

Responding to Multiple Disasters

A Case Study on the Philippine Disaster Resilience Foundation's Emergency Operations Center and Response to Super Typhoon Goni and Vamco During the COVID-19 Pandemic



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Disclaimer

This case study was produced primarily for private sector networks and serves as basis for promoting further discussion and analysis. The contents of this document remain the responsibility of the author alone.

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INTRODUCTION

Climate change in the past decade has caused the evolution of risks and disasters. Based on the Asia-Pacific Disaster Report (UN ESCAP, 2019) [1], the region has experienced intensification in climate related risks within the past years. Cyclones are acting unusually and have become more frequent; complexities have arisen in risk hotspots as well (South and South-East Asia and those residing within the Pacific Ring of Fire). As a result, its implication and vulnerabilities also continue to evolve with the marginalized and underprivileged suffering the most. A disaster leads to another, causing a snowball of challenges. These occurrences are well illustrated in Ruiter et. al's (2020) study on consecutive disasters. The regularity of multiple disasters was shown to have severe impacts that impede community recovery. By approaching these phenomena through a multi-hazard lens, response initiatives may become more efficient.

The Philippines is one of the most hazard-prone countries in the world. The country ranks third in countries with the highest risks based on the World Risk Report 2018 (UNDRR, 2019). Approximately 20 typhoons hit the country yearly, with hydro-meteorological events covering 80% of natural hazards in the country. Cyclones accompanied by landslides, storm surges and floods cause major losses of human capital and property. In 2020, the Philippines had 23 tropical cyclones, with nine solely in the month of August (PAGASA, n.d.). Aside from the natural and manmade risks posing the country, a global pandemic was declared. The Coronavirus disease, popularly known as COVID-19 has become the most pressing concern. Households are on the brink of extreme poverty brought by its severe economic consequences and insecurity in health, opportunities, and protection (Economic Policy Research Institute, 2020).

In approaching climate change and disasters, the national government generally follows two plans: the National Climate Change Action Plan (NCCAP, 2011-2028) and National Disaster Risk Reduction and Management Plan (NDRRMP, 2020-2030). Both of these frameworks highlight the government's medium to long-term goals. In terms of response, the national government follows protocols under the National Disaster Response Plan (NDRP, 2018). While these frameworks generally cover all sectors, private sector initiatives tend to focus on immediate and/or short-term response. Several programs and efforts are being initiated by companies to support disaster affected communities and households. With the amount of relief efforts and programs provided by these sources, there is a need to properly mobilize and handle information. The private sector is ostensibly a vital partner when it comes to Disaster Risk Reduction Management (DRRM) and Climate Change Action (CCA) efforts.

As a leading private sector organization in managing and reducing disaster risks and assisting affected areas, the Philippine Disaster Resilience Foundation (PDRF), a Connecting Business initiative (CBI) member network, has been working closely with the government and UN organizations. While a plethora of strategies and practices is being implemented by PDRF, one of the best practices during disaster response is the PDRF Emergency Operations Center (PDRF EOC). This coordination hub is critical in monitoring and assessing the impact of hazards. Its primary role involves coordinating private sector efforts for disaster response. The role of EOC has played a big part in managing multiple disasters so that others can draw lessons and useful insights.

This study aims to draw experience from the triple whammy scenario in 2020; the overlapping Super Typhoon Goni and Vamco response during the COVID-19 pandemic. As COVID-19 continuously threatens economic and health conditions, the Philippines had dealt with Super Typhoon Goni (known locally as Rolly) and Super Typhoon Vamco (local name Ulysses) in the last quarter of 2020. Super Typhoon Goni was estimated to cost USD 231.9M in damaged infrastructure with 24 million people severely affected. Shortly after, Typhoon Vamco struck, causing floods to communities affecting an estimate of 4.2 million people. Since both occurred during a pandemic, the Philippines was forced to address immediate response and impacts to the societies (The Philippine Humanitarian Country Team, 2020).

This case study aims to answer the general question *"How does the PDRF EOC respond to multiple disaster scenarios?"* It looks into the specific questions:

1. What are the goals and features of the PDRF EOC?
2. How does the EOC operate during a disaster? What are the main roles of the EOC in strategically responding to disasters?
3. How has the EOC managed the multiple hazard occurrence: Super Typhoon Goni, Vamco and COVID-19 pandemic?
4. What are the challenges, lessons and best practices from the triple whammy scenario in 2020?

This study contributes to the body of knowledge on multiple hazard responses. Its research objective is to outline how the PDRF EOC operates during a multiple disaster scenario. This shall also illustrate the importance of information and data management response. For the purpose of the study, although there are existing resources referencing 'multiple disaster response'; this body of work defines it as having overlapping response scenarios in a specified location over a period of multiple disasters. It focuses on the response aspect as compared to Ruiter et al.'s (2020) explored concept of 'consecutive disasters'.

[1] [United Nations Economic and Social Commission for Asia and the Pacific, The Disaster Riskscape across Asia-Pacific: Pathways for Resilience, Inclusion and Empowerment. UN, 2019.](#)

METHODOLOGY

This study utilized both primary and secondary data sources. A qualitative questionnaire was distributed to unit representatives under PDRF's operations center as well as their collaborative organization/agency partners. A total of six questionnaires were gathered from February to April of 2021. As for secondary data, content analysis for public and internal PDRF documents were reviewed in order to paint a picture of how the center operates.

Information is divided into two parts: firstly, on the operational side of the center and second on the interoperability during the consecutive typhoons last 2020.

FINDINGS

Brief history of PDRF and establishment of the EOC

In 2009, Executive Order No. 838 was enacted to create the Special National Public Reconstruction Commission (Public Commission) for effective reconstruction measures to address needs of disaster-stricken communities. The Public Commission tapped the private sector for support. As a result, leaders of some of the country's largest private corporations and non-governmental organizations established the Philippine Disaster Recovery Foundation to support the Philippine government's reconstruction programs.

In 2013, when successive large-scale disasters—the civil unrest in Zamboanga, the 7.2 magnitude earthquake in Bohol and Cebu, and the world's strongest recorded super typhoon Haiyan (local name Yolanda)—happened (Takagi & Esteban, 2016), PDRF was reorganized and intensified as the umbrella organization of the private sector for disaster preparedness, relief, and recovery. Corresponding programs were created for post-disaster recovery in five key sectors: (a) shelter, (b) livelihood, (c) education, (d) environment, and (e) water, infrastructure, sanitation, and health. Two years later, its name was formally changed to Philippine Disaster Resilience Foundation to capture the entire disaster risk reduction and management framework.

Along with PDRF's initiatives, the idea for a centralized body for coordinating private sector efforts was raised to PDRF's board of directors in 2014. The establishment of an Emergency Operations Center (EOC) was seen as essential for disaster response. Within this center, private sector resources could be mobilized and timely information could be provided. Compared to information released by the national government, the main selling point of the EOC would be the provision of situational reports directed on how disasters will affect the private sector as well as their business operations.

The suggestion was pursued and a memorandum of agreement was signed in 2015 to start constructing the office in Clark, Pampanga. Pampanga was chosen as a strategic location due to its accessibility; it was near the Clark international airport, Clark Freeport and Special Economic Zone (CSEZ), and fairly accessible to the National Capital Region.

The area also had low risks of disasters, assuring the continuation of operations. In 2016, simultaneous with the construction period, a prototype office was set up in Makati City. This was in partnership with the Philippine Shell Petroleum Corporation (PSPC) and lasted for three years until the actual opening of the Pampanga center. The EOC was officially opened in 2018 and continues to serve disaster affected communities and its private sector partners.

EOC goals and features

The PDRF Operations Center is a 24/7 self-sufficient coordination hub geared towards training for disaster preparedness and the coordination of relief and response efforts during major disasters. With its advanced communications software and technology, the hub monitors climate-related and other hazards in close coordination with deployed resources in the field. Primarily, the EOC provides and coordinates warnings, disaster evacuation, asset inventory, and emergency services integration. It also complements government efforts, providing commercial and civic inputs to total disaster efforts.

PDRF-EOC has three main goals: (1) The first is to ensure coordination and collaboration by building an ecosystem where corporations and partners can collaborate and coordinate with the government and with international humanitarian organizations in disaster risk reduction and management; (2) Second is to empower individual businesses through disaster resilience. The center will promote a greater awareness of the disaster risks faced by corporations and encourage the integration of disaster preparedness with company operations; (3) Finally, to strengthen the preparedness and business continuity capacity of MSMEs that work directly with larger organizations. This is to promote disaster preparedness not only in large corporations but also in the smaller businesses that support them.

The center has three main features: The first is the PDRF Cluster System. PDRF has developed and refined a nationwide platform that mobilizes, informs, and directs business contributions and engagement for disaster management. The network engages the country's largest businesses and medium-sized enterprises and facilitates collaboration, resource sharing, and joint planning. Furthermore, the network is active in all phases of disaster risk reduction and management (preparedness, response, recovery). The second feature is a permanent office located in the Clark Freeport and Special Economic Zone in Pampanga for its low-risk setting and easy access to transportation networks (including international travels). The building is retrofitted for multi-hazard resilience and includes stand-alone power and water systems. The third feature is the Disaster Information Management (DIM) System, which integrates all reliable, accurate, and timely information on disaster management. The DIM System employs the customized ArcGIS Online platform from ESRI called HANDA or Hazard and Disaster Analysis for Business Resilience. PDRF-HANDA is a unified platform for providing real-time data that enables member companies to assess and reduce their risk prior to potential disasters. The platform also allows these companies to plan relief and rehabilitation efforts that complement business continuity plans and programs.

The PDRF Operations Center

The PDRF Operations Center (OpsCen) mainly monitors natural hazards, specifically earthquakes, tropical cyclones, severe weather, and disaster outbreaks and performs the primary function of emergency preparedness. Its priority is the business continuity of its member companies that cater to Philippine economic stability. In times of extreme hazards, the PDRF (OpsCen) will activate to become an Emergency Operations Center (EOC), which disseminates information to the PDRF member companies and coordinates its needs and response in times of a disaster.

The EOC keeps a check on events that could potentially disrupt its networks' operations. In such events, the PDRF EOC monitors the incidents and sends out relevant information to its networks. The EOC also provides the government available information on the status of lifeline services, such as water, power, and telecommunications. Below are: (1) a table that gives an overview of OpsCen and EOC core functions, (2) organizational structure of OpsCen and EOC.

Table 1. Core functions of OpsCen and EOC

Functions	Pre-Disaster / Disaster Resilience Building Actions	Post-Disaster / Disaster Response
Status	Operations Center	Emergency Operations Center
DRR Information Management	Hazard monitoring and Disaster Risk Assessment and Awareness Building, Disaster Preparedness and Risk Assessment, Emergency Response Plan Actions Monitoring and Tracking	Hazard monitoring and Disaster Risk Assessment and Awareness Building, Situational awareness for Disaster response, Response monitoring and tracking
Emergency Response Preparedness	Minimum Preparedness Actions, Advance Preparedness Actions, Contingency Planning	
Emergency Response	Emergency Response Preparedness Actions	Activation of the EOC, implementation of Emergency Response Program
Coordination for Disaster Risk Management and Resiliency	Cluster drill and exercise for response Pre-arrangements and prepositioning for response	Cluster approach to emergency response

Figure 1. OpsCen Organizational Structure

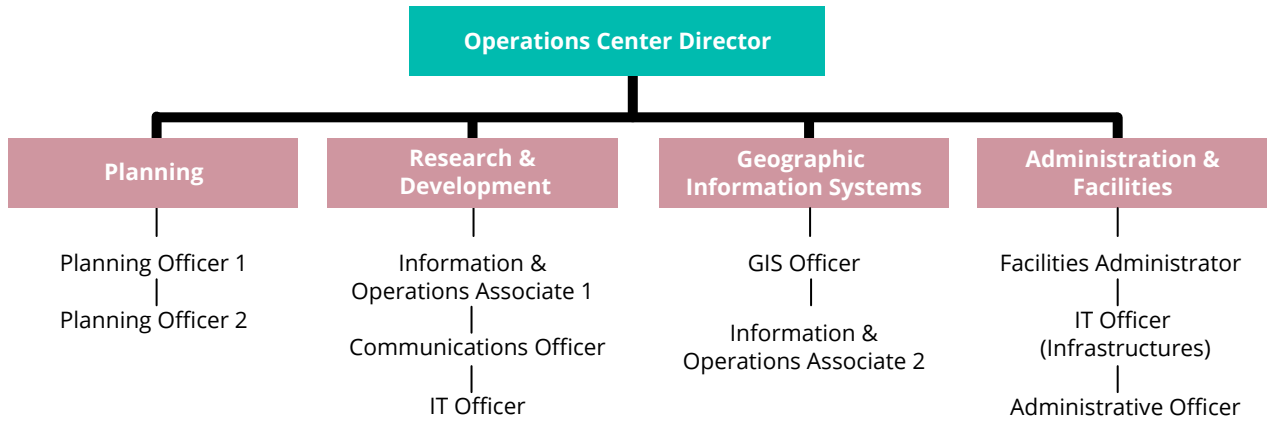
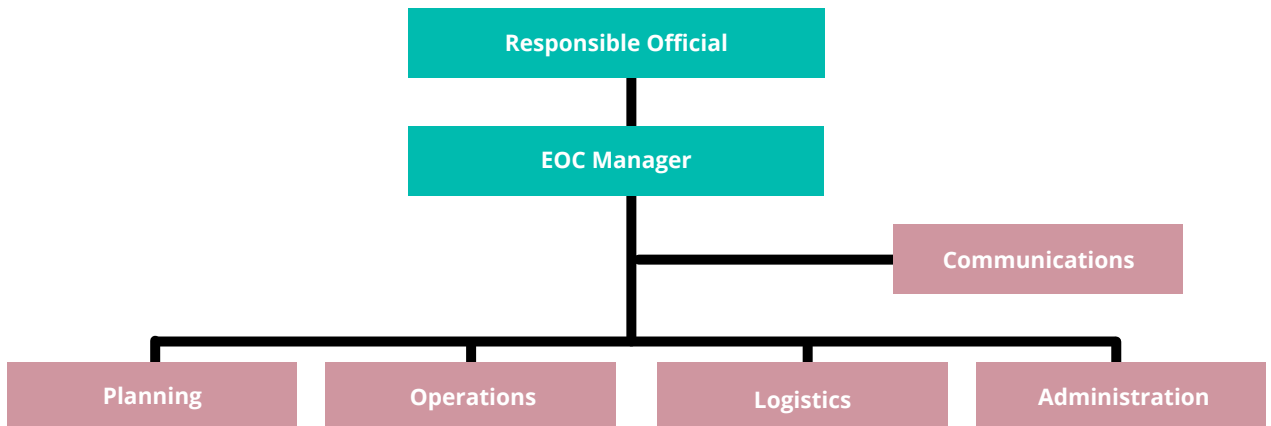


Figure 2. EOC Organizational Structure



Cluster System

The PDRF member companies are organized into a Cluster System that is geared towards proper coordination and collaboration before, during, and after a disaster period. PDRF's cluster system is composed of 84 member companies that focus their efforts on their given industries. Each member company has a designated Business Continuity Planning (BCP) and Emergency Management Officer who both undergo training and coordinate closely with the PDRF. The current structure of the PDRF cluster system is shown in Figure 3.

To address widespread confusion, breakdown of communication, and disorder, PDRF implemented a Disaster Information Management (DIM) System called Hazard and Disaster Analysis for Business Resilience (HANDA). The four key features of PDRF-HANDA: (1) Incident reporting which allows the PDRF member companies to report natural hazard-related incidents that can be coordinated with member companies, the PDRF Emergency Operations Center (EOC), and the National Disaster Risk Reduction Management Council (NDRRMC) for immediate response.; (2) Incident monitoring where PDRF donor companies can monitor incidents reported by their offices/units across the country using the incident monitoring dashboard. Through this dashboard, PDRF and its member companies are able to monitor incidents that have already been coordinated with proper authorities; (3) Incident management which is an application of the ticketing system of the PDRF EOC. It helps PDRF manage all reported incidents within the network; and lastly, (4) Hazard monitoring wherein PDRF member companies are able to plot their facilities' assets and reference against geohazard data to help properly assess the threats and risks to vital resources.

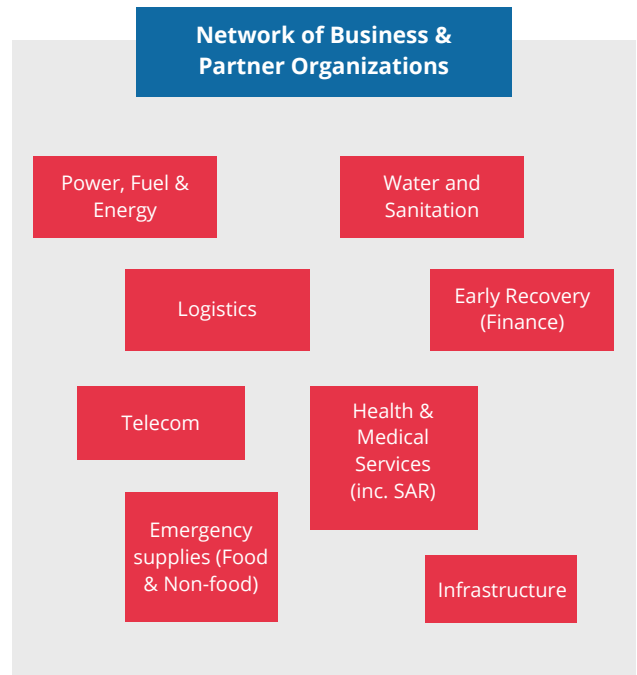
Together with Philippine Institute of Volcanology and Seismology (PHIVOLCS), PDRF also utilizes the Rapid Earthquake Damage Assessment System – Earthquake and Tsunami Alerting Module (REDAS – ETAM), which alerts the EOC when an earthquake with a magnitude of 5.0 and above occurs anywhere around the world. This helps the EOC assess the possible impacts of the earthquake to PDRF member companies and to the wider community.

Investing in Disaster Risk Reduction and Preparedness

Majority of the PDRF units have various programs that address disaster risk reduction and emergency preparedness.

- The Community Resilience unit is involved in capacity building activities for local barangays and cities.
- The Learning and Development unit has various training modules including business continuity and public service continuity. Their target audience are the member companies, the government, and the private sector in general.
- The Cluster Coordinators develop partnerships and pre-agreements with the member companies. They also help the PDRF cluster members draft their response guidelines and contingency plans with the government.

Figure 3. PDRF cluster system ^[2]



PDRF's emergency response framework caters to the private-sector network response's planning needs. The organization uses a response framework that refers to the EOC as the central coordination hub during emergency response. This framework highlights the function of the EOC in monitoring and assessing hazards, conduct of risk assessment, information management, conduct of rapid damage assessment and needs analysis.

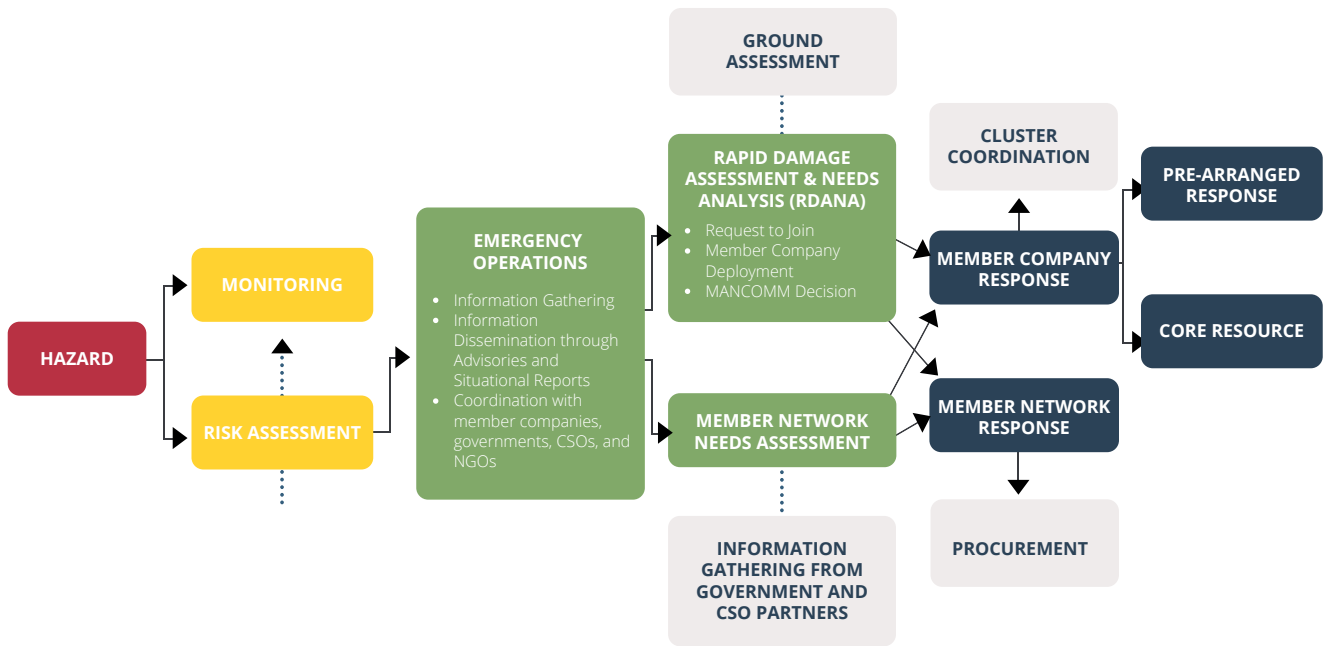
Activation

The Operation Center monitors events that could possibly disrupt the network's operations. The primary function of the Operations Center is to release relevant information to the members of the network based on the results of the hazard monitoring. The EOC team can work remotely as long as they have access to the official sources of information (i.e. government agencies)

The EOC conducts risk assessments using the latest available data on hazards, exposure and vulnerability. The risk score will be calculated to determine the alert level to be activated. These assessments guide the PDRF member companies in assessing the needs of the network members and the community affected. PDRF uses a rapid assessment tool in identifying needs of the business sector and communities affected by doing a ground survey. The network can also join the United Nations Office for Coordination of Humanitarian Affairs (UN OCHA) and Humanitarian Country Team in conducting the rapid assessment in the affected areas.

[2] Organizing member organization through the PDRF member companies

Figure 4. Response mechanisms of PDRF EOC



The results of the Rapid Damage Assessment and Needs Analysis (RDANA) will be an input to the planning process in coming up with an emergency response plan. The Operations and Planning units assess the needs of the network members. PDRF Cluster Coordinators will coordinate with PDRF member companies for immediate requests/services before, during and after a disaster. Based on PDRF's experience, here are some examples of a PDRF member companies member requests: The results of the Rapid Damage Assessment and Needs Analysis (RDANA) will be an input to the planning process in coming up with an emergency response plan. The Operations and Planning units assess the needs of the network members. In the case of PDRF, they have Cluster Coordinators who regularly coordinate with the network members for immediate requests/services before, during and after a disaster. Sample needs of the network members based on PDRF's experience include, Search and Rescue Request for trapped employees of the requesting company, Request for linkages with local authorities, or Pick-up in-kind donations.

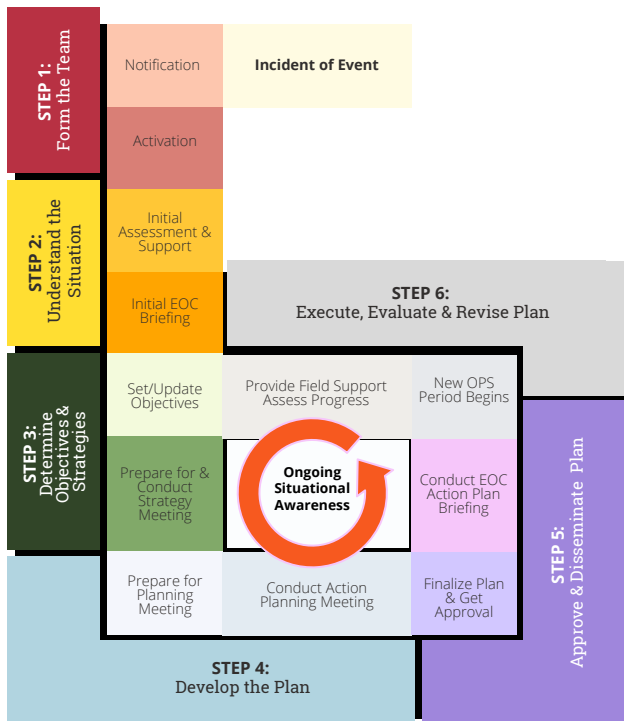
- Request for search and rescue assistance request for trapped employees of the requesting company;
- Request for linkages with local authorities; and,
- Request for pick-up in-kind donations.

The Logistics and Administration units assess existing capacity to respond based on the current situation. They review existing pre-agreements with network members and conduct inventory of deployable assets including human resources. They can review existing partnerships with the government and other international partners. They can also pre-position available assets and facilities.

The planning step identifies the priority actions based on the risks and capacity of the network to respond. Using the Planning G cycle (Figure 5), the team starts planning for the EOC actions to be undertaken. Based on the current situation, the ER Team Leader determines the priority response objectives for the given operational period, in consultation with the EOC Team. Strategies must be identified to achieve the response objectives set by the team. Ensure coordination with the other members of the EOC Team and the PDRF clusters. All strategies must be weighed against available resources, time and probability of achieving the desired outcomes. Below are the sample response objectives:

- Develop situational reports
- Coordinate with the network for support and other requirements
- Compile private sector response efforts
- Compile information on the ground, social media, data collection from primary sources
- Ensure availability of critical resources
- Highlight private sector response efforts and address the information needs of stakeholders through information, education, and communication needs
- Release a call for donations
- Respond to operational continuity needs of member companies
- Manage private sector-led projects and support partner initiatives

Figure 5. Planning G cycle



The EOC Action Plan is approved by the ER Team Leader and disseminated to the network. Action plans may change or be updated for the next operational period. Interoperability is a crucial aspect for all actors involved in disaster management. The EOC Team has clear tasks and assignments in achieving the response objectives based on the approved EOC action plan. The EOC Team regularly coordinates and communicates with the network members. The team must also ensure proper coordination, communication, and collaboration with the national government, local Civil Society Organizations (CSO) partners and UN agencies (e.g., OCHA, UNDP, CBI) to effectively deliver the most needed assistance to affected communities.

The cluster coordinators issue a call for appeal to the network members and other partners. They use the existing quick response fund and activate agreements with network members. The cluster system is an efficient way of mobilizing resources.

Monitoring and post implementation practices

Monitoring is critical in executing the EOC action plans. PDRF tracks donations through a simple sheet as can be seen in table 2.

Another post implementation practice is conducting After Action Reviews (AAR). The AAR discusses the action, activity, or project and helps the team to reflect on good practices, lessons learned and recommendable actions for areas to be improved. Ideally, AARs should be a routine part of any action, activity, or project for improving the efficiency and effectiveness.

Table 2. Sample Donation Tracker

PRIVATE SECTOR RESPONSE EFFORTS		
COMPANY/ORGANIZATION	RESPONSE	LOCATION
Aboitiz Group	Food packages	Oriental Mindoro, Albay and Batangas
Aboitiz Group	Construction Materials	Albay
Aboitiz Group	Deployed a team to help restore electricity in Bicol Region	Bicol Region
Alagang Kapatid Foundation	Food packs, hygiene kits, vitamins and liniment	Quezon, Albay, and Catanduanes
Alagang Kapatid Foundation	Libreng charging	Albay
AHA Center	Food and Non-food items	Region V
Ayala Group	Distributed food packs	Batangas, Albay, Catanduanes and Oriental Mindoro
Ayala Malls	Waiting areas, restrooms, and waived parking tickets	Entire Luzon
Globe	Set up free charging, call and wifi booths	Catanduanes, Camarines Sur, and Albay
Manila Water Foundation	Donated 5-gallon drinking water	Albay and Batangas
Manila Water Foundation	Donated 2,500 gallons of drinking water	Virac, Catanduanes
Meralco	Deployed teams of volunteer linemen to help restore power	Catanduanes, Camarines Sur, and Albay
Monark Equipment Corporation	Deployed forklift trucks for DSWD NROC relief operations	
One Meralco Foundation	Distributed relief packs to victims of Super Typhoon Rolly	Quezon and Albay
One Meralco Foundation	Distributed food packs to 1000 families hit by back-to-back Typhoons	Marinduque
Pacific Global One Aviation	Provided air transport (helicopter) for deployed PLDT-SMART Engineers	Catanduanes
PepsiCo	Donated 150 boxes of bottled water	Tiw, Albay
PLDT-SMART	SatPhones for OCD	Catanduanes
PLDT-SMART	Libreng tawag and charging stations	Albay, Aurora, Batangas, Camarines Sur, Pampanga, Tarlac, Bulacan, Bataan, Marinduque, Sorsogon, Camarines Norte, Camarines Sur and Zambales

Table 3. Sample After Action Review Form

Review objectives and deliverables	Identification of best practice	Areas of improvement	Actionable recommendation
<p>What did we set out to do?"</p> <p>"What was supposed to happen?"</p> <p>"What did we achieve?"</p> <p>"What happened?"</p>	<p>What went well? Why?</p> <p>or</p> <p>"What are things that are worth replicating in a similar project? Why?"</p>	<p>What could have gone better?</p> <p>Why and how?</p> <p>What should we do differently next time? Why and how?</p>	<p>Identify 3-5 actionable recommendations for similar projects and actions in the future.</p> <p>The recommendations should be specific, clear, actionable, & achievable with a focal point for each.</p>

CASE STUDY

Interoperability on Super Typhoon Goni and Vamco during the COVID-19 pandemic

The EOC is the main feature of PDRF that attracts companies to partner or become a member company of PDRF. The ability of the EOC to coordinate with its partners for response is one of the most crucial considerations for joining as a PDRF member company. The Cluster System provides interoperability amongst different member companies and with the government and even the UN. Pre-agreements with PDRF member companies allow for efficient resource mobilization during emergencies. They ensure that the resources will be available rapidly when response time comes.

The cluster system allows for interoperability between PDRF member companies with similar core competencies. It also provides a platform for inter-cluster cooperation. The PDRF Cluster system also aligns with the cluster systems of the government and the Philippine Humanitarian Country Team (HCT).

Timeline

Since the pandemic started, PDRF-EOC implemented the following:

- The Crisis Management Team has been activated and the Continuity of Operations Plan for Pandemics was created.

- Adjustments to the protocols for Geological and Hydro-Meteorological hazards were made to include pandemic scenarios. Included in these adjustments were the manpower requirements for blue and red alert, and the provision for a virtual EOC.
- The Operations Center implemented a shifting schedule among its employees to comply with health and safety protocols.
- The EOC was activated for Super Typhoon Goni and Typhoon Vamco
- The OpsCen Staff and Cluster Coordinators were able to report to the Operations Center for the red alert activation.
- PDRF staff was able to render duty virtually.
- The Ground Deployment guidelines were adjusted to include measures against COVID-19.
- The EOC was able to deploy people for 2 RDANAs (Catanduanes, Cagayan) and for relief operations in Catanduanes.
- The EOC staff had check in calls with the CBI Secretariat.
- The EOC continued to release COVID-19 situational reports alongside sitreps for tropical cyclones.
- The response for COVID-19 continued and overlapped with the response for the tropical cyclones as personal protective equipment (PPEs) and medical supplies were sent to the affected hospitals.

January 30, 2020

First COVID-19 case was confirmed in the Philippines

March 15, 2020

National Capital Region was placed under community quarantine

March 16, 2020

Declaration of State of Calamity throughout the Philippines due to COVID-19

October 23, 2020

Low Pressure east of Mindanao has developed into Tropical Depression Quinta

October 25-27

Typhoon Quinta (Molave), brought strong winds and heavy rains in Bicol Region, MIMAROPA (Mindoro, Marinduque, Romblon and Palawan) and CALABARZON (Cavite, Laguna, Rizal and Quezon)

October 29, 2020

Tropical Cyclone "Goni" entered the Philippine Area of Responsibility and was given the local name "Rolly".

October 30, 2020

Metro Manila, Batangas, Iloilo City, Bacolod City, Tacloban, Iligan City, and Lanao del Sur were placed under General Community Quarantine [3] for the month of November. The rest of the country was under Modified General Community Quarantine.

October 30-31

The PDRF EOC performed a risk assessment for the weather disturbance while maintaining a RED alert for the COVID-19 Pandemic. PDRF EOC continued monitoring the COVID-19 situation and responding to it.

October 30

The Department of Health (DOH) urged the public to observe preventive measures such as; social distancing and proper personal hygiene to prevent the spread of the virus. Code Red, Level 2 is raised in the Philippines due to the increasing number of cases recorded.

During this time, there were two main projects in response to COVID-19:

1. **Project Ugnayan:** a collaborative effort of the private sector, the Philippine Disaster Resilience Foundation (PDRF), and Caritas Manila to raise funds in support of ongoing initiatives to provide unconditional emergency cash assistance to help economically-vulnerable families in the Greater Metro Manila Area and address the food security needs of those affected by the enhanced community quarantine. The initiative reached 2,837,367 families (14,186,835 individuals) in various dioceses in Metro Manila, Rizal, Cavite, Bulacan, and Laguna. Donations to the project amounted to over USD 36M coming from 220 individual and corporate donors.
2. **Project Kaagapay:** a multi-sectoral fundraising initiative of the Philippine Disaster Resilience Foundation (PDRF), Zuellig Pharma, ABS-CBN News, and Metro Drug, aimed to provide personal protective equipment (PPE) sets for our healthcare community and procure lifesaving ventilators for those battling the Coronavirus Disease.

[3] easing the lockdown in areas that are seen to have low infection rates of the coronavirus. People in these areas can enjoy certain liberties but not so much as conducting public activities before the pandemic.

November 1, 2020

Tropical cyclone Goni was formally declared as a Super Typhoon and first made landfall in Bato, Catanduanes.

1. PDRF EOC started releasing daily situational reports covering Goni
2. Coordinated with the network for support and other requirements
 - a. 10-wheeler trucks and forklift request of Department of Social Welfare and Development (DSWD) Visayas Disaster Response Center, National Resource Operations Center
 - b. IOM procurement of modular tents (pricing and specs)
 - c. In coordination with the government agency - Department of Social Welfare and Development (DSWD), PDRF prepositioned 260,164 family food packs (FFPs) in strategic areas across the country.
 - d. With PLDT-Smart Foundation, Alagang Kapatid Foundation Inc., and MVP Group's Tulong Kapatid, there were immediate relief efforts in areas affected by the Super Typhoon. Tulong Kapatid was set to provide food packs and other necessary relief items.
3. Updated [ArcGIS](#) for monitoring impact:

November 3, 2020

Tropical Storm Goni left the Philippine Area of Responsibility (PAR). Response activities with regards to COVID-19 were still on-going.

November 4, 2020

The following day, PDRF EOC had followed the same protocol as they continued with developing situational reports and advisories in collaboration with government sectors (Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), National Disaster Risk Reduction & Management Council (NDRRMC) / Department of Education (DepEd) and media and social media outlets.

PDRF EOC released a Call for Donation to partners/companies

November 5, 2020

The PDRF team joined the RDANA initiated by the National Disaster Risk Reduction & Management Council and Human Country Team and flew to Catanduanes for needs assessment. UPS trucks picked up jerry cans from the Office of Civil Defense warehouse for Super Typhoon Goni response

Table 4. Private Sector Response Efforts

PRIVATE SECTOR RESPONSE EFFORTS		
COMPANY/ORGANIZATION	RESPONSE	LOCATION
Aboitiz Group	Food packages	Oriental Mindoro, Albay and Batangas
	Construction Materials	Albay
Alagang Kapatid Foundation	Food packs, hygiene kits, vitamins and liniment	Quezon
AHA Center	Food and Non-food items	Region V
Ayala Group	Food packages	Batangas
Ayala Malls	Waiting areas, restrooms, and waived parking tickets	Entire Luzon
Monark Equipment Corporation	Pledged forklift trucks for DSWD NROC	
Pacific Global One Aviation	Provided air transport (helicopter) for deployed PLDT-SMART Engineers	Catanduanes
PLDT-SMART	SatPhones for OCD	Catanduanes
	Free calls and charging stations	Albay, Aurora, Batangas, Camarines Sur, Pampangam Tarlac, Bulacan, Bataan, Marinduque, Sorsogon, Camarines Norte, Camarines Sur and
	Deployed a team of engineers to restore communications and connectivity	Catanduanes
San Miguel Corporation	Prepositioned relief packs for hard-hit areas	Bicol
UPS Foundation	1 10-wheeler truck for OCD	

November 7, 2020

In response to Super Typhoon Goni, the PDRF EOC deployed teams to help restore power in Albay, Camarines Sur, Catanduanes

The NDRRMC-HCT Joint Rapid Assessment of Impacts and Needs (RAIN) team validated their assessment with municipality officers in Catanduanes. The participation of PDRF in the joint assessment highlighted the importance of the whole-of-society approach to disaster response.

Continuing the response to COVID-19, Valenzuela Medical Center, Valenzuela Emergency Hospital, and Ospital ng Malabon received packed lunches from McDonald's Kindness Kitchen.

November 8, 2020

Vamco (Ulysses) entered the Philippine Area of Responsibility on November 8, 2020. It intensified into a Typhoon during its course and affected Regions I, CAR, II, III, NCR, IV-A, IV-B, V, and VIII. It exited the Philippine Area of Responsibility on November 13, 2020.

Started to plan alignment of cluster operational delivery plans with OCHA

November 9, 2020

Continuing with the Super Typhoon Goni response, there were clearing operations and restoration of power in Bicol. Food packs were also distributed in Barangay Tilis, Bato, Catanduanes

The Humanitarian Needs and Priorities for Super Typhoon Goni report was released by OCHA that includes the private sector as a separate section.

November 10, 2020

PDRF EOC raised its alert status to RED for the weather disturbance "Vamco." They conducted a risk assessment using the latest tropical cyclone track from PAGASA.

The most affected regions by Typhoon Vamco: National Capital Region (NCR) Region III (Central Luzon) Region IVA (CALABARZON) Northern portion of Region IVB (MIMAROPA) Region V (Bicol Region)

There were also 2,000 food relief packs turned over to families affected by Super Typhoon Goni and Typhoon Molave.

November 11, 2020

For Typhoon Goni, Manila Water Foundation, with the help of the Philippine Coast Guard, transported 2,500 gallons of drinking water to Virac, Catanduanes.

As Vamco intensified further and continued to move closer towards the Quezon-Aurora area, continued monitoring was in place.

PDRF-EOC planned and executed their protocol by developing situational reports and advisories and continued monitoring of the incident and corresponding impact.

November 12, 2020

As part of the response to Vamco, a free connectivity hub that offers free calls, charging, and wifi connectivity to residents affected by the typhoon was set up.

In addition, Meralco continued to fix typhoon-damaged circuits and power facilities around Metro Manila and its surrounding provinces.

November 13, 2020

PDRF-EOC continued monitoring Vamco as it weakened into a Severe Tropical Storm, moving further away from the country.

PDRF released a call for donations for those affected by Goni and Vamco to partners.

November 14, 2020

PDRF-EOC conducted a touch base for needs assessment with member companies, and DRRM offices of the affected areas.

Needs identified after touch base:

- Search and rescue teams
- Food
- Drinking water
- Vitamins
- Medicine
- Clothes
- Air assets
- Water purification machines
- PPEs, face masks, and face shields

November 15, 2020 PDRF EOC transitioned to early recovery for STY Goni while maintaining RED Alert Status for Typhoon Vamco.

Since member companies had their own relief items that they wanted to donate, the PDRF EOC provided the following:

- Coordination with the Regional, provincial and Local Government Units (LGU) about the relief operations.
- Provided ground information to the network for their guidance if they wished to go alone in their response initiatives
- Collated similar efforts and requested for logistics within the network and from the government.

Provided packages to utilize the donation drives of member companies

Coordination happened mainly by calls and SMS. Following the Incident Command System (ICS), coordination started with the regional and provincial EOCs. Situational reports were requested directly from the Local Government Units (LGUs) or the province. Member company communications were handled by the cluster coordinator

Table 5. Typhoon Goni and Vamco Member Company Response

2020 Pacific Typhoon Season Response - Goni and Vamco Member Company:

[Check this dashboard](#)

SUPER TYPHOON GONI

Company / Organization	Response	Location
Aboitiz Group	<ul style="list-style-type: none"> • Donated food packages • Provided construction materials • Deployed a team to help restore electricity in Bicol Region 	<ul style="list-style-type: none"> • Oriental Mindoro, Albay and Batangas • Albay • Bicol Region
Alagang Kapatid Foundation	<ul style="list-style-type: none"> • Donated food packs, hygiene kits, vitamins and liniment • Set up free charging 	<ul style="list-style-type: none"> • Quezon, Albay, and Catanduanes • Albay
AHA Center	<ul style="list-style-type: none"> • Donated food and Non-food items 	<ul style="list-style-type: none"> • Region V

SUPER TYPHOON GONI

2020 Pacific Typhoon Season Response - Goni and Vamco Member Company:

[Check this dashboard](#)

Company / Organization	Response	Location
Ayala Group	<ul style="list-style-type: none"> Distributed food packs 	<ul style="list-style-type: none"> Batangas, Albay, Catanduanes and Oriental Mindoro
Ayala Malls	<ul style="list-style-type: none"> Provided waiting areas, restrooms, and waived parking tickets 	<ul style="list-style-type: none"> Entire Luzon
AHA Center	<ul style="list-style-type: none"> Donated food and Non-food items 	<ul style="list-style-type: none"> Region V
Manila Water Foundation	<ul style="list-style-type: none"> Donated 5-gallon drinking water Donated 2,500 gallons of drinking water 	<ul style="list-style-type: none"> Albay and Batangas Virac, Catanduanes
Meralco	<ul style="list-style-type: none"> Deployed teams of volunteer linemen to help restore power 	<ul style="list-style-type: none"> Catanduanes, Camarines Sur, and Albay
Monark Equipment Corporation	<ul style="list-style-type: none"> Deployed forklift trucks for DSWD NROC relief operations 	<ul style="list-style-type: none"> Catanduanes, Camarines Sur, and Albay
One Meralco Foundation	<ul style="list-style-type: none"> Distributed relief packs to victims of Super Typhoon Goni Distributed food packs to 1000 families hit by back-to-back typhoons 	<ul style="list-style-type: none"> Quezon and Albay Marinduque
Pacific Global One Aviation	<ul style="list-style-type: none"> Provided air transport (helicopter) for deployed PLDT-SMART Engineers 	<ul style="list-style-type: none"> Catanduanes

SUPER TYPHOON GONI

2020 Pacific Typhoon Season Response - Goni and Vamco Member Company:

[Check this dashboard](#)

Company / Organization	Response	Location
PepsiCo	<ul style="list-style-type: none"> Donated 150 boxes of bottled water 	<ul style="list-style-type: none"> Tiwi, Albay
PLDT-SMART	<ul style="list-style-type: none"> Provided Satellite Phones for OCD Provided free calls and charging stations 	<ul style="list-style-type: none"> Catanduanes Albay, Aurora, Batangas, Camarines Sur, Pampanga, Tarlac, Bulacan, Bataan, Marinduque, Sorsogon. Camarines Norte, Camarines Sur and Zambales
San Miguel Corporation	<ul style="list-style-type: none"> Prepositioned relief packs for hard-hit areas 	<ul style="list-style-type: none"> Bicol
UPS Foundation	<ul style="list-style-type: none"> Donated one 10-wheeler truck for OCD 	<ul style="list-style-type: none"> Legazpi City

TYPHOON VAMCO

2020 Pacific Typhoon Season Response - Goni and Vamco Member Company:

[Check this dashboard](#)

Company / Organization	Response	Location
Ayala Coop	<ul style="list-style-type: none"> Donated vitamin-fortified rice packs 	<ul style="list-style-type: none"> Albay and Catanduanes
Ayala Foundation	<ul style="list-style-type: none"> Distributed Food packs 	<ul style="list-style-type: none"> CALABARZON, MIMAROPA, and Bicol Region
Ayala Group & Manila Water Foundation	<ul style="list-style-type: none"> Deployed water tankers in various evacuation centers Deployed rescue boats 	<ul style="list-style-type: none"> Metro Manila
Bank of the Philippine Islands	<ul style="list-style-type: none"> Conducted rescue operations for their stranded employees 	
F.F. Cruz & Co. Inc	<ul style="list-style-type: none"> Implemented successful rescue response in coordination with local DRRMOs and various agencies 	
Generika Drugstore; AC Health	<ul style="list-style-type: none"> Provided Free Medicines 	
Gokongwei Brothers Foundation	<ul style="list-style-type: none"> Donated gift certificates for the purchase of hygiene related items such as alcohol, face masks, gloves, and soap 	
Globe	<ul style="list-style-type: none"> Pledged 1,800 for affected families Provided Free text, call & data services to affected provinces Provided Free Wi-Fi, call & charging stations to areas with power outage 	<ul style="list-style-type: none"> Montalban

TYPHOON VAMCO

2020 Pacific Typhoon Season Response - Goni and Vamco Member Company:

[Check this dashboard](#)

Company / Organization	Response	Location
Jollibee Food Corporation	<ul style="list-style-type: none"> Donated 59,000 pcs of Sunkist Tetra Pack (Ready-to-drink Juice) Pledged ready-to-eat (RTE) meals for Marikina evacuees Implemented successful rescue response in coordination with local DRRMOs and various agencies 	<ul style="list-style-type: none"> Quezon City Malanday; Provident Village, Marikina City
Meralco	<ul style="list-style-type: none"> Deployed rescue team Allocated three (3) fiberglass motorboats 	<ul style="list-style-type: none"> Provident, Marikina City
Meralco Public Department	<ul style="list-style-type: none"> Allocated fiberglass motorboat for rescue deployment 	<ul style="list-style-type: none"> Provident, Marikina City
Nestle	<ul style="list-style-type: none"> Implemented successful rescue response in coordination with local DRRMOs and various agencies Implemented successful rescue response in coordination with local DRRMOs and various agencies 	<ul style="list-style-type: none"> Rodriguez, Rizal Bocause, Bulacan
PCPPI	<ul style="list-style-type: none"> Donated drinking water 	
PDRF	<ul style="list-style-type: none"> Implemented successful rescue response in coordination with local DRRMOs and various agencies 	<ul style="list-style-type: none"> Tumana, Marikina City

TYPHOON VAMCO

2020 Pacific Typhoon Season Response - Goni and Vamco Member Company:
[Check this dashboard](#)

Company / Organization	Response	Location
PLDT-Smart	<ul style="list-style-type: none"> Deployed 4 teams in Greater Metro Manila for rescue operations. Prioritized critical operations employees, the general employees, their families, and subs and affiliates. 	
Royal Cargo Shipping	<ul style="list-style-type: none"> Pledged for 4-wheel trucks for JFC food delivery on 13 Nov 2020 	
San Miguel Corporation	<ul style="list-style-type: none"> Implemented successful rescue response in coordination with local DRRMOs and various agencies 	
Seda Hotels of Ayala Land	<ul style="list-style-type: none"> Donated bed sheets 	
Shell	<ul style="list-style-type: none"> Implemented successful rescue response in coordination with local DRRMOs and various agencies Donated 400 liters diesel replenishment for PDRF EOC in Clark, Pampanga 	
SMART	<ul style="list-style-type: none"> Allocated personnel, network equipment, and rescue resources to help restore communication lines. Deployed free mobile connectivity hubs for calls, charging, and wifi connectivity. 	<ul style="list-style-type: none"> Quezon-Aurora

TYPHOON VAMCO

2020 Pacific Typhoon Season Response - Goni and Vamco Member Company:

[Check this dashboard](#)

Company / Organization	Response	Location
UPS Foundation	<ul style="list-style-type: none"> • Pledged for three 10-wheel trucks to deliver FNFI from Delsa to the navy ship in Pier 15 • Deployed two 10-wheeler trucks to deliver FNFI from Delsa to the navy ship in Pier 15 	<ul style="list-style-type: none"> • Catanduanes

Coordination with the National Disaster Management Office and with the Philippine Humanitarian Country Team

For preparedness, PDRF is part of the tripartite partnership with the Office of Civil Defense (OCD) and Center for Disaster Preparedness (CDP) under the Philippine Preparedness Partnership (PhilPrep). This provides various capacity building initiatives for government agencies, private sector and Civil Society Organizations (CSOs).

PDRF is also a member of the inter-cluster coordination group (ICCG) in the country and they are the operational partners representing thematic groups. The PDRF engagement is not only at the strategic level but also at the operational level. In relation to strategy, PDRF acts as an observer in strategic level meetings for humanitarian issues. As for the operations, their actions represent the interest of gender in humanitarian action, community of practice and community engagement. PDRF has been actively involved in needs assessment in coordination with the Philippine Humanitarian Country Team, particularly for needs assessments for affected MSMEs in the context of Super Typhoon Goni.

In addition, a number of PDRF key personnel are serving as technical resource persons in various disaster risk reduction and management training courses offered by the OCD. Likewise, OCD provides technical assistance to PDRF in its capacity building efforts. PDRF also joins various meetings of the National Disaster Risk Reduction and Management Council (NDRRMC) on preparedness and response concerns. PDRF supports various webinars organized by OCD by providing resource speakers to give insights on DRRM using the private sector lens.

During disaster response, PDRF mobilizes resources from the network of private organizations to augment the needs of affected communities. Specifically, during COVID-19, PDRF facilitated distribution of PPE to frontliners and communities.

During the typhoon Operations, PDRF helps in providing logistics support, relief aid, and the mobilization of teams for restoration of telecommunications.

PDRF is identified as one of the resource providers of the NDRRMC as reflected in national contingency plans. Similar to the Response Cluster system of the NDRRMC, PDRF also has organized its own Response Clusters through the PDRF Cluster System to harmonize response arrangements within the private sector and complement the efforts of the government. The response clusters are being coordinated by the PDRF EOC.

PDRF EOC works closely with the NDRRMC EOC in terms of situation reporting and resource mobilization. PDRF EOC helps in providing situational awareness on the part of the private sector network and the actions taken by the PDRF member companies. This information is reflected in the NDRRMC Situation Report.

Resource mobilization in multiple disasters

The geographical location of the affected areas limited the amount of logistical support the network can provide. Flight bans due to the pandemic were both good and bad as less to no flights were available to transport people, but were available to transfer goods.

Items such as water, alcohol and some hygiene kits were only transportable by land (essential items for the COVID-19 pandemic). Minimum health standards needed to be adhered to when conducting relief operations

The EOC follows the prioritization of other EOCs and Incident Command Posts. Life threatening situations should be prioritized. The PDRF prioritized coordination with the Search and Rescue - Medical cluster for rescue operations. Next was logistics for government response, then member company response which included food packs and hygiene kits.

SUMMARY

This study has been successful in illustrating how the PDRF EOC operates in a multiple disaster scenario. The organizational structure of PDRF as well as its history was discussed in detail, followed by the protocols of the EOC. Guiding frameworks and examples of how the tools and management sheets were applied were provided. Most importantly, the study effectively illustrated how the center operated during Typhoons Goni and Vamco amidst the COVID-19 pandemic.

Before the activation of the EOC, the PDRF Operations Center had been updating the network through its advisories. They were then notified by the activation of the EOC and they have received regular advisories per operational shift. The cluster coordinators then checked in with the members for their operational needs and response initiatives. With the addition of COVID-19 protocols in both the activation and response actions, minimum health standards were included in the protocols of the EOC. There were provisions for virtual duty to the EOC to minimize travel and exposure. Testing pre and post deployment, and provision for isolation were provided for those involved in relief operations.

Significant challenges and achievements

Problems included delays in communication due to the virtual nature of some positions of the EOC. Information exchange within the EOC staff is a lot faster when everyone is under one roof. It also allows the team to discuss right then and there what needs to be done for the operational shift. With the delays, response actions were not halted, just took a little longer to materialize. There were already cases of donor fatigue due to the prolonged response for COVID-19. The EOC still released calls for donations but did not stress companies to respond right away as their operations are the priority under their business continuity plans. The following practices contributed greatly on the triple whammy management:

- Resource augmentation
- Data/report generation
- Situation assessment
- Technical assistance on the use of technology
- Best practices such as service continuity

With PDRF's connections, the EOC got support from partner agencies like CBI and UNDP. The limited manpower available during the triple whammy was in need of a fresh perspective in terms of the direction of the operations. The CBI secretariat provided technical support for the operations after almost 2 weeks of straight duty. Mentorship and operational support were also provided by CBI as the EOC pointed out gaps in the operations. The CBI secretariat and PDRF, together with OCHA Philippines, held check-in calls as part of the CBI secretariat's crisis coordination mechanism with CBI member networks. The support continued even after the activation.

For internal processes, the ground deployment protocols were updated to include pandemic measures (testing, isolation). Hydro-meteorological hazards and pandemic protocols were also tested and successfully implemented. The EOC practices constant coordination with the stakeholders by reporting the status of the response action every step of the way - from commitment, procurement, transport, and distribution/ turnover. A final report is also provided by the cluster coordinators to close the donation. In terms of implementation of the internal protocols, PDRF allots a set emergency fund to run the activation. For response operations, a response fund is in place for initiatives of PDRF. There were support in terms of capacity building (e.g., Public Service Continuity Plan training developed by PDRF and OCD), initiatives of PDRF to undertake logistics support during various typhoon response operations, mobilization of teams to help restore functionalities of critical lifelines such as electricity, and relief assistance to families/beneficiaries of company employees.

There were also challenges based on PDRF's experience managing simultaneous response activities. These include the following:

- Major need for logistics cannot be sustained by the cluster. PDRF had to resort to partners outside the PDRF member companies
- Not enough Search and Rescue teams available
- Not all members of the PDRF cluster system are coordinating and reporting their response efforts
- Donor fatigue
- Divided attention and priorities due to COVID-19 situation
- Limited resources
- Restriction in terms of mobility
- Disaster responders also at risk to COVID-19
- Unfamiliarity with alternative work arrangements

EOC improvement

For communications, the EOC is developing a more comprehensive feedback mechanism for the member companies on how the activation and response actions. For the EOC itself, organizational commitment to support the EOC should be reinstated, especially for prolonged activation. PhilPrep is already a good mechanism for partnership between OCD and PDRF. This just needs to be enhanced and expanded in various disaster preparedness activities, aside from the usual capacity building efforts. Examples are simulations/exercises and contingency planning efforts.

There could have been stronger coordination and leveraging with the LGUs and the UN because they are major contributors during disasters and need immediate and direct augmentation. As expressed during previous focus group discussions, an OCHA-PDRF bilateral is proposed to discuss strategic priorities for collaboration. This way, PDRF will be more immersed and active in the HCT cluster system and there will be seamless action, for example, in cash-based interventions and bringing private sector expertise.

In addition, assistance can be sourced through the LDRRMOs. Maximizing local presence and coordination of the PDRF and its network with the LGUs/Local Disaster Risk Reduction Management Offices (LDRRMO) is crucial since the LGU/LDRRMOs are the ones directly needing assistance. This is also pursuant to Republic Act 10121 (an 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 therefor and for other purposes) in which disaster management always begins at the local level. Specifically, the private sector can undertake assessment of its capabilities so they can determine what to offer to the government and other partner organizations. Say, at the regional/national level, the private sector can interface with OCD as the coordinating authority of the Regional/NDRRMC.

CONCLUSION

The PDRF-EOC plays a significant role in preparedness, response, and recovery. It facilitates a strategic and network-oriented approach in disaster risk reduction and management. Although there were challenges such as communication gaps and travel restrictions, overall response activities were still successful and made a significant positive impact on target communities. For preparedness activities, PDRF has collaborated with several organizations for strategic planning and capacity building. Notably, the PDRF OPSCEN and EOC presented opportunities for collaboration that would potentially lead to better optimization of the investment of PDRF in promoting disaster resilience.

In managing triple whammy situations, the PDRF EOC successfully mobilizes its resources: (1) PDRF member companies; (2) Activation of EOC; and (3) HANDA for information management. Although there were challenges such as communication gaps and travel restrictions, overall response activities were still successful and made a significant positive impact on target communities.

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