (Typhoon Lupit) is expected to hit the Philippines' and pre-emptive evacuation has been carried out in the area. According to World Vision spokeswoman Minnie Portales, local governments have become more proactive after the tragic devastation wrought by Typhoon Ketsana. There are also other efforts to further improve the warning system.

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<sup>13</sup> Guingona seeks 'culture of preparedness' developed, *Manila Times*, 3 October 2009, Available from: <http://www.manilatimes.net/index.php/component/content/article/86-special-reports/3272-guingona-seeks-culture-of-preparedness-developed>

<sup>14</sup> Technology's role in disaster mitigation cited, Maria Althea Teves, abs-cbnNEWS.com, 27 Oct 2009

### Review of past relief efforts.

There is some evidence that Indonesia has learned from its past disasters, primarily the 2004 tsunami in Aceh. For one, there have been several legal and institutional changes. In 2007, Indonesia issued Law No.24 on Disaster Management which sets the legal framework for the coordination of disaster management efforts, the management of related funds, as well as the involvement of international agencies and NGOs. Indonesia then established the National Agency for Disaster Management (Badan Nasional Penanggulangan Bencana or BNPB) in 2008, which was to revamp its former agency and provide it with a new mandate that extends beyond coordinating emergency relief efforts to encompass all phases of pre-disaster prevention and preparedness and post-disaster recovery.

Secondly, efficient coordination and collaboration between local, national and international actors is vital. Indonesia's new legislative and institutional changes have contributed to this. Although not without hardships, disaster relief in Indonesia has progressed well and the National Disaster Management Agency (BNPB) has indicated that it may move into its rehabilitation and reconstruction phase before 1<sup>st</sup> November. This phase will last about six months, with a two year projection to rehabilitate all damaged facilities.<sup>15</sup> It has also been noted that the taskforce established for rehabilitation and reconstruction efforts will be modeled along the lines of what was done in Aceh in 2004. In further understanding the concerns of the local population, the process will also involve community leaders to determine the extent of the damage of the houses.<sup>16</sup> As learnt from the Aceh experience, the local communities and organizations play a critical role as they are the first line of disaster relief before international aid arrives. Moreover their knowledge of the local terrain would mean they have a better sense of the situation and therefore highlight the various nuances in the disaster that require attention.

### Mainstreaming of disaster risk reduction into national and local development and climate change policies.

An extension of infrastructure resilience, disaster risk reduction should relate to a complex combination of poor urban planning, development inequalities, deforestation, environmental degradation and climate change. This aspect would perhaps be one that has been given the least affirmative action in many parts of developing Southeast Asia. Much of this is due to the difficulties in streamlining development interests with disaster reduction and climate adaptation policies. According to a UNISDR global assessment report on disaster risk reduction, three factors were cited as the "deadly trio" that worsen the impact of natural disasters: poor urban government, unstable rural livelihood and ecosystem decline. This is

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<sup>15</sup> Indonesia: Earthquake Situation Report No. 14, United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 13 Oct 2009, Available from: <http://www.reliefweb.int/rw/rwb.nsf/db900SID/EDIS-7WSKEP>

<sup>16</sup> News focus: Govt to form task force for West Sumatra, Antara News, 27 Oct 2009

clearly the case in cities such as Manila and Jakarta, where rural to urban migration have resulted in the creation of slums – many of which are situated in areas highly vulnerable to disasters.

Moreover, in a bid to ensure energy security for their developing economies while adhering to global calls carbon emissions mitigation, plans to build sources of renewable/alternative energy may ignore possible implications on the environment and communities living around it. For instance, hydro-electric dams can effect the flow of water downstream, and thereby exacerbate existing effects of climate change, while building a nuclear power plant in an area highly vulnerable to earthquakes would be potentially catastrophic.

### **Prospects of a regional response to disasters**

Disaster management has been tabled as an important area of collaboration in the ASEAN region, particularly so after the 2004 Tsunami that hit Aceh and Phuket. The ASEAN Agreement on Disaster Management and Emergency Response (AADMER) was signed by ASEAN Foreign Ministers on 26 July 2005 in Vientiane and was a means of building on the 'Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters' – adopted at the World Conference on Disaster Reduction in January 2005. AADMER seeks to provide effective mechanisms to achieve substantial reduction of disaster losses in lives and in the social, economic and environmental assets of ASEAN Member Countries for sustainable development. An ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management will be the focal point for the implementation of AADMER.

Although AADMER only enters into force in December 2009, several activities have been carried out to strengthen existing initiatives on disaster management. For instance, the ASEAN Regional Programme on Disaster Management (ARPD), which provides a framework for cooperation for the period of 2004-2010. While the ARPD consists of 29 activities, which are categorised into five major components. 5 primary activities to spearhead the process :-

- Establishment of the ASEAN Response Action Plan
- Refresher Courses/ Expertise Development
- ASEAN Disaster Information Sharing and Communication Network (ASEAN DISCNet)
- Partnerships with Relevant Organisations and NGOs; and Mobilising Financial Support and Resources
- ASEAN Day for Disaster Management; and Enhancing Disaster Management Public Education and Awareness Programmes

Other capacity building initiatives include the ASEAN-UN/ISDR Technical Cooperation for the Implementation of the HFA in ASEAN which aims to provide technical expertise to ASEAN in the implementation of disaster risk reduction

components of AADMER and ARPDM along the lines of the HFA and address any emerging gaps in existing activities. This initiative would indeed see much cooperation with the ISDR Education and Training Institute for Urban Risk Reduction in South Korea. The Institute is Asia's first urban risk reduction training and education facility and will act as a facilitator for building capacity on urban risk reduction issues including sharing science technologies and data on climate related hazards. The Institute will also train regional government officials and NGO practitioners, thus increasing technical skills and cooperation across the urban development remit.<sup>17</sup>

Joint exercises are also of critical importance such as the ASEAN Regional Disaster Emergency Response Simulation Exercise (ARDEX) to enhance the capacities and capabilities of member states in joint disaster management operations. The fourth ARDEX in 2008 was notable as it sought to draw upon lessons learnt from the mobilisation of the ASEAN Emergency Rapid Assessment Team (ASEAN-ERAT) after Cyclone Nargis in Myanmar and the Post-Nargis Joint Assessment. The deployment of ASEAN-ERAT to Myanmar, under the ASEAN Standby Arrangements and Standard Operating Procedure (SASOP) for disaster emergency response operations, was the first-ever experience for ASEAN. Following this, the most recent joint exercise held to date was in May 2009 under the broader ASEAN Regional Forum (ARF) umbrella. Ironically, this ARF Voluntary Demonstration of Response on Disaster Relief was held in Central Luzon – an area which was later greatly affected by Typhoon Ketsana.

## **Conclusion**

While it may be easy to simply blame governments for their ineffective response, credit must be given where its due. Media reports do not always paint a fair picture of the situation, as blood and gore often makes sexier headlines rather than gradual peace and progress. While governments may have been prepared to their best of their abilities and current capacities, it is unfortunate that they falter in keeping up with the increasing intensity of the disasters.

Judging from these trends, however, we could suggest that Indonesia has fared relatively better than the Philippines in the recent disasters. The devastation from the 2004 Aceh tsunami has indeed left an impression on Indonesians for more effective planning and coordination for future disasters. It is hoped that Typhoon Ketsana would be the trigger for a more galvanized and concerted effort in addressing weather related disasters in the Philippines.

However, it is nevertheless critical to underscore significance in acknowledging the science behind these disasters and thereby furthering better multi-sectoral

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<sup>17</sup> Asia's first urban risk reduction training and education facility opens in Republic of Korea, UN International Strategy for Disaster Reduction, 11 Aug 2009, Available from: <http://www.unisdr.org/news/v.php?id=10749>

collaboration and coordination. This is important not only to prepare for more intense disasters but also in addressing the long-standing issue of bureaucratic short-sightedness and apathy, which fails to effectively address the root causes of the disasters and opts for reactionary responses that are simpler and oftentimes more economical. Investing in short term tangible measures tend to be more attractive to bureaucrats rather than long-term complex initiatives that take time to reap their benefits. As such, the challenge for Southeast Asian countries is greater institutionalization of long-term and holistic approaches, with bureaucratic conviction and community support for seeing the process through.