

# Philippines

NATURAL DISASTER REDUCTION:  
NATIONAL RESPONSE AND INTERNATIONAL COOPERATION  
BY DR. MELGABAL CAPISTRANO

## CONTENTS

### INTRODUCTION [\\*](#)

1. Philippine Exposure to Natural Disasters [\\*](#)
2. The Philippine Response towards Disasters Reduction [\\*](#)
  - 2.1. Institutional Infrastructure for Disaster management [\\*](#)
  - 2.2. Legal Framework for Disaster Prevention and Response [\\*](#)
  2. 3. The National Disaster Management Program [\\*](#)
  - 2.4. Response to Disaster by the Civil Society [\\*](#)
  - 2.5. Current Efforts [\\*](#)
3. Review of Current Cooperation in Disaster Reduction among Asian Countries [\\*](#)
4. Prospects for Further International Cooperation [\\*](#)

## INTRODUCTION

This is the report of the Philippines to the 1999 Regional Disaster Conference. The information presented here follows the format requested by the conference organizers. It starts with a short background on the Philippines natural disaster situation. The next section tackles the Philippines national response to disaster reduction. Section 3 reviews the Philippines experience in international cooperation, with particular emphasis on Asian cooperation, in the field of natural disaster reduction. The report ends with prospects and recommendations for improved international cooperation.

The Philippine country report makes three key points. First, national disaster response is fundamentally adequate. Second, international cooperation in disaster reduction is an important element in strengthening national response. Third, further international cooperation can contribute substantially in further reducing the damage wrought by natural disasters.

## 1. Philippine Exposure to Natural Disasters

The Pacific Rim is not only a community of the fastest growing and most dynamic nations in the world. It is also the area exposed to a wide range of natural disaster. The Philippines archipelago, located near the western edge of the Pacific Ocean, is in the direct path of seasonal typhoons and monsoon rains which bring floods, storms, storm surges, and their attendant landslides and other forms of devastation. The Philippines also sits on the "ring of fire" where the continental plates collide and thus experience periodic earthquakes and volcanic eruptions. The Philippine exposure to natural disasters may be characterized as frequent, varied, and severe; a combination which has made the country particularly attentive to disaster reduction.

Data shows an upturn of disasters as the decade of the 90's loomed. Impact of which exact tremendous toll on lives and properties, notwithstanding rollback gains in the economy out of proportion. Coinciding with the inception year of the IDNDR, the Philippines was hit by a 7.8 magnitude earthquake on July 15, 1990 killing 1,283 people and leaving three (3) cities in Luzon: Cabanatuan City, Dagupan City and Baguio City devastated at about P12.2 Billion estimated damages. In the same year, eight (8) strong typhoons hit the county, claiming 670 lives but registered at P12.8 Billion high in damages.

Not to be outdone, 1991 was the year when Mount Pinatubo erupted after 400 years of slumber where 850 people died. Dubbed as a disaster of global magnitude, it altered climatic conditions worldwide, and continues to reconfigure the terrain and landscape of the central plain of Luzon through the flows of lahar (Lahar I, II and III) brought about by the eruption. The geological changes caused by this volcanic eruption continues to bring disasters I Central Luzon with every rainy season. Cities of Olongapo and Angeles, where Clark Air Base and Subic Bay economic zones situated were greatly affected. On the other hand, though the smaller in damages amounting to P1 Billion, the tragic Ormoc City flashfloods left 5,101 people dead. So short a time, and with thin forest cover to serve as breakers, rain water brought about by tropical storm "Uring" gushed downstream, washed out and drown city folks into the sea.

Destructive typhoon, crossed the country, thirteen (13) in 1993 with 794 people dead and estimated P20 Billion damages. Again, in 1995, nine (9) of them killed 1,204 and destroyed P15 Billion worth of damages. Floods and landslides have also hit the country. In 1995, floods and landslides affected the islands of Mindanao and Negros.

The recent destructive natural phenomena that afflicted the Philippines 1998, is the impact of the El Niño Phenomenon. Around 985,000 families have suffered from starvation due to the severe lack of water affecting mostly farmers which subsequently reduced their income unable to purchase food at the household level in critical areas.

In the first half of the 90's, natural disasters have hit the country with destructive force. This recent experience has made the Philippines society and government extremely sensitive to the challenge of disaster reduction.

## **2. The Philippine Response towards Disasters Reduction**

The Philippine response towards disaster reduction has been progressively developed and grown more extensive with every disaster the country has encountered. This report presents the many dimensions of this purpose in terms of four key aspects, namely: the institutional infrastructure for disaster management; the legal framework for disaster prevention and response; the national disaster management program; and the response of disasters by the civil society.

## **2.1. Institutional Infrastructure for Disaster management**

It is not an understatement to say that the total capacity of the Philippine government and society is the real foundation of national disaster management. The design of the institutional infrastructure for disaster management assumes that the country and its component communities will mobilize all its available institutions to protect lives and property and ensure collective survival in the face of natural disasters. Thus the basic Philippine law on disaster management, Presidential Decree (PD) 1566, promulgated in 1978, provides for the organization of multi-sectoral disaster coordinating councils at every level of government, from the national level to the barangay (or village) level. Through these disaster coordinating councils, which are able to link with all relevant government agencies and civic organizations, Philippine communities mobilize resources and capabilities needed to manage disasters.

The disaster coordinating council approach enables the country to utilize all available means for disaster response, means that are ordinarily used for military and police missions, public service or commercial purposes, but may be rapidly converted into disaster reduction capabilities. It also allows for routine cooperation, sharing of resources, and dissemination of information during periods of extreme stress and emergencies. At the same time, the disaster management co-ordination approach provides for dedicated technical capabilities for specialized disaster management services as well as continuing attention to disaster preparedness.

At whatever scale of disaster, whether national, regional, provincial, municipal, village, or any levels in between, an appropriate disaster coordinating council is established, organized and trained to respond. The National Disaster Coordinating Council or NDCC, is the policy-making and coordinating body for disasters management at the national level. It directs all disaster preparedness planning, as well as disaster response operations and rehabilitation, both in the public as well as private sectors. It advises the President on matters related to natural calamities and disasters, including recommendations for the declaration of a state of calamity in disaster-affected areas. It is composed of the heads of fourteen national ministries, the Chief of Staff of the Armed Forces of the Philippines, the Secretary-General of the Philippine National Red Cross, and the Administrator of the Office of Civil Defense. The Defense Minister, or Secretary of National Defense, serves as the Chairman of the NDCC, with the Civil Defense Administrator as Executive Officer.

In each of the administrative regional of the country, including the autonomous regions, a regional coordinating council performs similar functions as NDCC for the regions. Equivalent officials of various agencies at regional level serve in these councils which are headed by regional chairmen designated by the President.

In each local government of the province, city or municipality, the local disaster coordinating council is headed by the elected chief executive, such as the governor or mayor. In these local disaster coordinating councils, local as well as central government agencies operating at the local level cooperate with civic and non-government organizations under the leadership of the highest elected local official. Thus, disaster management is imbedded deeply into the democratic of governance of the Philippines.

## **2.2. Legal Framework for Disaster Prevention and Response**

A set of laws and regulations have established the standards and safeguards essential for preventing damage and death due to disasters. The most important laws include following:

- a. PD 957 or The Subdivision Law, which regulate land developments for housing and commercial use;
- b. PD 1096 or The Building Code, which prescribes all pertinent requirements and standards for building structures;
- c. PD 1151 or The Environmental Policy Law, which protect natural endowments that serve as protection from erosion, strong winds and floods;
- d. PD 1185 or the Fire Code, which provided for fire prevention and protection measures;
- e. PD 1515 or the Watersheds Law, which provided for the preservation of natural watersheds and allowances for public easement in seas, rivers and lakes.

These laws and many others related to assuring the safety of life and properties as well as the protection natural buffers against disasters have been established. Occasionally, some failures in compliance have occurred. But by and large, these laws and their proper implementation have succeeded in providing a reasonable degree of protection to people and property in the event of disasters. Despite typhoons earthquakes, volcanic eruptions and floods, the vast majority of man-made structures and communities have withstood the ravages of these disasters largely because of the prudent application of these laws.

### **2. 3. The National Disaster Management Program**

The Philippine disaster management program has a broad scope covering disaster preparedness, organization and training, construction of disaster reduction facilities, disaster response and rehabilitation, public information, and research and development.

Disaster preparedness is an essential element of the disaster management program. Disaster management plans of key agencies and organizations have been prepared, reviewed and updated. These plans are properly documented and are regularly tested for continuing relevance.

Organization and training are continuing disaster preparedness tasks which are performed by the various disaster coordinating councils. Over the past few years, various emergency services necessary during disasters have been developed in all the regions and provinces. Designated organizations have been oriented in their various roles in disaster management. Local chief executives, particularly those elected to their posts for the first time, have been provided training on disaster management to equip them to effectively lead their local disaster coordinating councils. Specialized skills in search and rescue, evacuation, disaster medicine, vulnerability analysis, damage assessment and first-aid have been widely undertaken. In 1995 alone, 159 training sessions on various aspects of disasters management have been conducted an over the country.

The Philippines conducted 103 drills were conducted in 1998 alone. Other disaster preparedness measures have also been undertaken such as disaster drills and exercises, and the establishment of disaster management operations centers. Disaster management operations centers have been established with capabilities for a wide range of emergency services which include rescue, evacuation, emergency housing and relief services.

The Philippines has also devoted considerable resources to the construction and provision of disaster reduction facilities such as river dikes and sea walls, as well as non-structural

measures like warning systems for typhoons, floods, tsunamis, volcanic eruption and lahar flows. Flood control projects and watershed management projects, in addition to the broader reforestation effort, are all geared to mitigate the worst effects of natural disasters.

In the event of disasters, plans and capabilities prepared beforehand are activated. The improved quality of planning, coordination and high state of preparedness have been responsible for a more and rapid and comprehensive disaster response capabilities in various areas of the country. Volunteer workers with proper training, and reaction teams with proper equipment and skills have been invaluable in the disasters response effort. They have complemented the professionals in the various military and civil agencies of government as well as those in the private sector. In addition, the communications and warning capabilities of the government have also been augmented by the media organizations and the corporate communication capabilities of large Philippine enterprises. Together these resources have provided which are the essential safety margins during disasters of uncertain and unexpected destructive force.

Public information before, during and after disasters is an important aspect of disaster management in the Philippines. Both through training and public education campaigns the disaster coordinating councils maintain and enhance public awareness of disaster reduction. Manuals and bulletins provided to media professionals help keep disaster preparedness in the public agenda. Special events like civil defense day, fire prevention month, disaster consciousness week, and the day for the international decade for natural disaster reduction help to mobilize civic consciousness.

Since the knowledge base of disaster management remains inadequate, the Philippines has also included research and development in disaster reduction techniques as part of its national disaster management program. Current priorities in this area include meteorological and hydrological disaster researches being conducted by the Philippine weather bureau (PAGASA) such as the tropical cyclone research on typhoon movement prediction, typhoon surface structure research, typhoon formation and intensification research and meteorological and hydrological hazard assessment. The Philippine Institute of Volcanology and Seismology (PHIVOLCS) is also conducting studies on the seismicity of Luzon and Visayas islands as well as the volcanic hazards of Mindanao island.

Hereunder are some of the programs/projects/activities which PAGASA and PHIVOLCS undertake related to National Disaster Reduction:

## PAGASA

1. Special Tropical Cyclone Reconnaissance Information Dissemination and Damage Evaluation (STRIFE) - a quick response team (QRT) to conduct in the spot investigation in areas affected by landfilling TC's, tornadoes, storm surges etc.
2. Provision of Farm-Weather Forecast and Warning Services-Provides Weather Information related to plant growth/development and farming operations including livestock and crop production.
3. Information and Education Campaign (IEC) Program for Natural Disaster Reduction. Include the level of awareness/preparedness of the people on natural hazards and disasters

through the development of hi-tech audio-visual and multi-media technology, conducts seminar/workshops, lectures and training's throughout the country.

## PHIVOLCS

1. Volcanic Hazards Identification and Mapping-identify, catalogue and characterize activities and potentially active volcanoes.
2. Hazardous Volcanic Products and Processes - to map the extent of emplacement, thickness of deposition, stratigraphy and source vents to these hazardous volcanic products which may give an overview of the anticipated hazards and risks from future eruptive episodes.
3. National Lahar Mapping Program - this involves mapping out the possible extent of emplacement and distribution of lahar deposits from past explosive eruption. The ultimate aim of this program is to generate lahar hazard maps for selected active volcanoes which shall identify possible routes and areas that can be affected during a particular lahar flow incidents.

### **2.4. Response to Disaster by the Civil Society**

Disaster response in the Philippines is truly a multi-sectoral and mass-based endeavor. A major contingent to the disaster management structure is composed of civic organizations, non government organizations, people's organizations, and all forms of religious and social voluntary groupings. Partly because of their democratic political experience, the high public awareness of the destructiveness of disasters, and partly because the institutional framework for disaster management has encouraged it, popular participation of the Filipino people in disaster response is very broad, sustained, enthusiastic, organized and ultimately decisive.

Private organizations have filled gaps in the government response as well as augmented strained official capacities. These include services such as medical care, search and rescue, emergency housing and feeding, and many other needs. Initiatives in resource mobilization have allowed the country to tap aid from unaffected areas to flow to affected areas. Many social institutions like the Church, the schools, the media, and professional associations have become channels for popular participation in disaster management.

This broad response of the civil society provided the Philippine disaster response with a depth and strength gained only from the cruel lessons of recent disasters. This may be an important silver lining to the dark clouds of disaster which had threatened the nation.

### **2.5. Current Efforts**

The NDCC through the Office of Civil Defense has taken new directions in the field of disaster reduction. This is in accordance with the thrust of the new NDCC Chairman, Defense Secretary Orlando S. Mercado for excellence in disaster prevention and control shall implement developmental and impact programs in four major areas, namely: (1) emergency management; (2) vulnerability reduction and risk management; (3) human resource development, and (4) advocacy for civil protection.

Along these framework of action that the NDCC has been pursuing program component and impact activities in partnership with the non-government organizations and the local disaster coordinating councils (LDCCs), to wit:

#### A. Initiatives

1. Brigada Kontra Baha. This is a concerted multisectoral initiative to declog critical esteros and waterways, drainage system and tributaries floods and to mitigate their effects on the people and communities. Initially, this project has been launched in key cities of Metro Manila, Cebu City and Davao City to be sustained by the local residents through advocacy and community mobilization.
  
2. Oplan Bangun Mindanaw. Around 985,000 families have suffered from situation in Southern and Central Mindanaw due to the impact of the El Niño Phenomenon. In response, the government launched this coherent and integrated multisectoral rehabilitation program for El Niño-affected areas. It has five strategies: (1) generating livelihood and household income, (2) enhancing health and nutrition services, (3) protecting vulnerable communities from the anticipated impact of La Niña, (4) agricultural development and modernization, (5) reinforcement of DCCs.
  
3. Laban La Niña. With the anticipated impact of La Niña Phenomenon, War Plans of vulnerable regions and communities were being formulated and simulated in pilot areas. This contingency plan has four (4) major components: (1) hazard and risk maps for flood/lahar, (2) communities and lifelines at risk, (3) capacity and vulnerability assessment, and (4) strategic interventions.
  
4. Linis Bayan Program. As embodied in Administrative Order No. 32 by the President of the Philippines, this is the institutionalization of a nationwide clean-up campaign to encourage the promotion and practice of cleanliness in all government offices, schools, communities and homes aimed at declogging of critical esteros, elimination of mosquito larvae (kiti-kiti) and breeding sites, and cleaning of offices, schools, public grounds and roads, among others.

### **3. Review of Current Cooperation in Disaster Reduction among Asian Countries**

While the Philippines has largely relied on its own resources to manage the disasters it had encountered, it has also benefited from tremendous international, and particularly Asian, cooperation in this field. The similarity in the types and severity of disaster exposure shared by Asian countries make cooperation among them particularly useful and important. For the Philippines, this cooperation has contributed to the rapid development of national and local disaster management capabilities.

The following are some examples of excellent international cooperation which the Philippines has experienced.

- a. In terms of strengthening the disaster-reduction organization and capabilities, the Philippines had benefited from international cooperation in the development of the flood forecasting and warning systems for three Luzon River Basins; namely the Agno, Bicol and Cagayan river basins; and the installation of the lahar warning and monitoring systems at the Mt. Pinatubo and Mt. Mayon areas.

- b. In terms of transfer of technology and training in disaster reduction, the Philippines has benefited from international cooperation in such examples as training of Filipino experts in Japan on disaster prevention technology and administration, improving cyclone warning response, and a seismic engineering; in Thailand on disaster management at the Asian Disaster Preparedness Center, and in Australia on radiological emergencies.
  
- c. In terms of increasing awareness in disaster reduction, the Philippines has participated in such international conferences as the 1994 world conference on IDNDR; ASEAN experts meeting on disaster management; sessions of the Typhoon Committee.
  
- d. In terms of sharing relevant information, the Philippines has developed its own disaster information system; participated in networks for sharing weather satellite images and data communications to access UN-DHA and other international disaster organizations.
  
- e. In terms of receipt of disaster relief assistance, the Philippines has benefited from the generosity and kindness of many governments and nations. The extent of this foreign assistance is such that the Philippines has developed and implemented guidelines for the smooth and expeditious handling and receipt of food, clothing, medicines and equipment donated by foreign governments and civic organizations for disaster relief and rehabilitation. The Office of the President serves as the primary conduit for all these donations to be channelled to the affected communities.

The illustrative examples cited point to the catalyzing role of international cooperations. It brings new and added capabilities which may not have been fully developed yet in the country. And it also increases the benefits of sharing so that the benefactor as well as the recipient gain something from their cooperations. While international cooperations in disasters reduction has been extensive and gratifying thus far, there could be other areas of possible improvements in this filed of international cooperation.

#### **4. Prospects for Further International Cooperation**

From the perspective of the Philippine disaster management experience, there are a number of areas which offer good prospects for international cooperation in disaster reduction.

- a. Strengthening collapsed building rescue capabilities: This specific area of disaster management is a priority area of the Philippines because of its high exposure to earthquake risks. While a Philippine task force trained and equipped for collapsed building rescue currently exists, its capabilities need to be strengthened and broadened in terms of advanced specialized training, equipage and more exposure to varied real-life rescue operations.
  
- b. Developing a national center for disaster research and training: In the light of the frequency, variety and severity of disasters in the Philippines, the government has seen the need for a specialized technical center for training and research in various aspects of disaster management. This center can specialize in those areas of concern to the Philippines and may be linked with other similar centers abroad.



- c. Mobilizing information technologies for disaster management: A broad class of information technologies such as geographic information systems, database management systems and other rapid analysis and presentation systems are currently available and useful for disaster management. The hardware, software and model uses of such technologies that can be made available to Philippine disaster management organizations will provide a tremendous boost its disaster preparedness and disaster reduction endeavors.
  
- d. Systematic disaster capabilities planning: Current knowledge about the nature of disaster risks in various communities and areas of the Philippine could be matched by a set of appropriate disaster management capabilities that may need to be developed In those areas or communities. This could serve as the basis for upgrading current disaster preparedness plans. Such a systematic effort could be undertaken with international cooperations and a special support program so that a better matching of risks and capabilities is achieved.

These are just a few of the current priorities of Philippine disaster management authorities for possible international cooperations. Filipinos have learned that disasters do happen, but their destructive force can be mitigated with good planning, prompt action, and constant preparation. International cooperation and support has helped improve Philippine response in all these fronts. It is hoped that such cooperation will continue to be satisfying to all its participants, and that all nations gain by helping each other.