

Mainstreaming disaster risk management in local governments

Gilberto M. Llanto

*Calamity is the perfect glass wherein
we truly see and know ourselves.*

Sir William D'Avenant

Discourse on disaster risk reduction and management has begun to occupy center stage in the policy space. The wide devastation wrought by an intensity 9 earthquake in northeastern Japan followed by a destructive tsunami brought home the importance of a country's state of preparedness in dealing with natural and man-made disasters, and the presence of a functional disaster risk reduction and management system in the country.

The Philippines' geographical location makes it a disaster-prone country. It lies on the western rim of the Pacific and along the circum-Pacific seismic belt, subjecting it to

storms, typhoons, earthquakes, floods, volcanic eruptions, droughts, and other natural hazards. At least 60 percent of the total land area of the country is exposed to multiple hazards and as a result, 74 percent of its population is vulnerable. With 268 recorded disaster events over the last three decades, the Philippines ranks 8th, according to World Bank's Natural Disaster Hotspot list of countries most exposed to multiple hazards. And as Israel (2010) notes in a previous PIDS *Policy Notes*,¹ the country, not surprisingly, has the highest multiple climate hazard index in the Southeast Asian region. Almost 30 percent of the disasters that

¹ D. Israel (2010), Weather and climate-related disasters: the cost of inaction, PIDS Policy Notes 2010-12 (Makati City: Philippine Institute for Development Studies).

PIDS Policy Notes are observations/analyses written by PIDS researchers on certain policy issues. The treatise is holistic in approach and aims to provide useful inputs for decisionmaking.

The author is Senior Research Fellow at the Institute. The views expressed are those of the author and do not necessarily reflect those of PIDS or any of the study's sponsors.

occurred in Southeast Asia for the period 1990–2009 occurred in the Philippines, with typhoons being the most frequent and damaging of all. The average annual damage caused by disasters amounts to PHP 19.7 billion in the past two decades, equivalent to an average of 0.5 percent of gross domestic product (GDP) each year. In addition, agricultural damage is estimated at PHP 12 billion per annum, and an average of 1,008 people are killed annually by natural disasters. The Philippines is also expected to experience a substantial rise in sea levels, making 70 percent of the 1,500 municipalities located along the coast vulnerable to this phenomenon.²

The damage wrought by natural disasters on persons and property runs into billions of pesos, and the effects unfortunately fall more on the poor and vulnerable, and on areas which have lagged behind in growth and development.

It is fortunate that local officials are aware of the problem and are enthused to build local capacities for disaster risk reduction and management. Because disasters and climate change effects are ultimately local in occurrence and impact, this *Policy Notes* indicates what local governments should do to build local capacity in disaster risk reduction and management.

² Global Facility for Disaster Reduction and Recovery, Philippines: Disaster Risk Profile, <http://gfdrr.org/ctrydrnotes/Philippines.pdf>.

Recent developments

On May 27, 2010, President Benigno S. Aquino signed Republic Act 10121 (or the Philippine Disaster Risk Reduction and Management Act of 2010) in recognition of the critical need to have the appropriate policy and institutional framework in dealing with the climate change phenomenon and natural disasters.

The government is enjoined under the law to “adopt a disaster risk reduction and management approach that is holistic, comprehensive, integrated, and proactive in lessening the socioeconomic and environmental impacts of disasters, including climate change, and promote the involvement and participation of all sectors and all stakeholders concerned at all levels, especially the local community.”

The law calls for the development of policies and plans and implementation of identified measures such as risk assessment, early warning, knowledge building among government personnel, local people and other stakeholders, and the design of risk reduction measures and appropriate action for early recovery and rehabilitation of affected people and areas. The importance of this law cannot be overemphasized as estimates of damage wrought by disasters such as typhoons and flash floods even in just one year could prove to be ruinous as seen in the numbers in Table 1.

What should local governments do?

As shown in Table 1, local communities take the brunt of the effects of disasters. As such,

it is imperative that these communities and their governments are prepared and capable of addressing and managing the risks attendant to these disasters.

In this regard, local governments would do well to take the following steps:

Build awareness. Local governments should build awareness of the perils and risks of natural disasters and the effects of climate change, which will help establish greater

consciousness and conviction of the importance of disaster preparedness on the part of local people. This is very critical because one often hears of local people being very reluctant to leave their places of residence despite the impending peril brought about by flooding or volcanic eruption. Local people cling to their properties at the risk of their losing lives. This makes disaster management difficult for local governments.

Integrate into local planning and budgeting. Local governments should integrate disaster risk reduction and management into local development plans and budgets. The law allows local governments to allocate 5 percent of their estimated revenues from regular sources to their Local Calamity Fund

Table 1. Damage wrought by typhoons and flash floods in selected local areas, 2009–2010

Typhoon/ Flooding Incident	Number of Persons Affected	Municipalities, Cities, Provinces Affected	Estimated Damage
Ondoy ¹ Pepeng ²	337,216 3,136,965	Combined Ondoy and Pepeng: 30 provinces, 7 regions	Combined Ondoy and Pepeng: PHP 29.38 billion ³
Flooding and landslides in Regions XI, XII, ARMM (July-August 2009) ⁴	505,102	369 barangays in 44 municipalities in 2 cities and 8 provinces	Damage to infrastructure and agriculture: PHP 1.122 billion
Flash flood in Oriental Mindoro (Jan. 2010) ⁵	20,480	55 barangays in 2 municipalities	Damage to infrastructure: PHP 3.7 million
Flash flood in Caraga (Jan 2010) ⁶	48,176	47 barangays in 9 municipalities and 4 provinces	Infrastructure in Agusan del Sur and Dinagat Island: PHP 5.4 million

¹ Situation Report on Typhoon Ondoy, National Disaster Coordinating Council (NDCC) Update, September 27, 2009.

² Situation Report No. 27, on Typhoon Pepeng, NDCC Update, October 14, 2009.

³ Situation Report no. 52 on Tropical Storms Ondoy and Pepeng, NDCC Update, January 23, 2009.

⁴ Situation Report No. 10, Effects of Flooding and Landslides, August 19, 2009.

⁵ Progress Report on Flash Flood Incident in Mindoro Oriental, January 21, 2010.

⁶ Progress Report on Flash Flood Incident in Caraga, January 20, 2010.

to take care of post-disaster relief, rehabilitation, reconstruction, and mitigation services. However, the attitude toward disasters should shift from post-disaster relief, rehabilitation, reconstruction, and mitigation services to making the appropriate investment in staff expertise, equipment, and facilities for an effective disaster management.

Establish effective implementation plans. Many local governments face constraints not only in integrating disaster risk management in local plans and budgets but also in implementing those plans. They need to develop their managerial and technical capacity in disaster management and to have the necessary equipment and facilities. There must be

strong coordination among the national government, local governments, and the private sector in ensuring effective local implementation of disaster risk reduction and management.

Develop database, monitoring, and early warning system. Local governments should also develop an early warning system that is grounded on hazard and vulnerability assessments and an updated database of disasters in their respective areas. Together with the development of an early warning system is the need to establish a system for recording and monitoring natural or man-made disasters. For example, producing hazard and vulnerability maps of the locality and disseminating the information to local people will surely help in generating awareness and drilling into people's mind the need for a concerted effort by the people, the local government, and other stakeholders when faced with natural or man-made disasters.


Conduct local drills and exercises. Local governments should engage key stakeholders such as civic groups, local associations, schools, and others into conducting drills for local people on how to prepare for and respond to disasters, and move to pre-designated areas of safety. Harnessing the support of local media and other means of information will be critical in building local capacity to deal with disasters.

³ The large-scale devastation was brought about by the tsunami that followed the earthquake.

Enforce regulations and standards. The country is not wanting in good laws and the right regulations but enforcement is poor. At the local level, local governments can improve their disaster risk reduction and management strategies by strongly enforcing regulations such as the National Building Code, easement regulations along riverbanks and coastlines, and environmental compliance certificates. Weak and poor enforcement of regulations will magnify the impact of disasters. In contrast, strong enforcement of the building code and standards by Japan paid well in terms of minimal damage to persons and property after the intensity 9 earthquake struck on March 11, 2011.³

Upgrade local infrastructure investments. Local governments should start to review and incorporate the potential impact of natural disasters on local infrastructure investment plans, design, and construction. For example, making local bridges, roads, and other facilities such as school classrooms, local houses, and other establishments more typhoon-resistant will reduce or minimize damage to persons, property, and local infrastructure.

Showing it can be done

The province of Albay's disaster risk and management strategy and implementation is an excellent example of an effective local government approach to disaster risk reduction and management. Box 1 summarizes the specific measures adopted and implemented by the province's local chief executive, Governor Joey Salceda. 

Box 1. Institutionalizing disaster preparedness and mitigation in the province of Albay

Located in Luzon's eastern seaboard, Albay is among the provinces that are often battered by typhoons. It is a disaster-prone province. Each year, roughly 198,000 houses are threatened with destruction from storm surges and at least 350,000 people need to be evacuated. Tsunamis threaten another 300,000 of the population. Three cities and five municipalities are under threat from Mt. Mayon's volcanic eruptions that occur from time to time. Mudslides and floods affect an estimated 127 villages or around 12,000 families.

The provincial government and the people of Albay cooperated in establishing the Albay Public Safety and Emergency Management Office (APSEMO) in 1995 as a permanent mechanism for preparing and responding to various types of disasters. It is currently a functional and permanent office in the provincial government, which focuses on disaster risk management activities.

APSEMO pursued a community-based disaster risk management approach. The communities were involved in: (a) planning activities essential in disaster management before, during, and after an emergency; (b) formulating early warning markers; and (c) disseminating alarm information and advisories for disaster avoidance.

Community members have their assigned roles while designated pick-up points have been identified to make evacuation more organized. Armed with proper information and equipped with early warning devices and tools, the communities know when to undertake preemptive evacuation. The communities also conduct quarterly drills and exercises, which resulted in zero casualties from typhoons and volcanic eruptions for the first five years. Barangay Disaster Coordinating Councils, with the help of the evacuees, manage evacuation centers.

APSEMO identified communities and areas that are prone to disasters through risk mapping, determined safe areas, and drew up comprehensive land use plans. The program entailed the relocation of 10,076 households in eight resettlement sites. Since communities are involved in the planning and implementation of the program, the families willingly rendered labor as their counterpart in the construction of their relocation homes.

APSEMO has conducted several "peer to peer" replication and inception workshops in the provinces of Sorsogon, Sarangani, and Pampanga, which are keen in creating a similar office in their respective provinces. The participating LGUs learn about the actual operation and implementation of the programs and gain a better understanding of the importance of strengthening collaborations between disaster coordinating councils, support institutions, non-government organizations (NGOs), and the communities.

APSEMO has also been working with the Asian Disaster Preparedness Center and the European Commission in the creation of disaster management offices at the municipal level in Albay. The municipalities of Camalig, Daraga, and Oas were selected as pilot areas and are now in the process of creating their respective disaster management office. Today, the people of Albay are well ahead in guaranteeing climate-proofed and disaster-prepared communities.

Source: Galing Pook, 2008 Galing Pook Award Souvenir Program, http://www.galingpook.org/download/ggpsouvenir/2008_Galing_Pook_Souvenir_Program.pdf.

Discussion Papers released in 2010

- DP 2010-01 Trends in Household Vulnerability
- DP 2010-02 How Are Government Hospitals Performing? A Study of Resource Management in DOH-retained Hospitals
- DP 2010-03 Do Barangays Really Matter in Local Services Delivery? Some Issues and Policy Options
- DP 2010-04 The Impact of the Global Financial Crisis on Poverty in the Philippines
- DP 2010-05 Scenarios and Options for Productivity Growth in Philippine Agriculture: An Application of the Agricultural Multimarket Model for Policy Evaluation (AMPLE)
- DP 2010-06 A New Model for Constructing Poverty Lines
- DP 2010-07 Determinants of Locating R&D Activity in the Philippines: Policy Implications
- DP 2010-08 Spatial Stochastic Frontier Models
- DP 2010-09 The Cost of Redistributive Land Reform in the Philippines: Assessment of PD 27 and RA 6657 (CARL)
- DP 2010-10 LGU Access to Official Development Assistance (ODA): Status, Issues, and Concerns
- DP 2010-11 The 2008 Financial Crisis and Potential Output in Asia: Impact and Policy Implications
- DP 2010-12 Prospects for Regional Cooperation between Latin America and the Caribbean Region and the Asia and Pacific Region: Perspective from East Asia
- DP 2010-14 Innovations in Financing Food Security
- DP 2010-15 The Philippines' Absorptive Capacity for Foreign Aid
- DP 2010-16 Computing Additive Chained Volume Measures of GDP Subaggregates
- DP 2010-17 Development of Regional Production and Logistic Networks in East Asia: the Case of the Philippines
- DP 2010-18 Who Provides Good Quality Prenatal Care in the Philippines?
- DP 2010-19 Japan-Philippines Economic Partnership Agreement (JPEPA): Toward a Framework for Regional Economic Integration
- DP 2010-20 Achieving the ASEAN Economic Community 2015: Challenges for the Philippines
- DP 2010-21 Globalization and Glocalization: Experiences in the Local Philippine Context
- DP 2010-22 e-Government Initiatives of Four Philippine Cities
- DP 2010-23 The Role of the Private Sector in Regional Economic Integration: a View from the Philippines
- DP 2010-24 ERIA Study to Further Improve the ASEAN Economic Community Scorecard: the Philippines
- DP 2010-25 Improving the Financial Management of Local Economic Enterprises
- DP 2010-26 Are We Winning the Fight against Poverty? An Assessment of the Poverty Situation in the Philippines
- DP 2010-27 Assessing the Spillover Effects of FDI to the Philippines
- DP 2010-28 Factors Motivating Participation of Persons with Disability in the Philippines: The Discount Privilege in Goods and Services
- DP 2010-29 Employment Choices of Persons with Disability (PWDs) in Metro Manila
- DP 2010-30 Chronic and Transient Poverty
- DP 2010-31 Integrating SMEs into the East Asian Region: Philippines
- DP 2010-32 Does Trade Protection Improve Firm Productivity? Evidence from Philippine Micro Data
- DP 2010-33 Linking Poverty and the Environment: Evidence from Slums in Philippine Cities
- DP 2010-34 Financing the MDGs and Inclusive Growth in the Time of Fiscal Consolidation
- DP 2010-35 National Industrialization in Philippine Mining: Review and Suggestions
- DP 2010-36 Benefit Incidence of Public Spending on Health in the Philippines

The Discussion Papers can be downloaded from <http://publication.pids.gov.ph/>.

For further information, please contact

The Research Information Staff
 Philippine Institute for Development Studies
 NEDA sa Makati Building, 106 Amorsolo Street, Legaspi Village, 1229 Makati City
 Telephone Nos: (63-2) 894-2584 and 893-5705
 Fax Nos: (63-2) 893-9589 and 816-1091
 E-mail: gllanto@mail.pids.gov.ph; jluguton@mail.pids.gov.ph

The *Policy Notes* series is available online at <http://www.pids.gov.ph>. Reentered as second class mail at the Business Mail Service Office under Permit No. PS-570-04 NCR. Valid until December 31, 2011.

PN 2011-05

Policy Notes