MINDANAO SUMMIT

ON DISASTER RISK REDUCTION AND GEO-HAZARD AWARENESS

18 to 19 February 2012
Cagayan de Oro City

PROCEEDINGS REPORT

ACKNOWLEDGMENTS

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Amina Rasul Bernardo
Summit Co-Moderator and President, PCID

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FOREWORD

Assalamu alaikum! Greetings of peace!

Mindanao has, over the last two years, been visited by disastrous typhoons, the like of which we had not experienced before.

In 2011, Typhoon Sendong (Tropical Storm Washi) struck Region 10. The death toll reached 1257 and damage was estimated at ₱2.068 billion.

Following Typhoon Sendong, over 400 Mindanao leaders gathered in Cagayan De Oro for the Mindanao Summit on Disaster Risk Reduction (DRR) and Geo-Hazard Awareness. The summit, convened by the two Mindanao senators Aquilino "Koko" Pimentel III and Teofisto "TG" Guingona III with the support of Maguindanao Congresswoman Sandra Sema, was attended by congressmen, governors, mayors, representatives of national government agencies, civil society, academicians, scientists and religious leaders.

Enlightening presentations were made, from climate change mitigation to current initiatives on disaster risk reduction. All these underscored the urgent need for a comprehensive Mindanao-wide DRR framework and coordination among public and private, local and national.

Throughout the two-day summit, various options were explored to improve the government's capability to prepare communities to respond to disasters and calamities. Short term options ranged from improving government's quick response time in mobilizing resources and providing basic services, improving the system of identification of victims to timely dissemination of accurate and updated information. Long term options included review of Mindanao's land and water use and effective protection of identified watershed areas.

Amina Rasul Bernardo
President, PCID

MINDANAO SITUATIONER

The Philippines is replete with stories of calamities and disasters that have brought innumerable losses not only to those directly affected but also to those that have had to bear the cost of recovery and reconstruction. The country is among those countries with a large portion of the population residing in disaster-prone areas. In 2011, the Philippines ranked first in the list of countries with numbers of disasters with 33[1]. It is also sixth in a 2011 list of countries with the most number of people killed and affected by natural disasters per 100,000 inhabitants[2]. Tropical Storm *Sendong* (International name *Washi),* which hit the country last December 2011 and ravaged the twin cities of Cagayan De Oro and Iligan was ranked second behind the March 2011 Japan earthquake / tsunami in terms of Natural Disasters by number of deaths. Typhoon *Sendong* claimed 1,430 lives in its murderous rampage through Mindanao.

Economic Loss

A World Bank study in 2005 showed that the country suffered an average annual direct damage (due to losses to agriculture, infrastructure, and the private sector) of PhP15 billion between 1970 and 2000. In the last twenty years (1990-2010), the economic losses from major calamities that have befallen the country, such as the Northern Luzon (Baguio) earthquake in July 1990, typhoon Ruping of November 1990, Ormoc flood in November 1991, Mount Pinatubo eruption in June 1991 have ranged from about 5% to 11% of the national budget. Once the human costs are factored in, then the loss becomes unimaginable. While each of these stories may be unique in their causality, a clear and undeniable truth is that they left indelible effects on people's lives and has redefined the way development shaped up in affected communities. There is no turning back on the damage created but there is a harsh realization that losses could have been mitigated if communities were sufficiently prepared for these calamities. The lessons continue to reverberate but only a few have been learned and each time a new calamity or disaster strikes, communities remain unprepared for the worst and the issue of who is to blame echoes.

Governance

On May 27, 2010, Republic Act No. 10121, *An Act Strengthening the Philippine Disaster Risk Reduction and Management Framework and Institutionalizing the National Disaster Risk Reduction and Management Plan, Appropriating Funds Therefore and for Other Purposes* was signed into law. The law sought to strengthen the National Disaster Coordinating Council (NDCC), which was created in 1978 as the Philippine government's response to the growing need for disaster preparedness, by serving as the focal point for disaster risk management. The NDCC is now known as the National Disaster Risk Reduction and Management Council (NDRRMC), an agency of the Philippine government under the Department of National Defense, responsible for ensuring the protection and welfare of the people during disasters or emergencies.

[1] "EM-DAT: The OFDA / CRED International Disaster Database.
[2] www. Emdat.be, Universite catholique de Louvain Brussels – Belgium.

With the Office of Civil Defense as its secretariat and operational platform, the NDRRMC was tasked to set priorities for allocating funds, services, and relief and implementing the national disaster preparedness plan, which called for the creation and activation of DCCs down to the barangay level. A National Calamity Fund, comprising 5% of the national budget, was earmarked for supporting the implementation of the NDRRM plan and, more importantly for aid, relief, rehabilitation, and reconstruction. None of the funds however, were set aside for risk mitigation and disaster preparedness initiatives because the latter is largely identified as a responsibility of LGUs, which under the 1996 RA 8185 are also mandated to set aside 5% of their IRAs for creating local calamity funds, for purposes ranging from pre-disaster to post-disaster management. Under this funding setup, a 2004 WB study showed that about 50% of these funds go unused each year. The system is also intrinsically weak as it puts lower-earning LGUs, usually also more disaster-prone, at a disadvantage as they have to rely more and more on external assistance.

In 2009, Republic Act 9729 or the *Philippine Climate Change Act of 2009* was enacted. The law sought to enable the country to better respond to disasters spawned by climate change. It likewise sought to mainstream climate change into the formulation of government policy by setting up a National Framework Strategy and Program on Climate Change. By virtue of the law, the Climate Change Commission (CCC) was created. The CCC was mandated to coordinate, monitor, and evaluate the government's program and actions to mitigate and adapt to the effects of climate change.

Mindanao's Hazardscape and Recent Experience

Mindanao, the southernmost island group of the Philippines, is situated along the so-called Pacific Ring of Fire, a zone of frequent earthquakes and volcanic eruptions that encircles the basin of the Pacific Ocean. Composed of about 95,000 square kilometers, Mindanao is home to at least 25 active and inactive volcanoes and is largely characterized of rugged mountains ranges, isolated volcanic peaks and high rolling plateaus, vast tracts of rainforest, broad, swampy plains and wide river deltas, and an equally varied coastline of rugged, high cliffs and long sandy beaches, some stretching for miles. The region's diverse geophysical landscape, vast areas of denuded forests due to human activity such as mining and logging, coastal areas without adequate mangrove protection and poor flood control infrastructure all pose serious threats to natural disasters and calamities, such as volcanic eruptions, earthquakes, landslides, flash floods, tsunamis and typhoons, potentially endangering both lives and property.

Typhoon Sendong (International name "WASHI") uncovered the vulnerabilities of the Island of Mindanao. The flash floods of Sendong, which ravaged the twin cities of Cagayan de Oro and Iligan demonstrated that even the relatively more developed urbanized communities, with better means of managing these challenges can be caught flat-footed and suffer from the unexpected. Cagayan de Oro, being an identified flood plain, bore the full brunt of Sendong's fury. On the other hand, alleged cases of rampant illegal logging aggravated the situation, unleashing a larger adverse impact.

SUMMIT FRAMEWORK

Foresight can be perfect. Disasters and calamities can be mitigated, if not entirely prevented, with the right measures in place and communities equipped with the capability to manage the situations when they occur. The most recent calamity that hit Mindanao drives the lessons home. Mindanao needs to be prepared for the worst.

The Mindanao Summit on Disaster Risk Reduction and Geo-Hazard Awareness, held in Dynasty Court Hotel, Cagayan de Oro City on February 18 and 19, 2012, was convened by Senators Koko Pimentel and Senator TG Guingona to address three goals: (1) heighten awareness among the leaders and stakeholders of Mindanao on geo-hazards and address the issue of disaster risk reduction; (2) to elevate stakeholders' attention to Mindanao's vulnerabilities to both man-made and natural calamities and provide inputs for formulating action steps to strengthen preparedness at all levels; and (3) to enable stakeholders to assess the availability of resources for implementing disaster risk reduction programs and identifying opportunities for joint action with external funding sources.

The two-day summit was composed of informative and educational presentations by experts/resource persons and practitioners from various scientific and governance fields and workshop/plenary sessions. There were over 360 national, local, and international participants with multidisciplinary backgrounds but with a common interest in improving DRR in the country. The participants included LGU officials - Provincial Governors, City Mayors, and Municipal Mayors of the Island of Mindanao; religious leaders; representatives from Mindanao-based environmental NGOs and Academe; and officials of different National Government agencies including, but not limited to, the NDRRMC and the Climate Change Commission.

The summit was jointly supported by the Government of Australia, through its Australian Agency for International Development (AusAID), which provided grant funding for majority of the activity's requirements and the Offices of Senators Pimentel and Guingona. The implementation team comprised of the Philippine Center for Islam and Democracy (PCID), which served as the summit administrator, headed by its lead convenor, Ms. Amina Rasul; Dean Antonio La Viña of the Ateneo School of Government, who served as summit moderator; Ms. Arlene Donaire, who was conference director and lead for report preparation and publication editor; the national and regional staff of Senators Pimentel and Guingona, led by Atty. Erick Balmes and Ms. Mary Ann Mendoza who managed the event. Key partners providing technical resources for the summit were the University of the Philippines – Diliman, Xavier University, Manila Observatory, and government agencies such as the NDRMCC, DSWD, PAG-ASA, and NEDA. Law student-volunteers from the Xavier University provided technical secretariat support.

SUMMIT PROGRAM

DAY 1 – February 18, 2012, Saturday, 8:30 AM to 5:00PM

Registration began at 8:30AM.

The morning session was composed of the opening program and presentations on DRR policy and governance. A brief media conference was held during the noon break.

The opening program formally started at 9:00 AM with the playing of the national anthem and prayers led by His Excellency Archbishop Antonio J. Ledesma of the Metropolitan Archdiocese of Cagayan de Oro and Commissioner Moner Bajunaid of the National Commission on Muslim Filipinos (NCMF). The convenors, Senator Aquilino "Koko" L. Pimentel III and Senator Teofisto "TG" D. Guingona III, gave the welcome and opening addresses, respectively. Guest of honor, Mr. Andrew Byrne, Minister and Deputy Head of Mission of the Australian Embassy delivered the keynote address. The following presentations were made:

- Disaster Risk Reduction: From the Perspective of a Mindanao Leader by Representative Bai Sandra A. Sema, First District of Maguindanao and Cotabato City
- The Philippine Disaster Risk Reduction and Management Action Plan by Undersecretary Benito T. Ramos, Executive Director, National Disaster Risk Reduction and Management Council (NDRRMC)
- Philippine Climate Change Action Plan by Secretary Mary Ann Lucille T. Sering Executive Director, Climate Change Commission
- Report on the State of Disaster Preparedness for Mindanao Island in the light of the typhoon Sendong Experience by Secretary Corazon "Dinky" Juliano Soliman, Department of Social Welfare and Development
- The Future that We Want for Mindanao by Senator Loren B. Legarda, Chairperson, Senate Committee on Climate Change

The afternoon session was devoted to technical presentations and the first workshop.

For the technical presentations, experts from government agencies and the academe discussed topics of interest ranging from the scientific explanation of typhoon Sendong to climate threats in Mindanao. Presentations made were as follows:

- Typhoon Sendong, A Scientific Explanation On What Happened by Dr. Gemma T. Narisma, Program Director, Regional Climate Systems, Manila Observatory

- The Geo-Hazardscape of Mindanao Islands by Prof. Alfredo Mahar Francisco Lagmay, Ph.D. National Institute of Geological Sciences (NIGS), University of the Philippines

- Volcanoes, Earthquakes, and Tsunamis as Geo-Hazard Concerns for the Island of Mindanao by Dr. Renato U. Solidum, Director, Philippine Institute of Volcanology and Seismology (PHIVOLCS)

- The Water Use Challenges of the Island of Mindanao by Prof. Hilly Ann Quiaoit, Ph.D. Vice – President for Research and Social Outreach, Xavier University, Cagayan de Oro

- Climate Threats to Mindanao by Dr. Vicente B. Malano, Acting Deputy Administrator for Operations and Services of Philippine Atmospheric Geophysical and Astronomical Services Administration (PAG-ASA)

The first workshop session was on "Sharing of Local Experiences on Disaster Risk Reduction." The participants were grouped by region and a participant was assigned as facilitator in discussing the groups' responses to the following guide questions: (1) Have you experienced any of the disasters discussed in the earlier sessions?; (2) How did you and your constituents cope with the disaster?; and (3) How do you think you can better respond to disaster in the future? The groups' answers were documented and set aside for further use in the second day's workshop.

DAY 2, February 19, 2012, Sunday, 9:00AM – 6:00PM

The second day of the summit had two parts: the earlier part of the morning highlighted lessons and best practices and the rest of the day was devoted to three activities - the second workshop, a plenary session to formulate the summit resolution document, and the closing ceremony.

To kick off the second day program, Senator Gregorio "Gringo" B. Honasan II shared his ideas on Land Use and Forward Planning the Core of Disaster Risk Reduction. The succeeding presentations were as follows:

- Hazard Mapping and Assessment for Effective Community-Based Disaster Risk Management or "READY" Project: Integrating DRR and Documenting Best Practices Program by Director Remedios Endencia, OIC, National Economic and Development Authority-Regional Development Council Staff

- Collective Responsibility over our River System: Creation of River Basin Consortium by His Excellency Antonio J. Ledesma, S.J. DD, Metropolitan Archdiocese of Cagayan de Oro

- NGO participation and available assistance in the formulation of DRR Initiatives of a Local Government Unit by Ms. Maria "Malu" Fellizar-Cagay, Managing Director, Center for Disaster Preparedness Convener, Disaster Risk Reduction Network

- The Camotes Island, Cebu Model by Vice Mayor Alfredo A. Arquillano Jr., Camotes Island, Province of Cebu

The second workshop allowed the participants to formulate their respective regional DRR framework action plans, using as inputs the products of Day 1's workshop and the answers to a new set of set of guide questions: (1) What are the challenges of reducing risks and preparing for disasters in the Island of Mindanao? and (2) what are the top 5 practical things to do to prepare for disasters? At the end of the workshop, the groups' secretariat were given time to prepare the presentations for the plenary session.

During the plenary session, each group was given about 10 minutes to present their respective action plans. Reactions were then given by representatives of the summit stakeholders: from the academe, Fr. Roberto "Bobby" Yap, S.J., President of Xavier University, Cagayan de Oro City; from the business groups, Mr. Edwin B. Capili, Former Chairperson of the Dipolog City Chamber Commerce and Industry and Vice President for Mindanao Pinkerton Computer Consultants Inc.; and from the NGO sector, Atty. Elpidio "Ping" Peria of Aksyon Klima. LGU officials also added some reactions towards the end.

To cap the two-day event, a Summit Declaration was formulated and agreed on by the participants. Dean La Viña facilitated the crafting of the declaration, with inputs generated from the presentations, discussion, reactions, and workshop outputs. A signing ceremony preceded the closing remarks, which were given by the co–convenors, Senator Koko Pimentel and Senator Teofisto Guingona.

SUMMIT HIGHLIGHTS

OPENING PROGRAM

WELCOME ADDRESS
*by **Senator Koko Pimentel***

…Welcome to the ground zero of the Sendong tragedy.

We are here to learn whatever we can learn so that the more than 1,000 lives lost in Sendong would not have been lost in vain. I am a Mindanaonon, I was born here in Cagayan de Oro City. Hence I care about Mindanao. Sendong showed us the centrality of the Province of Bukidnon. But how many of us know that? And even if we know that already, how many of us know its implication? Sendong also showed us the importance of watersheds and water systems. Do we know where Mindanao's watersheds are? Do we know if Mindanao's water systems are connected to each other?...

OPENING ADDRESS
*by **Senator TG Guingona***

…Let me propose some items that we must include in the discussions over the next two days. Their nature is "urgent". *Item one:* our state of readiness to respond and to rebuild. *Item two:* our exercise of transparency and accountability even in the midst of massive reconstruction. *Item three:* our sense of unity in the face of the challenges that come with major disasters. Given the new challenges we face, are the people of Mindanao, more than ever, ready to give up their differences so they can unite behind the rebuilding process? Set aside political differences? Religious differences? Ethnic and language differences? Ideological differences?...

KEYNOTE ADDRESS
by ***Australian Embassy Deputy Head of Mission Andrew Byrne***

Deputy Head of Mission Andrew Byrne welcomed the timely convening of stakeholders in Mindanao to address a pressing issue of concern, not only to the Philippines, but also to Australia. Mr. Byrne briefly recounted the various initiatives of Australia on the environment and conservation of natural resources, including current programs benefitting Mindanao – from peace building to climate change mitigation.

SESSION ON DRR POLICY AND GOVERNANCE

Disaster Risk Reduction: From The Perspective of a Mindanao Leader

By **Representative Bai Sandra A. Sema**
First District of Maguindanao and Cotabato City

Decrying the passivity of local governments, Congresswoman Sandra Sema believes that government officials can no longer afford to be complacent since Mindanao "is no longer typhoon-free". The representative of the 1st District of Maguindanao underscored the need to address the disconnect between programs, policies and implementation. With the National Disaster Risk Reduction and Management Council, a more comprehensive and coordinated approach would be easier to accomplish.

The Philippine Disaster Risk Reduction and Management Action Plan

By **Undersecretary Benito Ramos**
Executive Director, NDRRMC

The Philippines continues to face challenges brought about by typhoons, monsoon rains, earthquakes, volcanic eruptions, and landslides. In the past 20 years, at least 31,835 Filipinos have reportedly been killed by natural disasters and calamities. In the world ranking for exposure to hazards, the country ranks 3rd out of 173 countries. Usec Ramos' presentation uses this backdrop as rationale for the Philippines' DRRM Action Plan, which is anchored on RA 10121, *Act Strengthening The Philippine Disaster Risk Reduction And Management System, Providing For The National Disaster Risk Reduction And Management Framework And Institutionalizing The National Disaster Risk Reduction And Management Plan, Appropriating Funds Therefore And For Other Purposes.* The National DRRMP aims to have safer, adoptive, and disaster resilient Filipino communities towards sustainable development by prioritizing measures in the areas of disaster preparedness, disaster prevention and mitigation, disaster response, and disaster rehabilitation and recovery.

Philippine Climate Change Action Plan

By **Secretary Mary Ann Lucille T. Sering**
Executive Director, Climate Change Commission

Chairperson Lucille Sering of the Climate Change Commission focused on the impact of climate change in Mindanao. She briefed the summit on the current undertaking of the Commission, in partnership with the Mindanao Development Authority, in crafting a comprehensive Mindanao-wide plan addressing the issue of climate change.

Report on the State of Disaster Preparedness for Mindanao Island in the Light of the Typhoon Sendong Experience

by **Secretary Corazon "Dinky" Juliano Soliman**
Department of Social Welfare and Development

Disaster Preparedness Defined

Process of ensuring that an organization

- has complied with the preventive measures;
- is in a state of readiness to contain the effects of a forecasted disastrous event to minimize loss of life, injury, and damage to property,
- can provide rescue, relief, rehabilitation, and other services in the aftermath of the disaster, and;
- has the capability and resources to continue to sustain its essential functions without being overwhelmed by the demand placed on them.

Coping Better in the Future

Put into place disaster preparedness measures;

- better forecasting, more effective warning systems
- disaster risk mapping, evacuation plans;

Emergency simulations and drills;

- focused on how different levels of government interacted in an emergency situation;
- design and implement adaptation programs;
- put into place a risk reduction approach to natural disasters;
- knowing where and who are vulnerable and what is needed to lessen the risks;

Dimensions of Preparedness

- **Hazard Knowledge** - conducting hazard, impact, and vulnerability assessments;
- **Management, Direction and Coordination** – providing training experiences, conducting drills, educating the public and assigning responsibilities;
- **Formal and Informal Response Plans and Agreements** - developing disaster plans, evacuation plans, mutual aid and resource sharing agreements, collaborative partnerships;
- **Emergency Coping and Restoration of Key Functions** - Ensuring the capacity to undertake emergency restoration and early recovery measures;
- **Supportive Resources** - Acquiring equipment and supplies to support response activities and developing logistics capabilities

The Future That We Want For Mindanao

by **Senator Loren Legarda**
Chairperson, Senate Committee on Climate Change

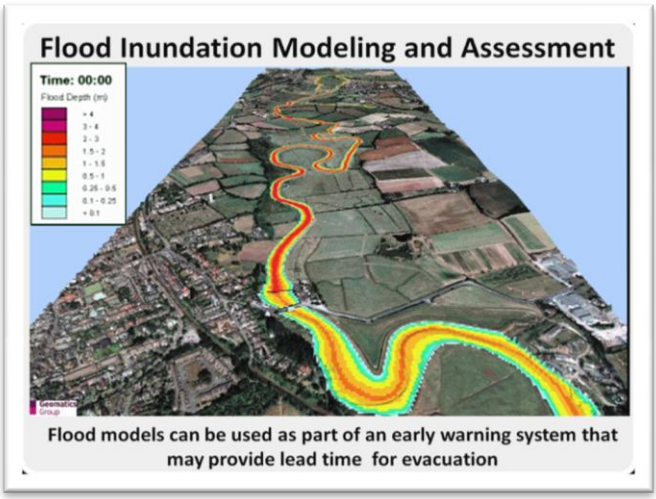
…"The alarming human losses and economic damages inflicted by the recent disaster made it clear that the fusion of socio-economic realities and extreme climatic events is confounding gallant attempts by governments. We cannot, however, be caught off-balanced and be discouraged. Ultimately, the actions that we take and the decisions we make will define the future that we want for Mindanao. Our political will, clear understanding of risk, genuine regard for environmental protection and disaster prevention, preparedness for effective response, good governance, and our concern and vigilance --- all these will prevent natural hazards from turning into disasters"…

SESSION ON TECHNICAL STUDIES AND SCIENTIFIC FINDINGS

Typhoon Sendong, A Scientific Explanation On What Happened

by **Dr. Gemma T. Narisma**
Program Director, Regional Climate Systems, Manila Observatory

Opening the discussion was Dr. Gemma Narisma of the Manila Observatory who gave a scientific explanation on how Typhoon Sendong was formed.



The Geo-Hazardscape of Mindanao Islands

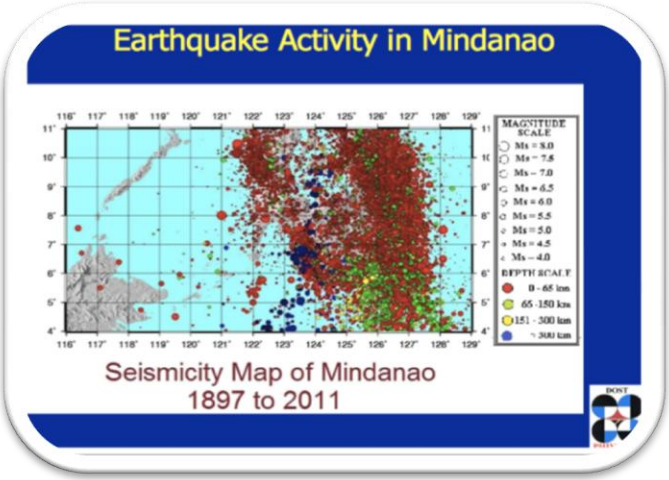
by **Dr. A.M.F. Lagmay**
Professor, UP –National Institute of Geological Sciences

In this presentation, Dr. Lagmay provided scientific data on Mindanao Island's topography, the geographic areas with associated hazards or geo-hazardscape. Focus was on three hazard sources - water, volcanoes, and earthquakes. Detailed information was shared on the watersheds and the water discharge patterns, the catch basins and flood plains; flood susceptibility maps; the island's volcanic map; and tectonic plate map. A positive insight from the presentation was the disclosure on government's ongoing program for flood mitigation, which aims to improve the country's early warning system - the National Flood and Hazards

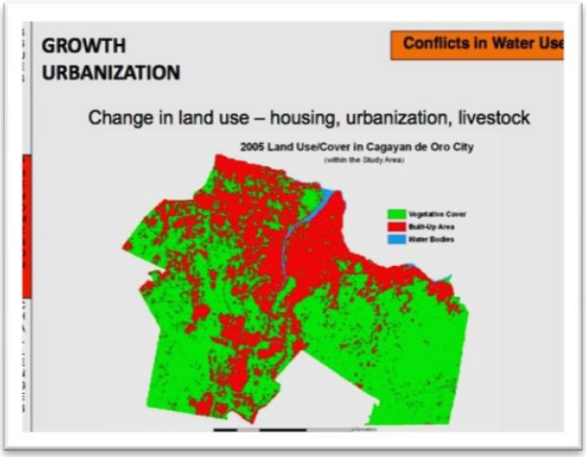
Monitoring, Forecasting and Mitigation Program, consisting of four components – sensors development, FloodNet – rain forecasting and river basin simulation, DREAM - 3D mapping and flood simulation; and Weather Media – weather channel, SMS, and online platforms.

Volcanoes, Earthquakes, and Tsunamis as Geo-Hazard Concerns in The Island of Mindanao

By **Renato Solidum, Jr.** and **Ma. Mylene Villegas**
DOST – Philippine Institute of Volcanology and Seismology



Mr. Solidum and Ms. Villegas of the DOST's volcanology and seismology institute revealed that Mindanao is not exempt from the likelihood of volcanic eruptions, earthquakes, and tsunamis occurring and becoming real hazards to Mindanao. Historical and accumulated information presented as hazard maps were shown to concretize the hazards. With the island's eight active volcanoes, its seismicity as proven by varying degrees of earthquake activity between 1987 to 2011; and the occurrence of tsunami events in eastern Mindanao between 1921 to 1992, PAG-ASA noted that all of the following have happened and can happen again - moderate to large-sized explosive volcanic eruptions, large magnitude and destructive earthquakes, and large tsunamis. Mindanao needs to be prepared for these eventualities.



Water Use Challenges in Mindanao

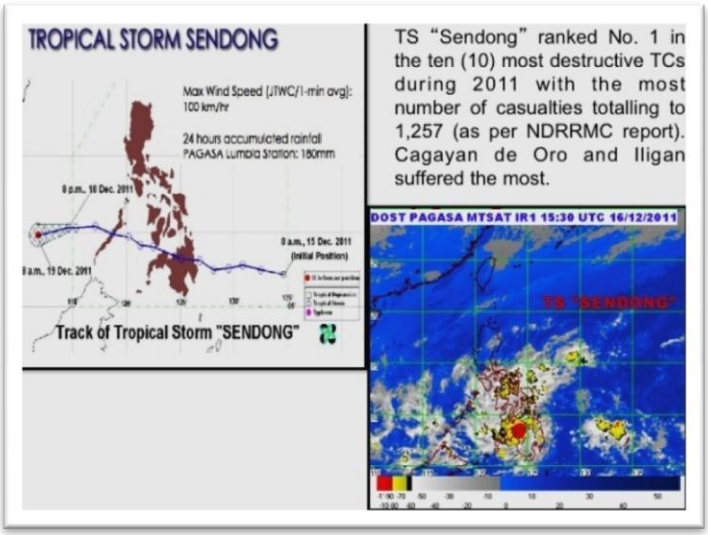
By **Dr. Hilly Ann Rose Quiaoit, Engr. Dexter Lo, Wendel Abejo, and Jan Taat**
Xavier University, The Ateneo de Cagayan

The Xavier University team, led by Dr. Quiaoit, presented the sources and level of supply for water supply in Cagayan de Oro, the prevailing conflicts in water use, and the effects of climate

change on water use. CDO is the location of the river basin for Northern Mindanao (1,521 sqm). Water-related issues that have surfaced in the region include low production due to surface water use, saltwater intrusion, ground water contamination, and competing uses among agriculture, power, and domestic consumption sectors as a result of economic development in the area. The demand for water in the region is expected to increase proportionately with population growth and, climate change will inevitably heighten environmental issues like flooding, siltation, and erosion. Managing both the demand and supply for water is an imperative that must be addressed.

Climate Threats to Mindanao

by **Dr. Vicente B. Malano**
PAG-ASA, Acting Deputy Director for Operations and Services



Cagayan de Oro and Iligan Cities suffered the worst destruction and loss from tropical storm Sendong. The disaster that struck was precipitated by continuous rainfall that accumulated and reached a threshold that breached the CDO river basin's carrying capacity. The timely dissemination and use of relevant data on rainfall levels and intensity to concerned authorities would have made a difference in terms of preparing the communities in affected areas to take action and prevent the occurrence of the disaster that struck. PAG-ASA's Dr. Malano presented the agency's tracking of rainfall for year 2012, noting the patterns of rainfall for the rest of the year. He emphasized that similar disasters in previous years – Surigao (2003), Real/Infanta/Nakar in Quezon (2004), Ginsaugon in Leyte and Metro Manila (2006), were all linked to La Nina and the subsequent large amounts of rainfall that led to flooding and landslides, and the subsequent loss of life and properties.

SESSION ON DRR BEST PRACTICES

Land Use and Forward Planning-The Core of Disaster Risk Reduction and Management towards Sustainable Socio-Economic Development

By **Senator Gregorio B. Honasan II**

…"I believe that the passage of a National Land Use Act will strengthen and complement the Climate Change Act and the Philippine Disaster Risk Reduction and Management Act. The enactment of the Land Use Bill will provide a framework that will integrate and harmonize all laws, guidelines and policies related to land use. The bill promotes sustainable management and utilization of national resources, disaster risk-reduction and climate change resiliency, water security, respect for and protection of the sustainable traditional resource rights of the indigenous cultural communities/ indigenous peoples (ICCs/IPs). To give more teeth to the National Land Use Act, I likewise filed a bill on the National Mapping and Resource Information Authority (NAMRIA) Modernization as land use planning involves studies and mapping, analysis of environmental and hazard data, formulation of alternative land-use range plan for different geographical and administrative scales"…

Hazard Mapping and Assessment for Effective Community-Based Disaster Risk Management or "Ready" Project: Integrating DRR and Documenting Best Practices Program

by **Dir. Remedios Endencia**
OIC, National Economic and Development Authority-Regional Development Council Staff

Component	Outputs
Component 1: Capacity-building for Regional Trainers	Training of Trainers on GIS Application for Mainstreaming DRR and CCA in Sub-national Development and Land Use/Physical Framework Plans Pool of Trainers for each region
Component 2: Organizing the Provinces	Advocacy Activities for Members of the Regional/ Provincial Development Councils and LCEs MOA between NROs and Pilot Provinces Organized Provincial Core Teams Expression of Interest (non-pilot provinces)
Component 3: Disaster Risk Assessment-Part I	1. Hazard Characterization 2. Hazard and Vulnerability Profile Provincial Hazard Profile
Component 4: Disaster Risk Assessment-Part II	1. Frequency Analysis 2. Consequence Analysis 3. Risk Estimation 4. Risk Evaluation and Prioritization Provincial Disaster Risk Assessment (DRA) Report
Component 5: Integrating DRA Results in the PDPFP	Draft DRR/CCA-Enhanced PDPFPs

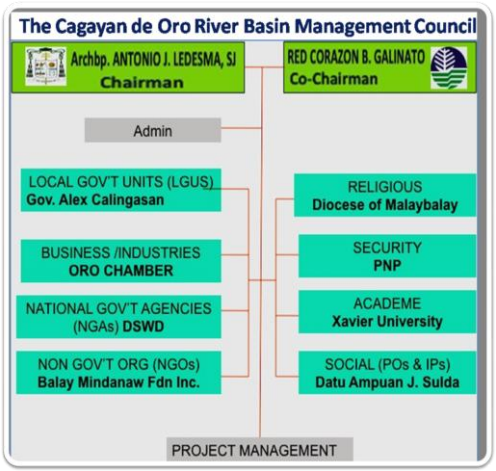
The regional office of NEDA presented the highlights of an ongoing AusAID/UNDP-funded collaboration project that aims to mainstream the integrated concerns of disaster risk reduction (DRR) and climate change adaptation (CCA) into the Provincial Development and Physical Framework Plans (PDPFPs). With five project components that will build capability capacity for DRR and CCA planning of 50 provinces nationwide, it is expected that the project's outputs will enable formulation by LGUs of DRR and CCA responsive/relevant land use plans and zoning ordinances, among others.

Cagayan De Oro River Basin Management Council (CDORBMC)

By **Antonio J. Ledesma, SJ, DD**

Archbishop of Cagayan de Oro and Chairman of the CDORBMC

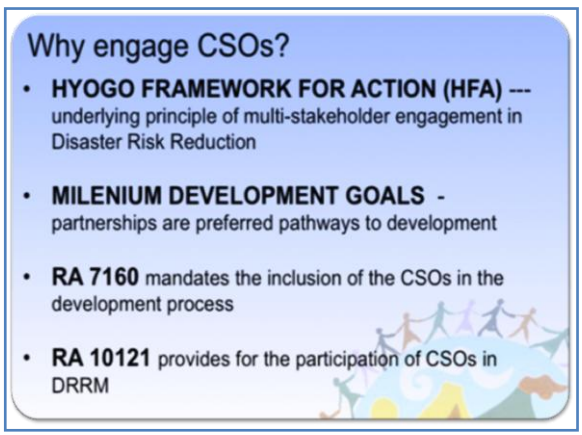
Between November and December 2010, the CDO River Basin Management Council was created and officially organized as a multi-sector collaboration of stakeholders in Cagayan de Oro that was envisioned to protect the river basin from future disasters. The religious sector, represented by Archbishop Ledesma, was chosen as the chair, with the DENR Regional Director as co-chair. The council, which has four technical working groups focusing on rehabilitation, local governance, community development, and resource management, has met regularly since and started implementing local initiatives in line with its mission.



NGO Participation in the DRR Initiatives of Local Government Units

By **Maria "Malu" Fellizar-Cagay**

Center for Disaster Preparedness (CDP)/Disaster Risk Reduction Network Philippines (DRRNetPhils) and Sectoral Rep, National Anti-Poverty Commission – Victims of Disasters and Calamities

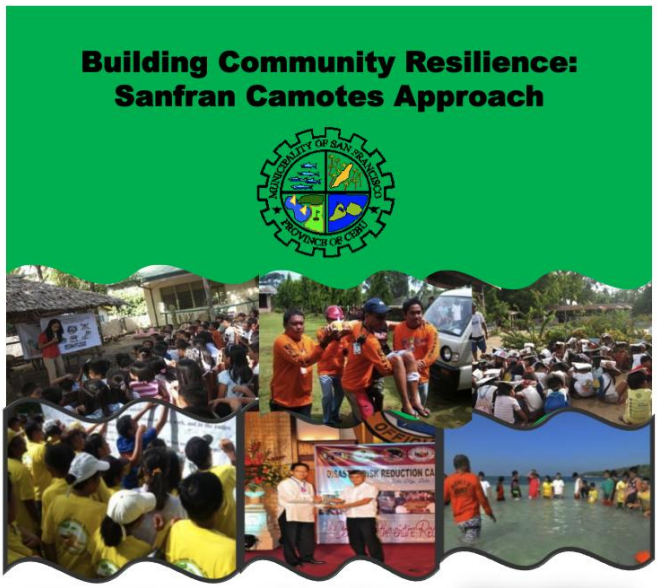


NAPC sectoral representative Ms. Cagay noted the pronounced role of civil society organizations (CSO) in the national DRRM scenario, as embodied in numerous international and local principles. From the past top-down, centralized, and reactive view of disasters as a physical hazard to the current participatory, proactive, and human-centered view of disasters, the roles for various stakeholders have also evolved. CSO's are now recognized as critical partners at all levels of the planning, policy, and implementations aspects of DRRM. CSOs include non-government organizations (NGOs), professional associations, foundations, independent research institutes, community based organizations, faith-based organizations, people's organizations, social movements, and labor unions. They can effectively partner with national and local governments, participate in risk assessment, establishing and maintaining early warning systems, public awareness campaigns, capacity building on disaster preparedness, and vulnerability management through environmental management.

Building Community Resilience: SanFran Camotes Approach

by **Alfredo "Al" Arquillano, Jr.**
Vice-Mayor of San Francisco Municipality, Camotes Island, Cebu and UNISDR Asia Regional Champion for Making Cities Resilient

San Francisco Municipality in Camotes Island of Cebu is a model community for disaster resilience because of a combination of initiatives that are being practiced by



locals, as way of collectively protecting their present and future lives. The locality has been recognized by the UNISDR for its community empowerment programs in the areas of DRR and environmental protection and management, done through the "purok system" that was established in 2004 by VM Arquillano and continues to be practiced to date. With 120 puroks in the north, south, and central districts of the municipality all organized and involved in implementing various activities in the San Francisco Municipal DRRM Plan that includes:

(1) Building child-centered climate smart DRR program;
(2) Revitalizing the Camotes Island emergency response team;
(3) Training local weather forecasters using rain gauges;
(4) Typhoon drills;
(5) Barangay contingency plans;
(6) Solid Waste Management Program; and
(7) Mangrove replanting, SanFran is proof that "thinking globally and acting locally" is not a cliché.

SUMMARY OF THE DRR REGIONAL ACTION PLANS

(Mindanao DRR Priorities: Regional Workshop Outputs)

Day Two of the summit saw six workshop groups representing the different Mindanao regions - ARMM, IX, X, XI, XII, and XIII - discussing their local experiences and formulating their respective DRR framework action plans. The workshop discussions addressed the following:

Part 1: Learning from the Local Experience

1. Identify the types of disasters experienced. Specify please – natural, man-made, combination.
2. What are the local geo- hazards and disaster experiences?
3. How did the affected communities or constituents cope/manage with the disaster?
4. What are the main challenges of reducing risks and preparing for disasters in the region?

Part 2 – DRR Priorities

1. What are the top 5 practical things to do to prepare for disasters in the region? Specify please National, Regional, Local, LGU, Community, Individual
2. What are the proposal(s) for Next Steps for the region?

The succeeding sections outline the regional DRR Priorities of each of the 6 regions:

ARMM

Learning from the Local Experiences: The group noted that the region's local geo-hazards and disaster experiences largely resulted from flooding incidents, i.e., in Jolo, Sulu on February 2011, the flash floods of December 16, 2012, the damage caused by typhoon Frank in 2008, and the water hyacinth-caused flood along Lake Lanao. In all these cases the group recalled the lack of government intervention in evacuating the people after the floods and proper post-disaster management and assistance. Citizens of the affected communities evacuated on their own and sought refuge in the homes of relatives and friends, without government assistance. The group agreed that there are numerous challenges to face in reducing risks and preparing for disasters in the region. Local Government, at the time these disasters happened, had no pre and post-disaster management plan. Timber poaching, illegal logging, and the unregulated razing of mangroves to pave the way for waterfront projects accounted significantly for the flooding. The poor economic conditions in the region had led people to act without regard for damage to the environment, including building houses along

riverbanks and coastlines. Insurgency in the region also aggravates the situation by hampering proper coordination among stakeholders. The overall lack of research on environmental management is seen as a barrier to a better-informed citizenry.

***DRR Priorities**:* At the national level, the group believed that the Reproductive Health Bill should be passed by Congress and population education and management be more intensively implemented. Government also needs to invest in geo-hazard mapping to provide a proper guide in comprehensive land use management. It was noted that the creation of DRRMOs at the regional, provincial, municipal and barangay levels is now in process. At the regional level, there was consensus on the need to educate citizenry on disaster preparedness and organize drills; to emulate what the communities of San Francisco, Camotes Island had done; to strictly implement RA 9054, to re-energize efforts in reforestation; to strongly implement a total log ban; to re-introduce sloping agricultural technology in landslide-prone areas; and to pursue the implementation of RA9513, which calls for the use of alternative sources of energy, such as biomass.

As for LGU-based efforts, it was agreed that all LGUs and DRRMCs should be capacitated in post-disaster management. Hotlines should be set up for LGU agencies involved in DRR; bulletin advisories or newsletters be made available online or in print; and make use of two-way radios and other media in communications. The LGUs must lead in efforts on massive reforestation, paying particular attention to restoring mangroves in coastal areas. In addition, LGUs should prohibit any land use activity other than those approved jointly by the LGU, NGO's and citizens in the locality, for instance through the implementation of a law that prohibits the building of houses along riverbanks. At the local/community level, it is imperative that communities be educated and involved in environmental protection, such as efforts on proper waste management to avoid clogging and utilizing water hyacinth as alternative to firewood. The Alims should be educated in DRR and preparedness and symposiums conducted in schools. Community-based projects must be encouraged. For instance, people can participate in the maintenance of reforested areas and implementing organic farming through use of vermiculture technology. LGUs also need to consider providing incentives to those who adopt these methods. Communities must strengthen early warning systems, making use of modern communication tools (e.g. text messaging, internet) and increase the provision of life saving materials like rubber boats. Translate proposals to communication projects or plans. At the individual level, the Mindanao State University has committed to beat the Guinness World Record on most number of trees planted and to create templates for post-disaster preparedness.

Proposed next steps for the region: It is imperative to institutionalize DRR in all levels in the region by local legislative action, integrating this in all projects of the LGUs, and including DRR and geo-hazard awareness in educational curriculum as well as in religious institutions. Developing a communication system, utilizing technology such as MMS and the Internet, and creating hotlines for disaster awareness and advisories were noted as essential, including conducting a DRR and GA Summit in ARMM. To restore the ecosystem, a massive "rain forestation" drive, i.e., planting of native tree species all over the region, especially mangroves along coastlines and

banks and strict implementation of laws against illegal logging and forest denudation were highlighted.

REGION IX

Learning from the Local Experience: The group identified several natural, man-made, and combination local geo-hazards and disaster experiences that have adversely affected the communities. Natural hazards and disasters included a the earthquakes in 1976 and a largely unpublished tsunami in same year, which according to a study by a Jesuit priest has a frequency that is predicted to be once every 17 years and Regions 9 and ARMM are the areas, which are ripe for the possibility of such a disaster. A simulation done by PHIVOLCS confirms that tsunamis are also being anticipated and in case one does surge inland towards the province of Zamboanga Sur, there are no higher grounds to run to. Flooding, every rainy season, heavy monsoon rains, and storm surges were also cited. Man-made hazards that were noted as particularly problematic were settlements (i.e., both legal and informal) along the major waterways and bombings.

In these cases communities and constituents coped or managed largely through self-help and in some cases, people went to evacuation centers. There were also other residents of the affected areas that were transferred to designated areas. For those that stayed in their original abodes, they strengthened the structures of their homes. It was in the aftermath of one of the disasters that the Sibugay Valley Management Council in Zamboanga was created.

***DRR Priorities*:** The main challenges of reducing risks and preparing for disasters in the region are the lack of knowledge on the local risks and information dissemination to the barangay level. DRM plans, if ever they do exist, are not being communicated effectively. There are no flood maps and the zoning ordinances are improperly implemented, begging the question on whether they should be re-evaluated. The local governments are currently incapacitated to conduct drills due to lack of expertise, and other resources, including those required for information dissemination. In some cases, the LGUs themselves need to be motivated to lead in raising awareness. The identification of watershed areas is imperative so that reforestation projects may be properly made, including tree planting along rivers and tributaries. An identification of danger zones must also be done so that relocation of residents in danger zones can be done and these danger zones should be declared as no-build zones. The top practical things to do to prepare for disasters in the region are to prioritize the high-risk areas so that appropriate provide evacuation centers can be assigned and set up and volunteers organized. The PHIVOLCS also needs to be assisted by the NDC in conducting earthquake drills. Proposals for next steps are quite numerous, topped by massive IECs of the barangay on the vulnerabilities applicable and the DRMs in their areas, establishment of incident management team, and completing the geo-hazard maps and integrating them to future DRM plans. Developing training programs relative to disaster risk reduction and management can be pursued through a MOA among academic institutions, LGUs and science agencies. Funding of DRR management is critical. LGUs need to assign funds to address risk reduction and

management of disasters, in particular, use its calamity fund for the purchase of new relocation sites. The LGUs can also request funding assistance for housing in relocation areas from the NHA and SHFC and making these relocation areas disaster resilient by designing climate proof or adaptable housing.

REGION X

(Note: The group tackled the workshop questions geographically hence separate DRR action plans per key city or province. Presented in this section is a summary of the two key LGUs affected by Sendong. The rest of the workshop discussion is presented in matrix format in the Appendix CD.)

Cagayan de Oro

Learning from the Local Experience: In Cagayan de Oro it was the recent typhoon Sendong, experienced on December 16-17, 2012, causing severe flash floods in the city that reminded the locals of the magnitude of destruction and loss that can happen from a disaster. Sendong also caused landslides, erosion/siltation that affected the farms. In the aftermath, affected communities and constituents were unprepared. Rescue, evacuation, relocation were the coping mechanisms as CSOs, LGU, Academe, and regional government line agencies quickly cooperated, in "Bayanihan" spirit. Clearing of debris was immediately done by DPWH, LGUs and the RLAs.

***DRR Priorities*:** The major challenges in the CDO disaster were the lack of early warning, massive enough to quickly reach a larger section of the affected areas and the immediate operationalization of LDRRMCs from provincial to barangay levels. There was some weakness in the appropriate/timely allocation of DRRMC funds. The top practical things to do to prepare for disasters in the regions are: the release of committed pledges (i.e., ideal period would be within 6 months); developing an evacuation plan, fast track permanent relocation and settlements; preparing an Integrated River Management Rehabilitation Plan; a Community based Early Warning System and Census (flood); the cessation of all mining and logging operations in Region X; an honest to goodness reforestation/tree growing Program (NGP) and watershed management program, including implementing an "Adopt a tree" and Billion Trees Program; and dredging and construction of river dikes. There was a call made for stricter implementation of environmental laws, i.e., support total log ban and mining ban and stricter implementation of land use plan. Proposals for next steps are the establishment of early warning protocols and 3-digit hotlines and the conduct of drills and mental health and psychosocial interventions. Fast track declaration of relocation sites and construction of permanent homes are also desirable.

Iligan /Lanao del Sur

Learning from the Local Experience: Two man-made hazards were identified - mining and logging. Typhoon Sendong revealed how these hazard sources contributed to the Flashflood, Landslide, Flooding, and "buhawi." It was the communities that saved themselves, in true bayanihan spirit. Humanitarian though

individual responses from various sources – local, national, international NGOs, and LGus was immediate, with more aid from the international community coming in a week later. It wasn't also until a week after that the local responses became coordinated; cluster coordination was instituted. While the Command Center was immediately organized, it took days to be systematized with the 1st Crisis Management Meeting occurring on Dec.17th at 2pm. The churches and schools served as the immediate evacuation centers while search & rescue was ongoing. Within a week RAPID assessment was done.

DRR Priorities: There was a laundry list of local challenges for reducing risks and preparing for disasters in the region. The general perception that Iligan is "typhoon free" is correlated with the lack or absence of knowledge and awareness on DRRM. There were in fact no complete geo-hazard maps and no early warning systems in all levels. The local government institutions had also shown weaknesses – there was lack of coordination within the local DRRM council; the barangay DRRMCs were non-functioning; there were no contingency plans in all levels; no clear guidelines on how to use or utilize DRMM funds; and the SP council lacked a lack of sense of urgency in passing relevant resolutions. The continued existence of mining and logging activities, dependency of some communities on the forests for livelihood, and poor land use in disaster-prone areas also indicate a weakness in the regulatory and enforcement system and adds to the difficulty of curbing the hazards. The top practical things to do to prepare for future disasters were identified as follows: risk assessment in all levels and DRRM Planning/ contingency planning; IEC on DRR/CCA in all levels; providing alternative livelihood opportunities to the forest and mining dependent communities; watershed and Iligan River Basin Management; identifying safe and resilient relocation sites; and. In all of these activities, it was noted that engaging all stakeholders is necessary. Priority for next step is to prepare an action plan that addresses the practical things to do.

REGION XI

Learning from Local Experiences: The group discussed two general types of disasters: natural – earthquakes, landslides, flash floods/floods, tsunami, storm surges, tropical cyclones, drought and manmade –insurgency, fires, bombing and urban flooding (faulty or damaged dams, canals, drainage systems). From these hazards, the following actual local disaster experiences were noted: loss of lives, damages to properties, dramatic experiences of affected families (trauma; psychological effects), injuries, massive evacuation/displacement, damages to public structures/infrastructure and agriculture, flooding (geo/hydro-met hazards), landslides, storm surge/coastal flooding; and man-made/induced like slum colonies and epidemics in gold rush sites in protected mountainous areas. Coping or management mechanisms during disasters included immediate rescue of children, installing warnings/alarms, reliance on LGU actions, and collaboration with private sector. After the disasters had struck and the damage seen, remedial measures implemented included rebuilding of the communities, heightened awareness, collaboration/coordination with the LGUs and private sector, drills, flood proofing,

and organization of barangay rescue teams. In both occasions, the bayanihan sport and reliance on LGUs were common coping mechanisms.

***DRR Priorities*:** DRR is not a priority of some LGUs Too much politicking gets in the way of proper resource allocation for DRR interventions. The challenges that need to be addressed to reduce risks and prepare for future disasters are incorporating geo-hazards in land use planning, continuing IEC; filling the gaps on data and information such as those needed for risk-mapping and hazard mapping; the relocation of communities that are occupying hazardous areas. The top five practical preparatory measures are to organize psycho-social teams at the regional level; make the CBDRRM functional at the barangay level; institutionalize the incident command system at all levels; establish an LGU rating system for response capability; and advocate for family preparedness, including provision of ready-grab kits for individuals/families.

REGION XII

***Learning from Local Experience*:** There were four natural disasters discussed by the group, three of which were specific incidents and one, generic: (1) the 1996 flooding in Mt. Parker (also known as Lake Maughan), which the locals were able to cope with through bayanihan and under the direction of local leaders; (2) earthquakes, for which the communities appeared more prepared to manage due to efforts previously done on hazard mapping; DRRM Organization; IEC Disaster Preparedness; and regular earthquake drills conducted in schools and establishments; and (3) the 2008 flooding of Alabel, which was managed through immediate reporting of incident to the local authorities, self-evacuation to safe areas, and community evacuation; and (4) the May 2002 earthquake and tsunami affecting: Palimbang, Maitum, & Saranggani coastal areas. Some man-made disasters/hazards deemed important enough to raise as issues were the 2011 fire in the public market of Sorala, the bombing of Cotabato areas, vehicular accidents along Davao-Cotabato Road, and NPA-MILITARY encounters. In these cases, public safety is at the core of management measures which include organizing an MPOC, public safety group, response teams at the barangay level, and most importantly, providing budgetary support for these efforts.

***DRR Priorities*:** For all the natural disasters that were discussed the group identified a common set of challenges and it was evident that communications and DRR governance were most significant. Communication issues included IEC implementation, establishment of EWS service; awareness of sources of disaster response; need for capacity building to handle/manage information. Governance challenges ranged from actual implementation of RA 10121 and delays in the approval of proposed budget for its implementation to the absence of community-based geo-hazard maps; the creation of NDRRMO; and creation of contingency plans particularly at the barangay level. The top practical things to do are anchored on the specific actions advocated by Senators Pimentel, Guingona, Honasan and Legarda, which are: to call the attention of the DBM, CSC, and DILG for priority action on the creation of DRRMO nationwide with corresponding budget and to exclude PS requirement of DRRM Officer in computation of PS limitations. In addition, it is

imperative to hold regional DRR summits subject to availability of funds and approval of local chief executive or regional directors. The placement of early warning systems and establishment of reliable and functional communication systems with backup systems up to the barangay level, and capacity building for operating such a system. The group also noted that, at the regional level the local chief executives need to convene with DRRMC officers to tackle immediate concerns including the translation of geo-hazard maps into the vernacular and to have these information incorporated into the school curriculum as a course on geo-hazard awareness. A novel idea that was proposed was to enjoin DOST to come up with simplified terms and guidelines for disaster response protocols and for them to disseminate fact sheets, which are children-friendly. Proposal for next steps are: for local offices with individual monitoring systems to coordinate with each other and form an early warning system; for RDC/RDRMC to come up with a contingency plan and lifelines; and for the region to coordinate with the office of Sen. Loren Legarda to link-up with potential funding partners

REGION XIII

Learning from the local experience: The group discussed four types of disaster and geo-hazard experiences: (1) earthquakes and earthquake induced landslides that had affected Bislig, Butuan City, and the CARAGA region, e.g. an earthquake of intensity 7 on 1976; (2) periodic flash flooding in Tandag and Bislig and flooding every year that is dumped into Agusan del Sur from Davao; (3) tsunami in Agusan del Norte and Sur; (4) storm surges and tropical cyclones in Agusan del Sur and Bislig; and (5) ground ruptures. Bislig reported that they have experienced rain induced and earthquake induced landslides and storm surges. Tandag has experienced earthquake, tsunami, storm surge, ground rupture, floods/flash floods. In Agusan del Sur, the dredging of Agusan River has caused flooding. The armed conflict was also mentioned as a source of man-made hazard. In Bislig, communities and constituents cope or manage through preemptive evacuation and use of early warning device (sirens, radio communication). Representatives from Tandag noted that mobilization and relay system of communication i.e., informing the barangay LGU, who in turn will notify the City LGU, were an effective way of coping with disasters when they struck. In Butuan City, coping mechanisms included immediate evacuation, rehabilitation of affected areas, rescue operations, creation of task force LIKAS; cleaning of ground zero waste (i.e., segregation and solid waste management); and a movement for growing a million trees.

DRR Priorities: The challenges of reducing risks and preparing for disasters in the region are numerous. These include the lack of a plan or guidelines in responding to disasters; the fact that LGU's are ill prepared in resources e.g. funds, to address consequences of disasters; the lack of trainings for municipal and barangay DRRMCs; and the lack on IEC (Information, Education, and Communication) and Advocacy on disaster preparedness. The challenge to capacitate LGU's to implement DDR and CCA effectively was raised as particularly important. On the other end were the communities - the challenge to make communities function under extreme catastrophic conditions. PAG-ASA notes that vacating residence from high-risk areas

to safer ones needs money. The practical things to do to prepare for earthquake-related disasters in the region are: (1) to capacitate local officials and workers on how to respond to disasters; (2) to educate people on what to do and where to go when disaster strikes; (3) to relocate people who reside in hazardous areas; (4) an inventory of LGU's in terms of their state preparedness in responding to disasters; and (5) IEC through symposiums on disaster preparedness, including the conduct of drills not just at the household but at all levels. PAG-ASA mentioned that citizens should pay attention to warnings and advisories issued from the warning agencies. In the case of flooding related disasters, practical things to do are the conduct of educational symposium in all levels; conduct of drills; installation of early warning systems; tree planting in flooded areas; and construction of structural measures. NEDA and PAG-ASA suggested that the proposed next steps should be for the national government to expedite the harmonization of DDR & CCA guidelines and the formulation of DDR-CCA enhanced barangay-DRRM Plans. The proposed next steps for the region include a CARAGA SUMMIT on DDR and geo-hazard awareness, natural hazards, and disasters. Other next steps that were proposed included establishment of integrated/comprehensive data base through PCVA to have community risk profile, hazard mapping, an inventory of available life saving rescue equipment, the immediate establishment of a unified communication system and conduct of Community, DDRRM & CCA awareness program, and drills and simulation in the communities.

MINDANAO DECLARATION ON DISASTER RISK REDUCTION PRIORITIES

Mindanao Summit on DRR and Geo-Hazard Awareness
February 18-19, 2012 | Cagayan de Oro City

In the aftermath of the devastation brought about by tropical storm *Sendong* (International Name Washi), we, the leaders and citizens, of all faiths and ethnicities, from all regions of the great island of Mindanao, upon invitation of Senators Aquilino "Koko" Pimentel III and Teofisto "TG" Guingona III, have gathered here in Cagayan de Oro from February 18 to 19, 2012 for the Mindanao Summit on Disaster Risk Reduction and Geo-Hazard Awareness.

We declare our unity, commitment, and resolve to reduce the risks of disasters in our island, finding strength in the diversity of our backgrounds as we come from different institutions such as the Philippine Senate, the House of Representatives, the National Government, the Autonomous Region of Muslim Mindanao (ARMM), local governments at all levels (barangays, municipalities, cities, and provinces), the business sector, civil society, academe, media, and grassroots communities.

We recognize that di**s**asters can be natural and human-induced and, in Mindanao, include earthquakes, tsunamis, volcanic eruptions, landslides, extreme weather events such as droughts, typhoons, and excessive rainfall, sea level rise and storm surges, flooding, flash floods, human-induced environmental disasters, forest and other fires, and armed conflict.

We are aware of the threat of climate change and that our island will be severely affected by its impacts unless integrated adaptation-mitigation programs are implemented at the soonest time possible.

We acknowledge that geo-hazards naturally exist in our ecosystems and environment and human actions or inaction can aggravate, accelerate, or mitigate the risk of disasters arising from these geo-hazards.

We are concerned particularly that logging, mining, unsustainable agriculture, and other similar land use activities increase the vulnerability of many ecosystems and communities in our island.

We support the peace process and urge the national government and revolutionary organizations like the Moro Islamic Liberation Front and the CPP/NPA to enter into permanent peace settlements that would make widespread dislocation and displacement of large populations a thing of the past.

We recognize that disasters and calamities inevitably impact on citizens, communities, properties and infrastructure, and as a result, threaten not only Mindanao's but the entire country's sustainable development;

We note that the vulnerability of communities and localities to disasters and calamities can be addressed with proper management of the sources of risk, level of exposure, and buildup of adaptive capacity.

We are conscious that some sectors such as the poor, children, elderly, women, indigenous peoples, and people with disabilities are more vulnerable to disasters than others.

We are also conscious that disasters affect all sectors and all economic classes, and special programs to address the needs of the middle-class and business sector are also necessary.

We observe that mitigation and adaptation measures by all sectors and levels of government have been inadequately implemented and weakly coordinated resulting in inefficient use of resources and lack of accountability.

We observe also that most communities are resilient and respond to disasters on their own, through self-help measures and reliance on their own capacities, which however are inadequate in the face of major disasters.

We believe that disasters can be mitigated, if not entirely prevented, with the right measures in place at all levels, but especially community-centered initiatives, and implemented by all sectors, including equipping communities with the capability to manage the disasters when they occur.

We also believe that the most cost-effective way of reducing risks to disasters is by integrating Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) and implementing such programs at the local level based on good, accurate, and timely scientific information and analysis.

We agree to work together to implement at all levels the Disaster Risk Reduction and Management Act of 2010, the Climate Change Act of 2009, the Philippine Disaster Risk Reduction and Management Action Plan, and the National Climate Change Action Plan.

We call on our development partners to support local, regional, and island-wide initiatives to reduce risks to disaster in the spirit of and in accordance with the Hyogo Framework for Action, the United Nations Framework Convention on Climate Change, ASEAN Agreement on Disaster Management and Emergency Response (AADMER), Children's Charter on DRR, and other regional and international resolutions and agreements.

We commit to collaborate more closely and effectively with each other to coordinate our efforts on capacity building for disaster risk reduction, preparedness, relief, rehabilitation, reconstruction, and resettlement.

Based on the foregoing, we state and declare that the following are the priorities for disaster risk reduction in Mindanao:

1. ***Knowledge:*** Addressing through scientific research, training, and information, education, and communication (IEC) interventions, using up-to-date technology and community-based approaches, the lack of knowledge and/or inadequate communication of existing knowledge on disaster hazards, vulnerability, exposure, and risks and adaptation and response measures necessary including flood and other hazard maps. This includes integration of DRR and geo-hazard awareness in the educational curriculum as well as in religious institutions and production of child

friendly IEC materials. Information should also be based on local best practices, be indigenized and translated into the vernacular.

2. ***Emergency preparedness and response:*** Addressing the needs of vulnerable and exposed communities, including building adequate and permanent evacuation centers, so that public schools, buildings, and grounds are not regularly disrupted as a result of disasters; relocating communities in danger zones to safe and accessible places; providing emergency kits for individuals and families; conducting regular drills to prepare for disasters; simplifying disaster response protocols; and organizing effective psycho-social interventions to help affected persons and families to cope and adapt.

3. ***DRRM Plans:*** The adoption and implementation of disaster risk reduction and management plans at the regional, provincial, city, municipal, and barangay levels, based on good and updated, location-specific scientific knowledge and analysis, including risk assessment and consciousness of adaptive capacity, and aiming at zero-casualty and minimal economic damage.

4. ***Enforcement of Laws:*** Strict implementation and immediate enforcement by the national government and local governments of environmental, natural resources, land-use laws, including prohibiting mining and logging in disaster-prone/vulnerable areas. Local legislation on DRR is also essential, including stricter zoning laws. Recognizing that communities could be impacted economically where economic activities are restricted, alternative livelihood programs should be put in place.

5. ***Ecosystem-based Approach:*** Where appropriate, a river basin management shall be implemented in managing areas from ridge to reef, including in implementing DRR plans and programs. Massive reforestation, including of mangrove forests, through planting of native species to promote biodiversity and sustainability, should also be done.

6. ***National Legislation:*** Passage of pending bills such as the People's Survival Fund, People's Solidarity Fund, the Land Use Act, and laws that will establish a permanent, independent disaster management and risk reduction agency and promote inter-local government cooperation in DRR-CCA.

7. ***Institutional Mechanisms:*** Setting up the appropriate institutional mechanisms for DRR implementation, including institutionalizing incident command systems at all levels, an LGU rating system for disaster response and accountability, adequate early warning systems at all levels using appropriate local indigenous and modern communication systems and technology (including 3-digit phone numbers with back-up systems), regional DRR summits including ARMM, and modifying budgetary rules to allow staffing the DRRMO in all local governments.

8. ***Implementation:*** Designing and implementing innovative capacity building, resource mobilization strategies and mechanisms, including monitoring progress, to implement these DRR priorities.

Adopted by consensus this 19th day of February 2012 in Cagayan de Oro City, Mindanao, Philippines.

PHOTO GALLERY

PHOTO GALLERY

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