Olongapo City

Disaster Risk Reduction and Management Council

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OLONGAPO CITY DISASTER RISK REDUCTION & MANAGEMENT COUNCIL

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ABOUT THE OLONGAPO CITY DRRMC Cover

The Disaster Risk Reduction and Management Council is a very different team today than a decade ago. While our goals remains the same but our priorities as an organization did not change to echo the new opportunities and challenges we see in front of us. Capitalizing on our current achievements, we want to be able to overcome the challenges facing our team. We are confident we will succeed because we have built a strong foundation.

Celebrating the 2015 National Disaster Concsiousness Month, the City Disaster Risk Reduction and Management Office in partnership with the Department of Education launched the poster making contest with the theme: "***Pamilya at Pamahalaang Handa, Katuwang sa Pag-unlad ng Bansa***".

Patricia Anne Villa and Deenel Mar Valencia of Comteq College who won the 1st place award respecively in the Digital Poster Making Category showcased their artistic and creative talents in digital artwork to portray the importance of disaster preparedness for sustainable development.

The City Mayor's Message

It is with pride that we endorse the Olongapo City Disaster Risk Reduction and Management Counci. It has incorporated the recent developments in the city and as a response to the great phenomenon that we are all experiencing: the new era of disaster risk reduction (DRR) and climate change adaptation (CCA).

The Olongapo CDRRMC is on a road map on strengthening the capacity of the local government with partner stakeholders, to build the disaster resilient communities and to institutionalize arrangements and measures for reducing disaster risks. This Plan also highlights the need for fortifying DRRM policies, structures, coordination mechanisms and programs with continuing budget appropriation on DRRM from national down to local levels.

We have been and will continue to grow, evolve and adapt to changing conditions and demands. We cannot simply improve on what we have already done, but as we assess, we must fundamentally change how we go about disaster risk reduction and management. We are confident that we will succeed for we have built a strong foundation in the past and that will let us clinch the best benefits today and beyond.

I laud the commitment of the Olongapo City Disaster Risk Reduction and Management Council Member Agencies for ensuring the safety and the well-being of our constituents through the implementation of the significant and suitable programs on disaster risk reduction and management.

Let us work hand in hand to spur further development in the city under the pillars of transparency and good governance.

ROLEN C. PAULINO
City Mayor
Chairperson, Olongapo CDRRMC

Rising to the Occassion


Serving with
Utmost Passion

Disaster and Their Impacts

Disasters are a part of everyday life and they are increasing.

The Philippines is a climate hotspot, vulnerable to some of the worst manifestations of climate change. However, poor communities differ significantly in their degree of vulnerability to natural hazards exacerbated by climate change because they have fewer financial and requisite resources such as knowledge, institutional arrangements and technology to counteract them. The continuous increase in the number, scale and intensity of natural disasters has profound implications for the governance of disaster risks. Disaster Risk Reduction (DRR) includes the systematic development and application of policies, strategies and practices to prevent or prepare for hazards, or to mitigate their adverse effects.

Effective policies for disaster risk reduction (DRR) and climate change adaptation (CCA) can greatly reduce the loss of life and assets caused by disasters. Some Local Government Units (LGUs) have commendably adopted and implemented DRR and CCA policies, but others lag behind, leaving their citizens highly vulnerable.

A DRR and CCA strategy is a challenge today and for the future. The challenge of a disaster risk reduction and climate change adaptation strategy is to find a way to live with these phenomena, rather than die from them. The unimaginable powers are not just a fact of life, but one side of the coin of a good life and a natural disaster is only a disaster because people happened to be in the way – or had no other choice – and were caught unaware when it happened

Climate change brings new challenges to informal and formal institutions, and reveals new levels of uncertainty that forces us to ask questions about the government system. Do we know enough about how to link different scales of governance to support communities at risk in a changing environment? Local government's role in DRR is essential in building resilient communities and nations – in part because its members should be the first to respond when a disaster occurs.

Learning the Lessons of 2013 Natural Disasters

The southwest monsoon intensified by Typhoon Usagi (*Odette*) that pelted Olongapo with combination of torrential rain and high tide causing reported incidents around the city.

A total of 16 out of 17 barangays in massive flooding, an estimated 30,065 families with 149,847 individuals needing immediate assistance, a total of 586 families with 2,289 individuals were evacuated to 15 evacuation centers, several fallen trees and widespread flooding have tested the preparedness of Olongapo and its people.

The question is therefore raised. Was Olongapo really prepared?

Of course. However, for all the efforts of all the individuals, local officials and other groups to help after the wrath of Habagat, this particular event holds an economic lesson – we all need to come to terms with the cost of climate change. Habagat definitely alters calculus of climate change. No one talks much about climate change. But let us get real: this Habagat incident is exactly the sort of event that scientists have warned us about. Even DENR Secretary Ramon Paje mentioned that we may enter a new dawn of new "normal" rains. At this point, one would have to willfully miss the intensifying cycle of extreme weather, each passing year, it seems, breaks old records for lives lost and property damaged.

Total Rainfall from 08:00 AM September 22 to 08:00AM September 24 = 503.3 mm of rainfall as reported by Subic Bay Weather Station. The recorded 48-hour rainfall at Subic Bay Weather Station corresponded to 72.33 percent of its monthly average of 695.8 mm for September. (PAGASA-DOST, 2013). The combined effects of torrential rainfall that occurred, the occurrence of high tide which restricted the flow of flood waters and the steep topography of the catchment contributed in the event.

Will Habagat finally convince us that climate change is real and happening now?

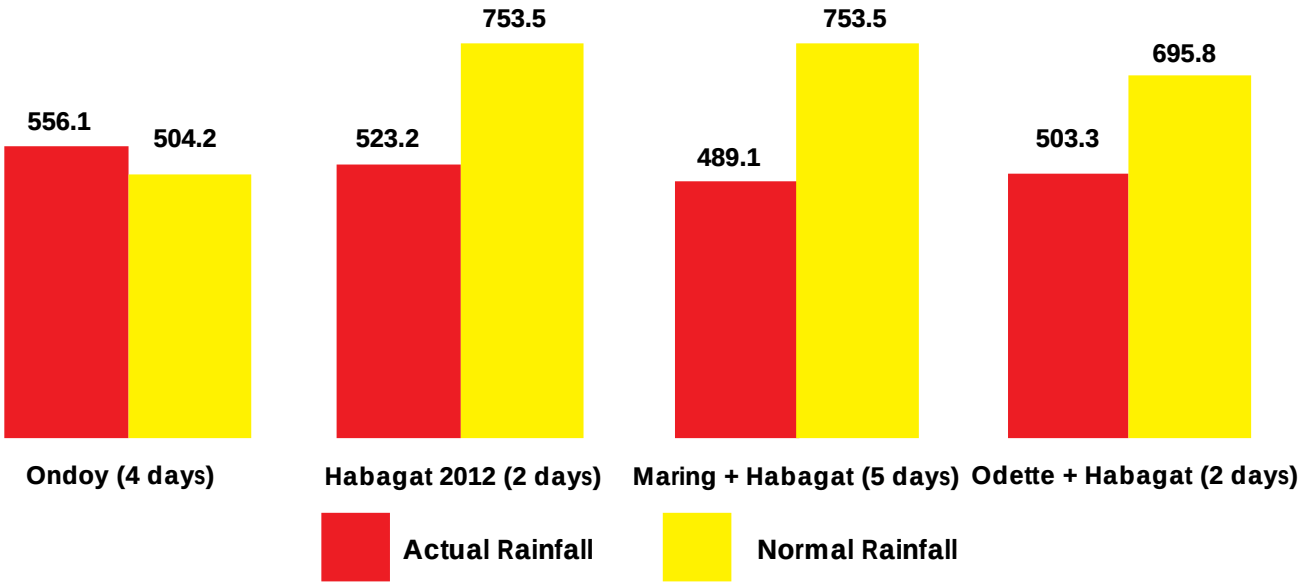

Figure1 Comparative Rainfall Analysis (Ondoy to Odette)

Historical Trends and Observed Changes

As observed in PAGASA's Subic Bay Weather Station Complex, 12 typhoons, eight tropical storms and four tropical depressions have passed within a 300 km radius of Olongapo City between 2005 and 2011, causing flooding and landslides in most parts of the city. The strength of these typhoons was also calculated, based on the city government's declarations of a state of calamity between 1997 and 2011. The conclusions of the VAA, following the trends and projections of PAGASA, suggest that Olongapo City is likely to experience more frequent and extreme incidents of flooding in the future.

Declared State of Calamity: 1997 - 2013

Year	City Council Resolution Number	Weather Disturbance
2013	99	Typhoon Odette & Southwest Monsoon
2012	84	Southwest Monsoon & Tropical Storm Haikui
2011	94	Typhoon Pedring
2009	124	Typhoon Labuyo
2007	113	Typhoon Chedeng & Typhoon Dodong
2002	67	Typhoon Gloria & Typhoon Hambalos
2000	82	Typhoon Ditang & Typhoon Edeng
1999	84	Southwest Monsoon
1998	105	Super Typhoon Loleng
1998	97	Typhoon Gading
1997	72	Southwest Monsoon
1997	39	Typhoon Bining

Table1 City Council Resolutions Declaring State of Calamity in Olongapo City, 1997 - 2013

City of Olongapo

DISASTER RISK REDUCTION & MANAGEMENT COUNCIL

DISASTER PREVENTION

1.1 Geohazard Assessment

The Mines and Geosciences Bureau (MGB) has a general recommendation with regard to geohazard areas in the City; "**that residents living near the major waterways and naturally low lying areas with high susceptibility to flooding should be informed of the threats whenever heavy and prolonged rainfall will affect the area**."

MGB conducted its Rapid Field Assessment on October 28, 2008 in all of the 17 barangays of the City. In general, the landslide appraisal are as follows:

1. There are three (3) barangays; namely Barretto, Kalaklan and Gordon Heights that are susceptible to landslide at a moderate to high level

2. There are two (2) barangays susceptible to landslide at a moderate level, namely New Cabalan and Old Cabalan

3. There are three (3) barangays, namely Sta Rita, East Bajac-Bajac and Mabayuan that are susceptible to landslide at a moderate to high level in specific areas but not at the barangay proper. Further it emphasized that Mabayuan 's barangay proper may be a site of landlside accumulation

4. The remaining nine (9) barangays are not susceptible to landslide.

By overlaying the MGB landslide hazard map to the NRDB – CBMS household map,the magnitude of households at risk was determined at approximately 13,895 households.. Barangay New Cabalan has the largest household population identified to be affected at 33 percent followed by Gordon Heights at 16 percent.

Proportionately, 30 percent of the estimated households were at high risk, 48 percent are at risk moderately, and 23 percent are at low risk.

Unlike the landslide, appraisal on flooding in the City is varied. They are as follows:

1. There are six (6) barangays where flash floods are considered to be rare; namely New Banicain, Barretto, New Kababae, Kalaklan, New Ilalim and West Tapinac. Sheet flooding occurs from depth of 0 to 0.5 meter to more than a one (1) meter seasonally, particularly in areas near the river banks.

2. There are two (2) barangays where flash floods with moderate turbidity are considered to be common; namely East Bajac-Bajac and New Cabalan.

3. There are four (4) barangays where flash floods with high turbidity are considered to be common; namely Sta Rita, Gordon Heights, West Bajac-Bajac and Old Cabalan. Sheet flooding occurs from depth of 0 to 0.5 meters to more than one (1) meter seasonally, particularly in some areas. River bank erosion is also common;

4. The remaining five (5) barangays, where sheet flooding occurs seasonally with a depth of 0 to 0.5 meters to one (1) meter; East Tapinac, Kalalake, Mabayuan, New Asinan and Pag-asa.

MGB further recommend some general measures to mitigate and adapt to the situation. This is suggested to be accomplished all year round in all identified affected areas. They are as follows;

1. Constant observation for saturated grounds that are not typically wet
2. Constant observation on the presence of rocks and landslides and tension cracks and river bank erosion
3. Constant observation for sunken or displaced roads surfaces
4. Refrain from tolerating residents to build houses along the steep slopes
5. Develop an early warning system for flood and landslides
6. Desilting of Sta Rita, Kalaklan and Mabayuan Rivers
7. Establishment of an Evacuation site

1.1.2 Tsunami Hazard and Risk Assessment and Evacuation Planning

A project entitled "Enhancing coastal hazard early warning and response: tools and institutional strengthening" was proposed to build tsunami risk assessment capacities among Southeast Asian countries and take advantage of low cost methodologies developed at the Regional Integrated Multi-Hazard Early Warning System (RIMES) based in Thailand. Under the current project, Barangay Barretto, Olongapo City was selected as the pilot site in th Philippines for the said analysis.

For the pilot site, there was no documentation of tsunami event in the past. Earthquake scenario for the assessment was selected with the consultation and reference to the previous Philippine Institute of Volcanology and Seismology (PHIVOLCS) study on earthquake source parameters for subduction zone events causing tsunamis in and around the Philippines. *Manila trench* is the nearest potential subduction zone that can generate tsunami to the pilot site. From the historical tsunami review, maximum earthquake magnitude recorded for MT1, MT2, MT3 and MT4 are 6.4, 7.6, 7.6 and 6.6 respectively. Additionally, PHIVOLCS also proposed the maximum plausible magnitude and its fault parameters for the case of entire rupture for each segment. These plausible magnitudes of each segment are adopted for the assessment of tsunami impact to the pilot site.

From the geographical location, the pilot site, Barrio Barretto, is located inside the Subic Bay, the most critical tsunami sources would be possibly from MT3 and MT4. Additionally, for the

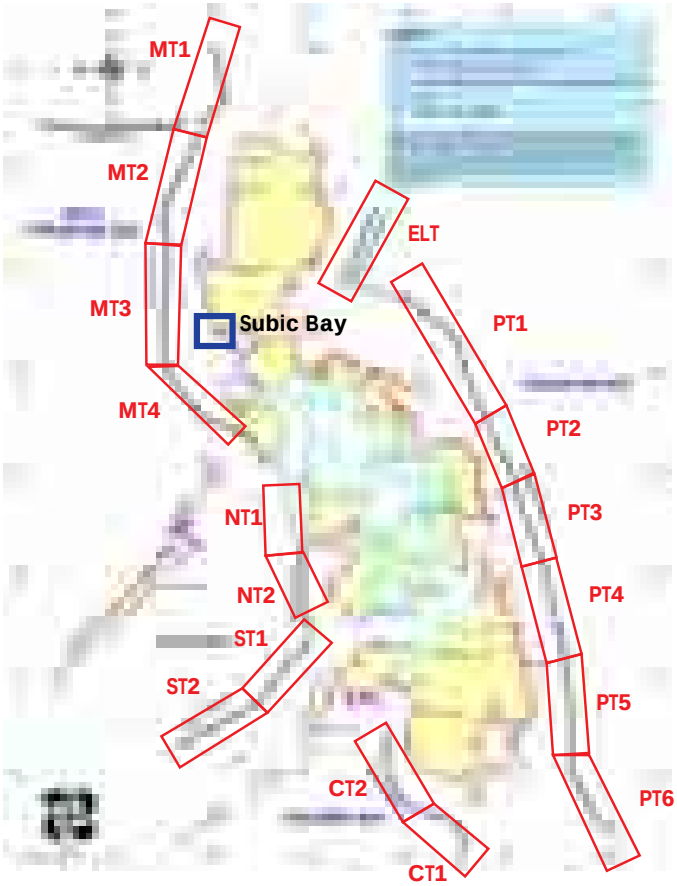

Figure2 Earthquake source regions in the Philippines

Earthquake Source Region	Code	Number of Segments
Manila Trench	MT	4
Negros Trench	NT	2
Sulu Trench	ST	2
Cotabato Trench	CT	2
East Luzon Trough	ELT	1
Philippine Trench	PT	6

worst comes to worst situation when the fault rupture combining MT3 and MT4 is also considered.

4.3.1 Tsunami Evacuation Modeling

Quantification of human immediate response capability is a key component in tsunami risk and vulnerability analysis. In this context, human immediate response capability refers to people's ability to reach a safe are upon receiving a tsunami sign. For rapid onset disasters such as tsunami, the critical factor in quantifying human immediate response capability is time which usually expresses in the sense of "how much time do people need to rescue themselves" versus "how much time do they actually have?"

The human response capability depends on the estimate time of arrival (ETA) of a tsunami, the time at which technical or natural warning signs (ToNW) can be received by the population, the reaction time (RT) of the population and the evacuation time (ET). The actual available response time (RsT) is then obtained by:

$$RsT = ETA - ToNW - RT$$

Since the maximum plausible magnitude M 8.7 for MT3+MT4 is selected as the base scenario for the assessment. The estimated time of arrival of tsunami (ETA) at Barrio Barretto is within 16-20 minutes. With the assumption for the quantification of ToNW, the human response at this site can be immediate perception from the natural warning signs e.g. ground shaking from the earthquake because the geographical location of the site is located very near to the potential earthquake and tsunami source and the lead time before tsunami arrival is very short.

Currently, there are three existing sirens in Barrio Barretto: two PHIVOLCS sirens (one siren at Drift wood beach and another one siren at Baloy Long Beach) and one siren at the barangay office. However, from the effective radius of these sirens, Entire area of barangay would not be covered by these sirens as shown in Map 6. Hence, additional sirens should be placed in the future to supplement to the gap of alerting area, especially in the Baloy Long Beach.

Referring to the potential inundation extend, the ordinary main transportation route, the Subic Baraca National Highway, linking Barrio Barretto to the outside might be blocked during the event. Since this barrangay is surrounded by two rivers, the Matain River in the west and Maquinaya River in the east, there might be the possibility that the bridges crossing these two rivers might be damage by strong ground shaking or tsunami during the event. Hence the Abra street connecting to the Olongapo-Castillejos National Highway as shown by yellow line in Map 7 can be identified to the alternative main transportation line during the event because this route is located in the high ground connecting to highway towards Olongapo city and would not be inundated.

1.1.3 Ready Project Hazard Maps

The READY project aims to address the problem of Disaster Risk Management (DRM) at the local level by empowering the most vulnerable municipalities and cities in the country and enable them to prepare disaster risk management plans. The project hopes to develop a systematic approach to community based disaster risk management.

The READY project aims to provide immediate, reliable information to the communities at risk, on the various geological and hydro-meteorological hazards in their respective localities. Its three immediate objectives are:

1. Equip key stakeholder groups with the resources (financial, technical, and/or advisory services), knowledge and training that enable them to perform effectively for disaster risk reduction
2. Strengthen coordination processes and procedures, within organizations and sectors (public, private and community) for effective risk reduction
3. Initiate the mainstreaming of risk reduction into local development planning.

The field of disaster risk management (DRM) is just taking root in the country and needs full cooperation among scientists and engineers. Since hazard maps are the bases of understanding risks and vulnerabilities, appropriate protocols and procedures must be put in place to ensure maps delivered where and when needed.

The next step is the establishment of a Community Based Early Warning System (CBEWS) in at least two priority barangays/areas identified by the LGU. In these CBEWS areas, a "special IEC" is held for the residents of the selected barangay, where participants devise an evacuation plan and conduct drills.

Multi-hazard maps are produced based on existing base maps and by using standard methodologies, field surveys and historical studies. By the time these are prepared by concerned agencies, a provincial-level IEC campaign is launched, where the hazards are introduced to municipal officers, barangay leaders and other local actors.

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Hazard mapping requires a systematic process of aerial photo and topographic map interpretation, remote sensing data analysis, field verification and finally printing. NAMRIA produces the necessary base maps on which interpretation of hazard data is plotted. When mapping ground shaking, storm surge and tsunami, mathematic modeling is performed. In the READY project, a peer review process has been established by the multi-agency mapping group to ensure quality control.

Hazard maps produced into paper and digital form are: (1) earthquake-related hazards at 1:50,00 scale (i.e. ground rupture, ground shaking, liquefaction, earthquake-induced landslide and tsunami) (2) volcanic hazards also at 1:50,000 scale, (3) hydro-meteorological hazards, such as rain-induced landslide, floods/flashfloods both at 1:50,000 and 1:10,000 scale and storm surge at 1:50,000 scale. Maps of 1:50,000 scale are intended as provincial maps (or maps using the province as a geographic unit and are a composite of smaller map sheets referred to as 'cluster'), while 1:10,000 scale maps depict selected hazards in 'priority' municipalities/ cities/barangays.

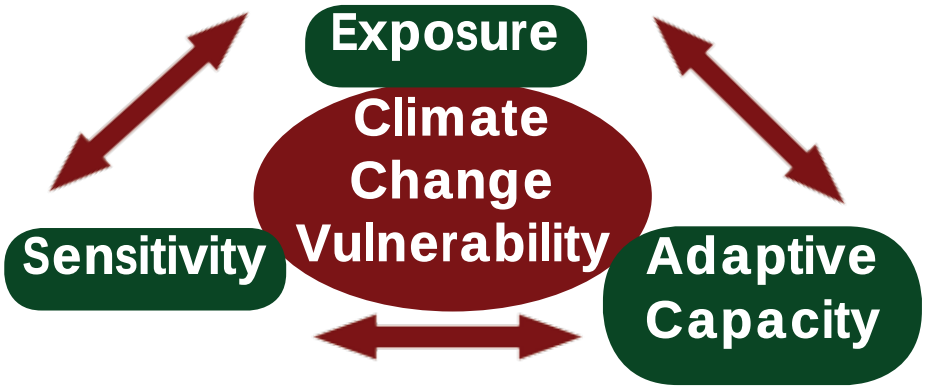


Figure3 Vulnerability and Adaptation Assessment Framework

1.1.6 Vulnerability and Adaptation Assessment Framework

The key components of the VAA process are the vulnerability and adaptation assessment (V&AA) to various climate-related hazards, focusing on the three determinants that show the specific hazards and systems affected such as:

(1) **Exposure** is what is at risk from climate changes. Olongapo's exposures are drier summer, wetter rainy seasons and stronger typhoons.
(2) **Sensitivity** is the degree of effects of climate change which could impact to various systems or elements like people, places and institutions.
(3) **Adaptive** capacity is the ability of a system to adjust to climate change. For Olongapo City, AC is the function of awareness, knowledge and resources.

Barangay	Landslide	Flood and/or Flashflood	Fire	Landslide + Flood and/or Flashflood	Landslide + Fire	Flood and/or Flashflood + Fire	Total # of Households Affected per Barangay
Barretto	303	165	46	0	0	0	514
East Bajac Bajac	556	1997	69	1	4	72	2699
East Tapinac	0	1479	0	0	0	11	1490
Gordon Heights	0	1	2212	0	133	758	3004
Kalaklan	1083	367	46	0	14	0	1510
Mabayuan	180	376	74	0	0	3	633
New Asinan	0	611	0	0	0	4	615
New Banicain	0	1497	0	0	0	0	1497
New Cabalan	0	0	3853	0	698	0	4551
New Ilalim	0	350	0	0	0	0	350
New Kababae	0	375	0	0	0	0	375
New Kalalake	0	988	0	0	0	0	988
Old Cabalan	320	1092	1269	0	13	174	2868
Pagasa	0	2001	0	0	0	0	2001
Sta. Rita	747	1695	91	0	66	311	2910
West Bajac Bajac	0	1991	0	0	0	0	1991
West Tapinac	0	1317	0	0	0	0	1317
Total # of Households affected Per Hazard Category	3189	16302	7560	1	928	1333	29313

Table2 Summary of Affected Households per Hazard per Barangay

Map1 September 23, 2013 Flooding Incident Map

HAZARD	SECTOR	THREAT LEVEL
FLOOD	ECONOMIC	4
	INFRASTRUCTURE	4
	SOCIAL SECTOR	4
	INSTITUTIONAL	4
	PUBLIC SAFETY & ORDER	4
TOTAL		**4 (Medium High)**

Table3 Summary Threat Level Score of Flood to Economic, Infrastructure, Social Sector, Institutional and Public Safety & Order Sectors

HAZARD	SECTOR	THREAT LEVEL
RAIN - INDUCED LANDSLIDES / ROCKSLIDES	ENVIRONMENT	3
	PUBLIC SAFETY & ORDER	4
TOTAL		**3.75 (Medium High)**

Table4 Summary Threat Level Score of Rain-Induced Landslides to Environment and Public Safety & Order Sectors

2.1 Mainstreaming Disaster Mitigation in CLUP

Amidst the changing climate, this envisioned economic growth is within the realm of sustainable development framework, attaining the well-being of both the present and future generation. Underscoring ecology, its revitalization, conservation, and protection must be fulfilled and is considered as one of the driver for economic and social development, and not as an inadvertent issue.

A milestone environmental initiative of rehabilitating the city's source of water, the Mabayuan and Sta. Rita River must be achieved. Condominal septage facility in contiguous communities along the river banks and low income communities will be operational within the period. The city will also operate its own septage treatment plant. All households, commercial and institutional buildings will be compliant to the city's septage management scheme. The long overdue citywide sewerage system has been put in place and wastewater treatment plant. Functional material recovery facilities in the barangays and recycling will be a common institutional practice and a household behavior in the city.

Scientifically determined critical areas in the watershed forest and upland areas that contribute considerably to land erosion shall be a site of reforestation and aforestation. Mitigating infrastructures are constructed in areas frequented by landslide and storm sewers can now adequately accommodate the annual increasing storm water runoff. The city's river system, which has been long rationalized by the public as the cause of perennial flood will be on its appropriate depth and current. There will be a thriving biodiversity of water species. Its ecosystem shall be a popular and opted recreational and leisure place of the city.

Under the updated Comprehensive Land Use Plan (CLUP) 2014 - 2024, Volume III which was recently reviewed by the Housing and Land Regulatory Board (HLURB), one of the indicated vision is **sustainable ecology** and one of its goal is **a community less expose and vulnerable to all hazards.**

Goal # 5. A community less exposed and vulnerable to all hazards;

Objectives:

1. To stabilize the hazard slopes in the following areas:

Barretto; Kalaklan; East Bajac Bajac; Mabayuan; Gordon Heights; New Cabalan; Old Cabalan; Sta. Rita;

2. To stabilize river banks in the following areas;

a. New Banicain - Drainage Channel portion 0.3175 has.,
& Kalaklan River portion 0.1475 has;
b. New Kababae-Kalaklan portion 0.0412 has;

c. New Ilalim - Kalaklan portion 0.1645 has;
d. West Tapinac - Kalaklan portion 0.1695 has;
e. West Bajac Bajac -Kalaklan portion 0.585 has & Sta Rita River portion 0.6605 has;
f. Kalaklan - Kalaklan portion 0.9805 has;
g. Mabayuan - Kalaklan portion 0.488 has;

3. To attain an appropriate river depth in the ff rivers;
a. 2.2 hectare Bajac Bajac River
b. 22.4 hectare Drainage Channel
c. 21 hectare Kalaklan River
d. 11.4 hectare Mabayuan River
e. 14.6 hectare Sta. Rita River

3. To increase storm water conveyance in identified 100 flood frequented streets in 14 barangays

4. To increase the readiness and resilience of Olongapeños to all types of disasters

Figure4 Procurement of heavy equipment for river desilting and dredging

Map2 Riverbank Stabilization Map

Map3 Proposed Desilting Project Station Map

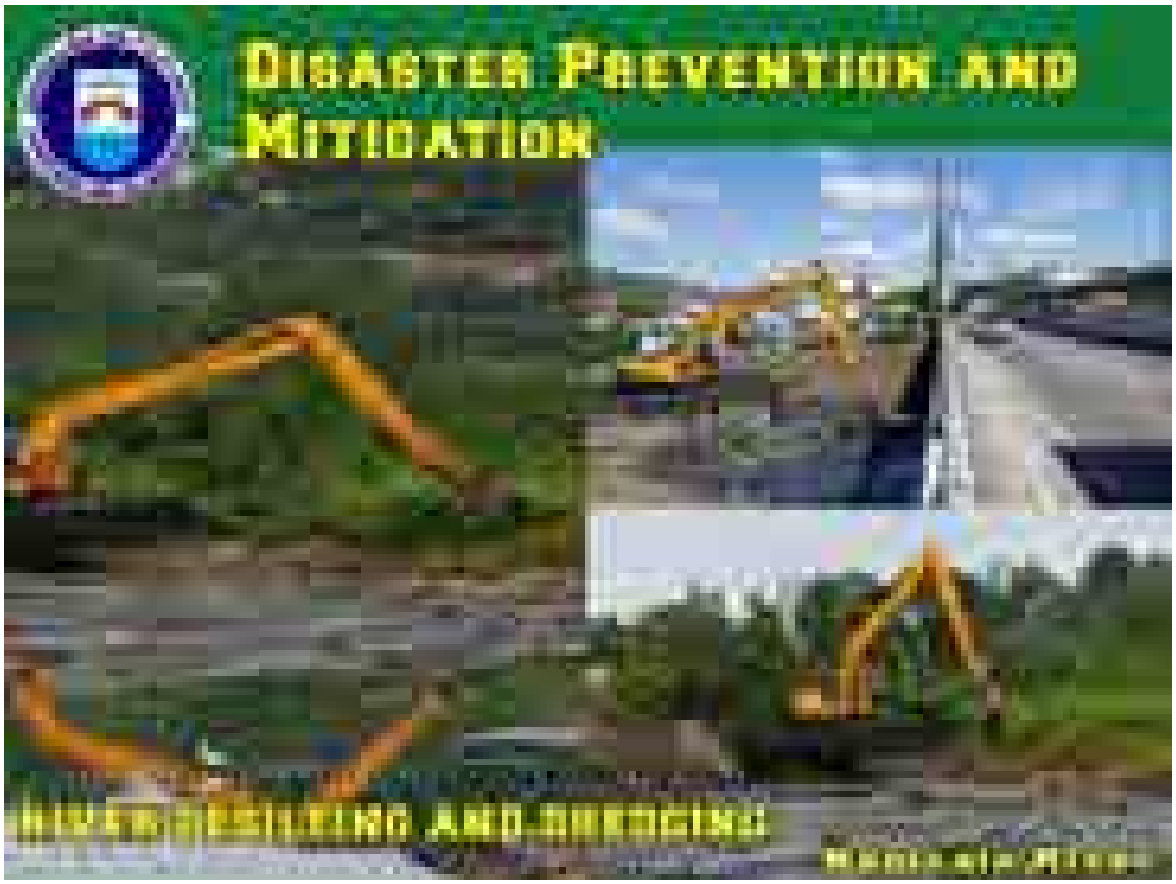


Figure5 River desilting and dredging activity along Banicain River

Figure6 River desilting and dredging activity along Kalaklan River

2.3 Zoning Ordinance

As mentioned previously, the updated Comprehensive Land Use Plan (CLUP) 2014 - 2024, Volume III which is undergoing review from the Housing and Land Regulatory Board (HLURB), the existing Zoning Ordinance in effect is still City Ordinance No. 43, Series of 2006. (See electronic copy for details of Zoning Ordinance)

Cont'l. of Ordinance No. 43, Series of 2006.

- 2 -

ORDINANCE NO. 43
(Series of 2006)

AN ORDINANCE REVISING THE ZONING REGULATIONS FOR THE CITY OF OLONGAPO AND PROVIDING FOR THE ADMINISTRATION, ENFORCEMENT AND AMENDMENT THEREOF AND FOR THE REPEAL OF ALL ORDINANCES IN CONFLICT THEREWITH

ARTICLE I
Title of the Ordinance

SECTION 1. Title of the Ordinance

a) This Ordinance shall be known as the "Amended General Comprehensive Zoning Ordinance of Olongapo City" and shall be referred to in short as the "Zoning Ordinance."

b) This is a General Zoning Ordinance, which can serve as an overall guideline but must be subjected to a greater level of specificity and implemented by way of a detailed Zoning Map and the Barangay level (Barangay Development Scheme and Zoning Maps).

ARTICLE II
Authority and Purpose

SECTION 1. Authority

This Ordinance is enacted pursuant to the provisions of the New Local Government Code, RA 7160. Sections 458 a.2 (vii-ix) and 447 a.2 (vii-ix) dated 10 October 1991, "Authorizing the City/Municipality through the Sangguniang Panlungsod to adopt a Zoning Ordinance subject to the provisions of existing laws and in conformity with Executive Order No. 72, Series of 1993, mandating LGU's to complete Comprehensive Land Use Plans (CLUPS) and enact Zoning Ordinances.

This Amended General Comprehensive Zoning Ordinance is based on the Updated Comprehensive Land Use Plan for Olongapo City adopted by the Sangguniang Panglungsod under Resolution No. 61, Series of 2001, and Resolution No. 82, Series of 2002 and on the development policies, and on Zone District plans prepared by its City Planning and Development Office, approved and passed by the HLURB Board and Chairman of HUDCC & Vice-President of the Philippines, Hon. Noli De Castro, under Resolution No. 783 dated August 22, 2005.

Figure7 Olongapo City Ordinance No. 43, Series of 2006 (Zoning Ordinance)

2.4 Participation in Disaster Prevention and Mitigation

Figure8 City Government personnel partakes in the annual Arbor Day Celebration 2015 in Iram, New Cabalan

Annually, in line with the observance of the Annual Philippines Arbor Day as mandated by Presidential Proclamation 396 and compliance to Executive Order No. 26 dated 24 February 2011, the City Agriculture Office spearheads the Tree Planting activity which was participated by more than 656 individuals coming from the City Governent, Task Force Youth, Olongapo City Lion's Club, 24th Infantry Batallion, Olongapo City Police Office, Bureau of Fire Protection, ARESCOM, Pusong GAPO and members of Department of Education at Iram, New Cabalan.

The said site was identified and is in,cluded under the National Greening Program targeted sites. Planting trees is an act of kindness and optimism; it is a gift for the future generations ahead of us. The celebration of Arbor Day represents a priceless opportunity; an opportunity of the community to take positive action to make the society a better place and to reach across barriers of culture and politics for the common good. The celebration of Arbor Day represents a priceless opportunity; an opportunity of the community to take positive action to make the society a better place and to reach across barriers of culture and politics for the common good.

Figure9 International Coastal Clean Up

Olongapo city annually conducts river and coastal clean up activities to ensure that the city and the community work hand in hand to prevent pollution of trash to our river and coastal areas which has an effect during times of flooding. Just recently, Olongapo City participated again in the 2015 International Coastal Clean-up wherein 26,541 Olongapeños participated on the said event. The spirit of volunteerism was once again displayed by the people of Olongapo as from 11,128 participants in 2014 it doubled by 15,413 volunteers for the said activity. The participants were children, women, elderly and coming from diffrent sectors of the community.

The event is budded as "Making Riverth Possible" in the effort to spread environmental awareness among the residents in the city.

"What we did this year is not only cleaning up our shoreline, we decided to cleanup all possible water ways in the inner parts of the city because all of the trash will eventually pile up in our shoreline or cause blocking of our canals which will eventually lead to flooding," Mayor Rolen Paulino said.

A total of 5,583.29 kilos of garbage was collected covering 16.5 kilometers stretched of coastline.

3.0 Community Based Early Warning System

The success of the Olongapo City Disaster Risk Reduction and Management Council through the Olongapo City Disaster Riskr Reduction and Management Office ultimately depends on engaging people with high level of willingness and commitment to serve. It is important that these people be truly committed in implementing the activities of the organization and in earning the trust of the citizenry. As such, early warning systems (EWS) should be constantly updated and tested to ensure their functionality. It should be noted that the grass root level EWS are limited to the general disaster risk situation of the city, however, these strategies have been tailor fitted in other municipal and local government units. The challenge of replicating the programs lies in developing them targeted to address the needs of their respective areas. Nonetheless, the basic elements required to ensure a well-planned early warning system can already be implemented through the different aspects of the programs.

The Colors of Beauty and Safety is a grass root level initiative since 2006 that serves as flood warning system for flood prone areas of the city. It is patterned on the standard traffic light system wherein electrical post are

Figure10 Olongapo City's "Color's of Beauty and Safety"

Map4 Location Map of Emergency Motor Sirens of Olongapo City

painted to signify appropriate response from the affected communites. The tri-colors notify residents that should flood water reacch the yellow level, they must prepare to evacate. At green, residents should evacuate to their designated evacuation areas. Lastly at red, the flooded areas should either be cleared of residents or those remaining residents should seek high ground until rescuers arrive at the area.

Moreover, motor sirens are used and strategically located within the city to ensure that the public are reminded of punctuality, minors are to protected from possible dangers that they may encounter at night and most importantly to warn the public of an impending disaster. The sounding of the siren is supported by City Ordinance Number 12, Series of 2005. (See annex for said ordinance)

The United Nation Development Programme (UNDP) Ready Project provided hazard warning signages to Olongapo City and are installed strategically along landslide and flood prone areas.

Moreover, a study by the Philippine Institute of Volcanology and Seismology (PHIVOLCS), JICA and MMDA in 2004 for Metro Manila revealed that a 7.2-magnitude quake scenario hitting Manila could kill more than 50,000 people and injure over 100,000. Since last year, PHIVOLCS has been campaigning for local governments to adopt disaster preparedness programs.

PHIVOLCS installed a Earthqauke Intensity Meter which can monitor and record even the slightest tremor or earth movement. The equipment has already been installed September 2012 at the premises of the Disaster Risk Reduction and Management Office (DRRMO). It also tells overall ground behavior of Olongapo City.

Figure11 Olongapo City's Early Warning System for Earthquake, Tsunami and Weather

More recently, early warning hydromet devices installed to the city by DOST – PAGASA thru the DOST nationwide project entitled "Deployment of Early Warning System (DEWS) in Disaster-Prone Areas which is being implemented by DOST Regional Office III under the DOST Project NOAH.

STA. RITA BRIDGE and OLD CABALAN were sites identified and validated wherein an AUTOMATED WATER LEVEL MONITORING STATION (WLMS) and AUTOMATED RAIN GAUGE (ARG) were installed with coordinates of 14.84562° N and 120.2904° E and 14.8752° N and 120.3283° E respectively.

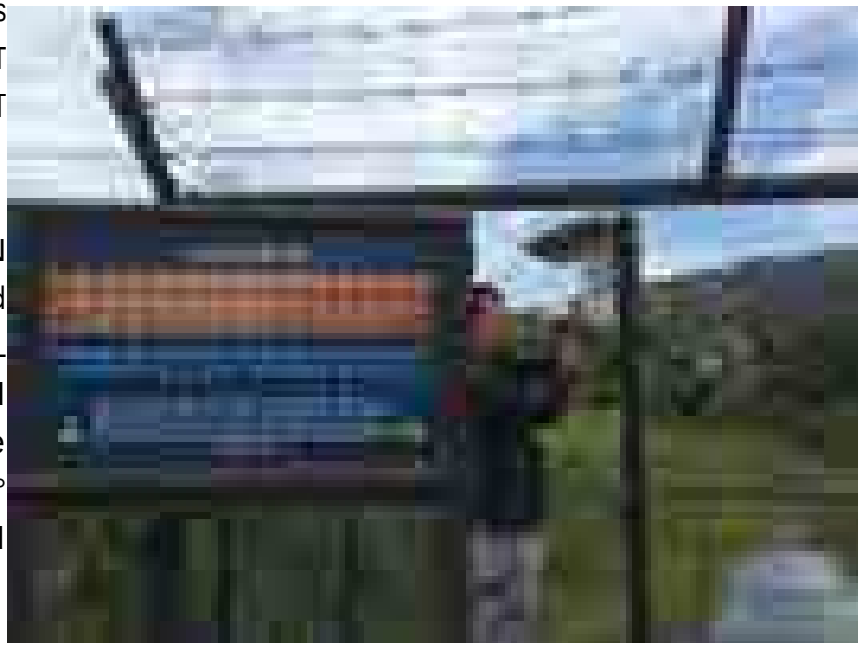


Figure12 Automated Water Level Monitoring System installed at Sta Rita Bridge

Figure13 Hazard Warning Signages for Landslide and Flood

Figure14 "Batingaw" as community based emergency warning installed in Sta Rita and Mactan in Od Cabalan

5.0 Policies on Disaster Mitigation

Republic of the Philippines
CITY OF OLONGAPO

Sangguniang Panlungsod

Figure15 Olongapo City Ordinance No. 11, Series of 2015 (Plastic Ban)

Under Section 3 of RA 7160 or the Local Government Code of the Philipines and RA 9003 or the Ecological Solid Waste Management Act of 2000 mentioned the need to protect the environment and impose appropriate penaltes for acts that endager the environment, Sangguniang Panlungsod enacted City Ordinance No. 11, Series of 2015. (See annex for said ordinance) Also, this ordinance is one of the expected output under the Olongapo DRRM Plan 2014 - 2019.

5.0 Infrastructure Resilience

Under the Olongapo DRRM Plan 2014-2019, one of activity or output in relation to Disaster Prevention or Mitigation is the creation of a Localized Building Code. As of now, Olongapo City through the City Engineering Office is strictly complying to the provisions of the National Building Code or PD 1096 in provide for all buildings and structures, a framework of minimum standards and requirements to regulate and control their location, site, design, quality of materials, construction, use, occupancy, and maintenance.

Map5 River Bank Stabilization Map

Map6 River Bank Slope Protection Projects

For its annual building inspection by the City Engineering Office, a total of 2,373 buildings were inspected and fully complied with the requirements set forth under the provisions of the National Building Code. Annual Building Inspection is conducted to ensure structural stability of the building and that all architectural, electrical, mechanical, plumbing/sanitary and safety standards are complied with prior to the issuance or renewal of Certificates of Occupancy or Permits to Use.

On the other hand, as part of the mandate of the Bureau of Fire Protection (BFP) under Republic Act 9514 or the Fire Code of the Philippines in ensuring full compliance of business establishments prior issue of Fire Safety Inspection Certificate (FSIC) as requirement for release of Business or Mayor's Permit, Permit to Operate or Occupancy Permit. According to BFP Olongapo for 2015, a total of 6812 out of 7758 FSIC applications were issued by the department.

City of Olongapo

DISASTER RISK REDUCTION & MANAGEMENT COUNCIL

Gabay sa Paghahanda

DISASTER PREPAREDNESS

Preparedness is described as developing readiness, and organizing and preparing

Olongapo City Disaster Risk Reduction and Management Council (OCDRRMC)

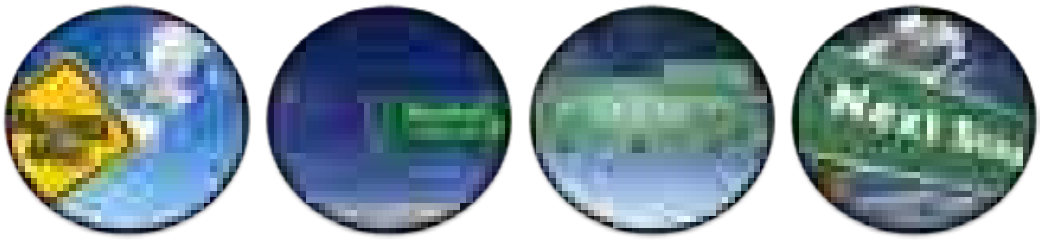
When a disaster hits the country, it's not always the national government that acts first. However, local government units (LGUs) are expected to be at the frontline of emergency measures in the aftermath of disasters to ensure the general welfare of its constituents, according to the Local Government Code of 1991.

Twenty five years ago, Olongapo City set far-sighted goals to free its citizen from the shackles of disasters. There, we agreed on a vision for our future - Olongapo prepared: a community where people and government work for the betterment of all. This vision took shape when in the 80's; the Olongapo City Disaster Coordinating Council (CDCC) was formed. And the rest was history…

Today, we have made important progress in the city's disaster risk reduction and management efforts. We have been conferred the highest award given to disaster coordinating councils by the National Disaster Coordinating Council: the Gawad Kalasag Hall of Fame Award for Best City Disaster Coordinating Council - Highly Urbanized City Category. Our primary response group, the Olongapo Fire and Rescue team was also acknowledged as Gawad Kalasag Hall of Fame Award for Best Government Emergency Responders.

In 2008, the Olongapo City Emergency Response Plan was formulated to sustain the development of emergency frontliners. The plan which includes six (6) contingency plans formulated by CDCC agencies, partner organizations, community volunteers and non-government/ people's organizations continues to be regarded as a prototype for local disaster coordinating councils in the region.

Under Republic Act No. 10121 or the DRRM Act, provinces, cities, and municipalities have a greater responsibility in building the disaster resilience of communities, and in institutionalizing disaster risk reduction within their functions and operations. LGUs need to develop the knowledge, capacity, and a system to cost effectively comply with the law.



The **DRRM Council** directs...

The **DRRM Office** administers...

The **COMMUNITY** are the first responders....

The **SANGGUNIAN** institutionalizes...

A.3 Programs Supported by the CDRRMC

The Olongapo City Disaster Risk Reduction and Manageent Council (CDRRMC) have been supportive in terms of programs in ensuring preparedness among the all stakeholders. Activities such as Oplan Sumvac, National Disaster Consciousness Month, Oplan Kaluluwa, Fire Prevention Month, Regional First Aid Olympics, Summer Swimming and First Aid Training Course for School Children and Guardian, Fire Olympics, Earthquake Simulation Exercise and Flood Evacuation Drills, First Aid and BLS Training are some of the programs fully supported that are year round conducted.

Figure16 Operational Period Briefing for Oplan SUMVAC 2015

Figure17 Summer Swimming Training Course for Children

Figure18 First Aid and Basic Life Support Training

B.1 Olongapo City Disaster Risk Reduction and Management Council

A Resolution Establishing A Community Disaster Preparedness Program and Creating the Olongapo City Disaster Coordinating Council

City Council Resolution No. 91, Series of 1985

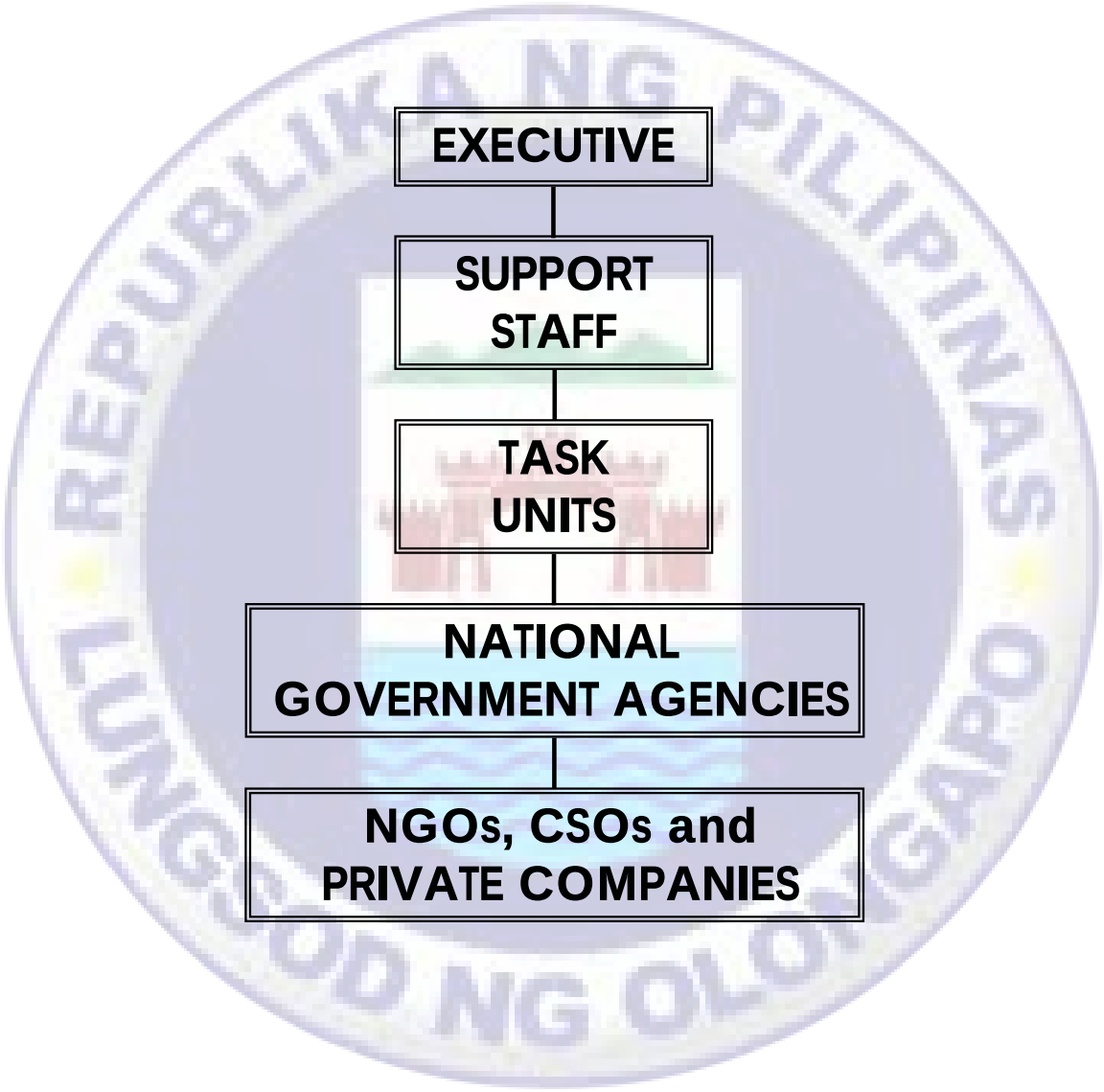


Figure19 Olongapo City Disaster Risk Reduction and Management Council Organization

The Olongapo City Disaster Risk Reduction and Management Council (CDRRMC) is particularly committed to continue to strengthen stakeholder's cooperation and solidarity and redoubles our efforts to reach our mission – to prepare for, response to and recover from disasters, for nothing less than the viability of Olongapo City and the future of our citizenry are at stake here. Under Mayor Rolen Paulino, he reorganized the composition of the CDRRMC through Executive Order No. 16, Series 2013. (See annex for said EO)

B.2 Olongapo City Disaster Risk Reduction and Management Office (OCDRRMO)

With the shift from disaster response to disaster risk management, the city has introduced corresponding changes in its institutional set up. Foremost of this is the creation of a permanent disaster management office called the Olongapo City Disaster Risk Reduction and Management Office (OCDRRMO) to aid the City Disaster Risk Reduction and Management Council (CDRRMC) in achieving its mission, it created a secretariat, which is to serve as its implementing arm. Thus, the OCDRRMO was established on June 6, 2002 by virtue of Resolution No. 54 of the Olongapo City Council entitled "A Resolution Creating the Olongapo City Disaster Management Office". (See annex for said resolution) Upon its creation it set out to delineate the roles of CDRRMC members and volunteers before, during and after the impact of the calamity; it enhanced communication linkages within the organization and within the sectors involved in public safety as anchored on disaster preparedness, mitigation, response and recovery, and maintained active coordination between and among the local government units, government organizations, non-government organizations and City Disaster Risk Reduction and Management Council (CDRRMC) member agencies to ensure timely and appropriate action on disaster related activities.

VISION

Olongapo Prepared

MISSION

Lead Olongapo City to Prepare for, Prevent, Respond to and Recover from disasters

GOALS

1. Reduce loss of life and property
2. Minimize suffering and disruption caused by disasters
3. Achieved rapid and sustainable development through effective

Figure20 City Council Resolution No. 54, Series 2002 (Creating DMO)

Olongapo City Policies on Disaster Preparedness

Figure21 City Ordinance on Forced / Pre Emprive Evacuation (see annex for content of evacuation)

Figure22 City Ordinance on Basic Emergency Evacuation Plan (see annex for content of evacuation)

B.2.12 Effective Public Education to the Community

We strive to reach out to as many of our constituents as possible in the most practicable manner. By being able to reach out to its customers – the people of Olongapo and other Local Government Units (LGUs) and stakeholders, we achieve the mandate of providing the public relevant information about the city's disaster management system. The year 2015 was again another achievement as a total of 163 trainings and/or seminar workshops were partaken by the team of the Olongapo City Disaster Risk Reduction and Management Office. We do not intend to be caught empty handed as this is a testimony of undying dedication for greatness by the Olongapo DRRMO.

DRRMO wants to provide clear and consistent public safety information to the public and business community. It is our goal to prevent injury and loss of life through changing behavior. We identify segments of the community whose lives are at "risk". Also, we want to develop, present, and review life safety and injury prevention education program.

Through the years, Disaster Risk Reduction and Management Office partnered with several government agencies like the Office of Civil Defense Region III, Philippine Heart Association, Philippine Red Cross, Philippine Atmospheric Geophysical and Atmospheric Services Administration, Mines and Geosciences Bureau, Bureau of Fire Protection, Philippine Institute of Volcanology and Seismology, Philippine National Police and the Department of Interior and Local Government to provide comprehensive public safety education program. These programs provide the knowledge, skills, and education necessary to prevent loss of life and/or property due to the ravage of disasters in Olongapo City.

We introduced continuous reform in the implementation of the Family Emergency Preparedness Plan strategy that allows the office to work better with families and children to help them formulate their own plan especially when disaster strikes. We established a more comprehensive Information and Education Campaigns (IECs) to hazard prone barangays with strong community involvement. The barangay officials support the community's development in terms of disaster awareness and preparedness. The results to date are positive, with families and communities re-engaging with schools, strong participation of families in strategies, improved attendance and clear pathways to disaster preparedness within Olongapo.

Hazard prone barangays and schools chalked up the most progress in conducting Information and Education Campaigns (IECs). Invites from other Local Government Units (LGUs) and private sectors showed significant improvement as well - taking the initiatives of learning and adapting from the best practices of Olongapo City in disaster preparedness and management. Still on a higher demand were the refresher courses in First Aid and Basic Life Support (BLS) being requested by private institutions.

We have recognized that those living in hazard prone areas are specific groups who are most at peril when disaster strikes. DRRMO delivered safety presentations to schools and far fetch barangays in order to educate these "at risk" persons. The training focused on identifying hazards along with implementing strategies to follow should a disaster occur.

This team requires careful planning and a large time commitment from its team members. The training demands of these team members are particularly challenging due to the time commitment that is necessary to develop and maintain the necessary special skills. Training of responders in more advanced techniques is becoming more crucial in this ever-changing environment. This area of training is not optional for OFSAR, because of the nature of the service, our team must be proficient to execute many different, but vital skills in an emergency.

2015 clearly showed that right policies and actions, backed by adequate funding and strong political commitment, can yield results. We are edging closer in meeting the target for a safer Olongapo.If everyone responds constructively to the situation, the goal can still be achieved. Honoring the commitment to increase assistance is critical. Equally important is ensuring that the advancement of community education would be a priority to have the vulnerable population remains central in our agenda.

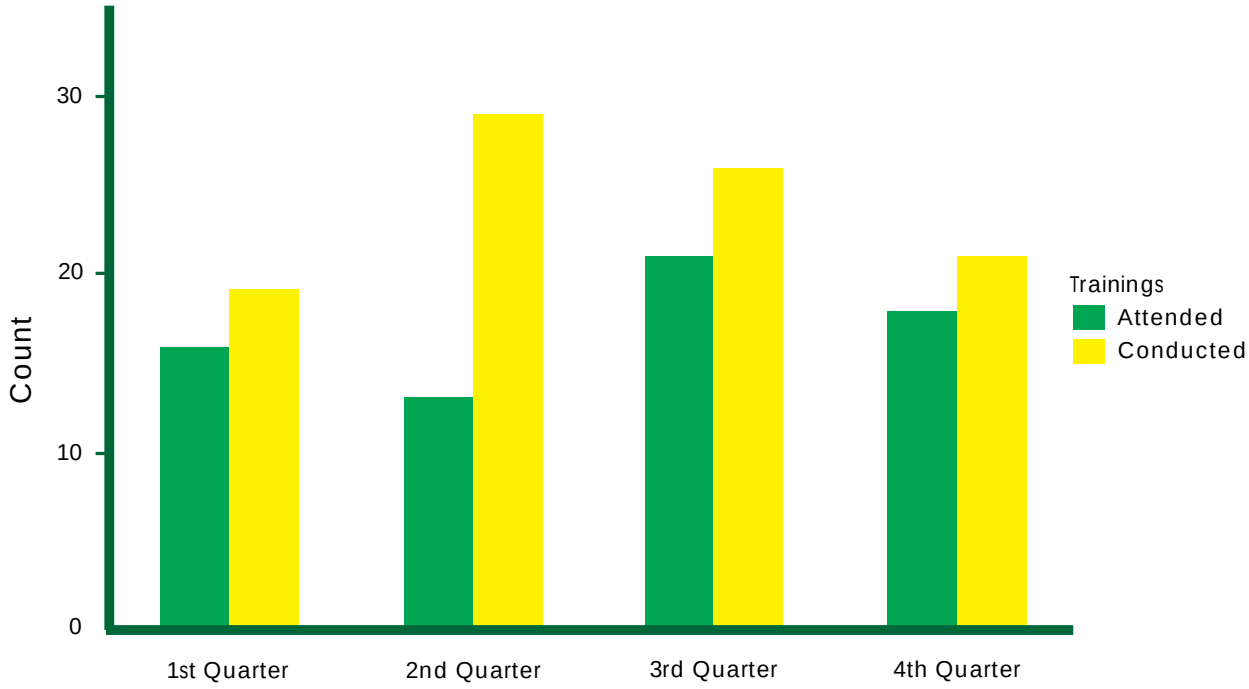


Figure23 Average distribution of DRRMO trainings by quarter (Jan - Dec 2015)

Figure24 Olongapo DRRMO's Family Emergency Preparedness Program

Figure25 Family Emergency Card as part of the Family Emergency Preparedness Plan

Figure26 Family Emergency Bag as part of the Family Emergency Preparedness Plan

Figure27 Information Education Campaigns for At Risk Communities (Landslide Prone Areas)

Figure28 Information Education Campaigns for At Risk Communities (Flood and Flashflood Prone Areas)

Figure29 Information Education Campaigns for At Risk Communities (Tsunami Prone Areas)

Figure30 Information Education Campaigns Materials - "Tamang Kaalaman ay Kahandaan"

B.3.1 Local Disaster Risk Reduction & Management Plans

Figure31 Olongapo DRRM Plan 2014-2019

The Olongapo DRRM Plan (see electronic copy for said plan) outlines the activities aimed at strengthening the capacity of the local government unit (LGUs) together with partner stakeholders, to build the disaster resilience of communities and to institutionalize arrangements and measures for reducing disaster risks, including projected climate risks and enhancing disaster preparedness and response capabilities at all levels.

Last but not least, the Olongapo DRRM Plan adheres to the principles of good governance within the context of poverty alleviation and environmental protection. It is about partnerships and workshing together – engaging the participation of CSOs, the private sector and volunteers in the government's DRRM programs towards compelementation of resources and effective delivery of services to the citizenry.

Olongapo City is one of numerous communities in the country that are already experiencing the overpowering impacts of disasters and climate change. The city's Contingency Plan for Typhoon and Flood (see electronic copy for said plan) recognizes the importance of involving the community to build on their strengths in preparing for such disasters. This plan also provides information for identifying vulnerable groups (women, children, senior citizens and people with disabilities) who are most affected when disasters strike. With effective integration of economic, social, cultural, environmental, institutional and political dynamism, this will drastically lessen our vulnerability and significantly increase our City's resilience to such catastrophes.

The Emergency Response Plan (ERP) (see electronic copy for said plan) was prepared by then Olongapo City Disaster Coordinating Council in 2008 under the guidance of the National Disaster Coordinating Council and Office of Civil Defense. With the supervision of the Disaster Management Office, together with the valuable help of local barangay officials, local government units and departments, NGOs and the private sector, this book became a reality. The plan will serve as an administrative guide for the different departments of the City Government of Olongapo, Rescue Teams and other individuals or organizations that are providing essential services in the event of a major emergency. Each entity is allocated a specific task or responsibility and is provided with guidelines as participants in a disaster scenario. With this, each is expected to perform and to follow directions and guidance from only one central focal point.

The plan was designed to be the official guideline for coordination of all resources involved in emergency management and to be referred to in any emergency situation. However, it is not intended by any means to be exhaustive. As a document, it has to be reviewed and updated on an "as needed" basis reflecting the experiences gained, comments and suggestions received from users and participants of exercises or responses.

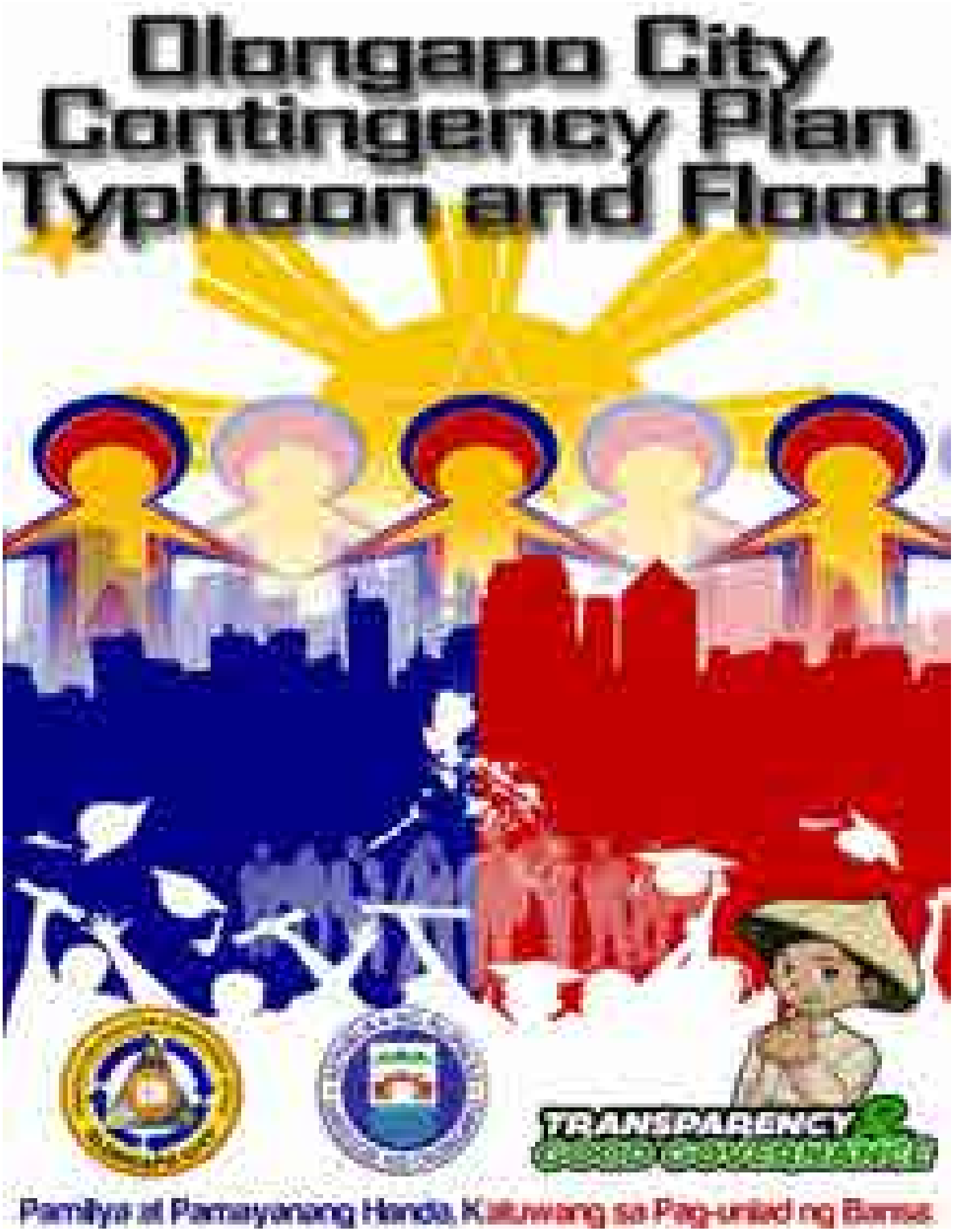


Figure32 Olongapo Contingency Plan for Flood and Typhoon

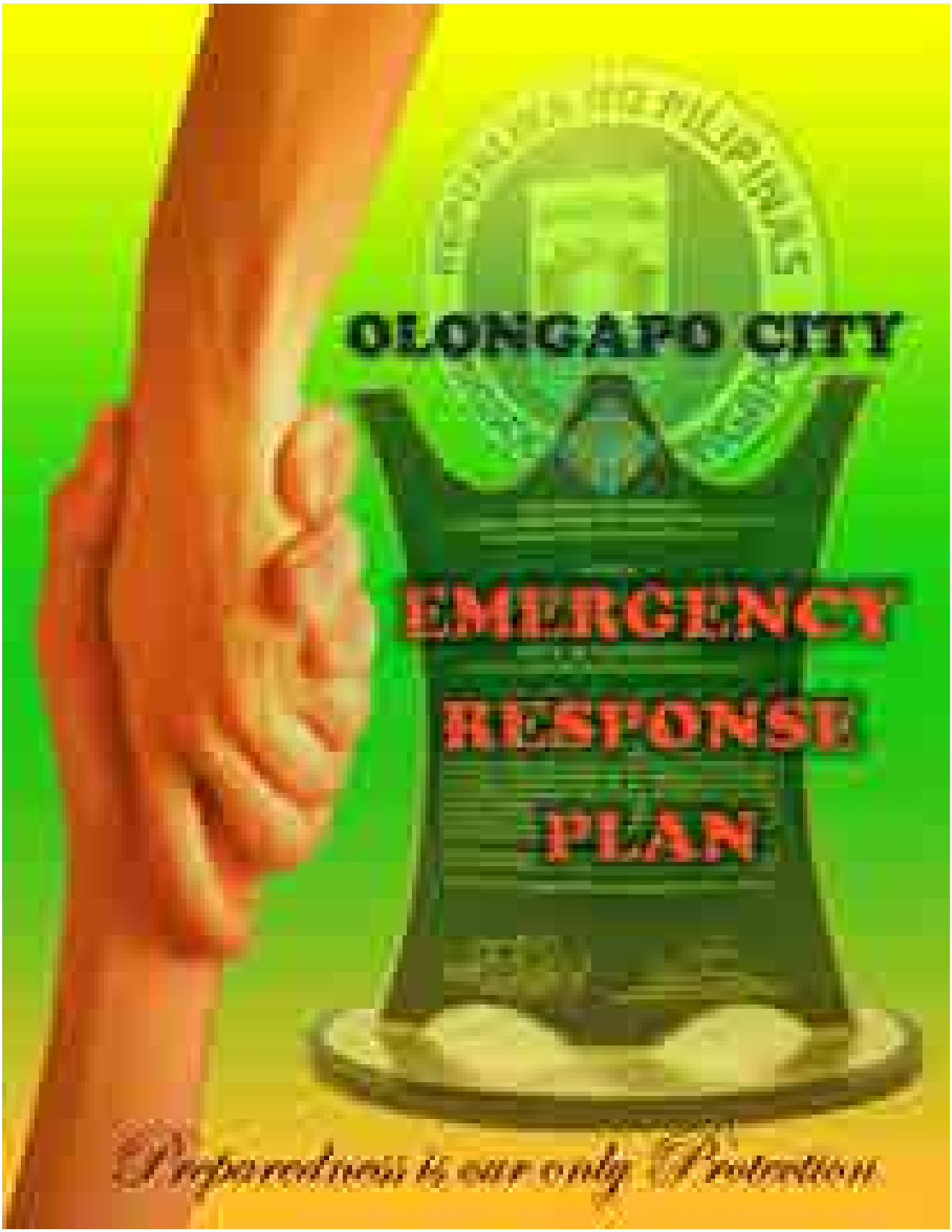


Figure33 Olongapo Emergency Response Plan

B.4.1 Continuous Learning: Trainings and Capacity Development

It's important to note that Olongapo City took an aggressive move to be among the first in the Philippines to be undergo these trainings.

Training is the backbone of the emergency responders. It is, without exaggeration, the difference between the success and failure of any given response effort and at times can be the difference between life and death. Emergency services personnel require solid, realistic, ongoing, verifiable training to develop and maintain skill sets that are required to perform the many tasks required. The Operations and Warning Section offered lifelike scenarios for our responders, and provide for a wide range of realistic hands-on activities including: vehicle extrication training, fire fighting scenarios, high angle rope rescue and rappelling practice, confined space rescue and flood/swiftwater training to name a few.

This team requires careful planning and a large time commitment from its team members. The training demands of these team members are particularly challenging due to the time commitment that is necessary to develop and maintain the necessary special skills. Training of responders in more advanced techniques is becoming more crucial in this ever-changing environment. This area of training is not optional for the Olongapo Fire - Urban Search and Rescue, because of the nature of the service, our team must be proficient to execute many different, but vital skills in an emergency.

If we agree with the risk manager's mantra "predictable is preventable," then one of the primary ways that we can avoid or minimize our risks is through training. The Olongapo Fire - Urban Search and Rescue continues to make training one of our top priorities. Our aggressive training program can essentially be separated into three segments. The first is medical training, which after initial education, ensures not only that our members maintain all of their levels, but stay abreast of current developments and innovations in EMS care.

The second part of the training program is fire and technical in nature. These programs include fire fighting skills, technical rescue skills, extrication, and so forth. The third portion of the training system is personal and leadership development. Through this succession planning, we are developing our leaders of tomorrow, today.

In recent years, we have evolved an approach that reflects emerging good-practice. Our focus and our language are now more oriented to critical risk areas – things that can cause death or serious harm – rather than just on the frequency of injuries or events, which has been our focus in the past. We seek to prevent and anticipate issues, rather than merely monitor and fix. We have translated our aspirational zero harm goal into 'everybody home safely, every time'. We have given greater prominence to the equal importance of physiological and psychological health and the promotion of wellbeing, alongside our key safety focus.

The Olongapo City Disaster Risk Reduction and Management Office also maintains a continuing program of conducting trainings, orientations and actual drills in various schools and establishments on how to deal with and react to various forms of emergencies. The drills include the safest and fastest means of evacuation, rescue and extrication.

- Collapsed Structure Search and Rescue(CSSR)
- Urban Search and Rescue (USAR) Training
- Crashed Vehicle Extrication Rescue Training
- Medical First Responder (MFR)
- First Aid and Basic Life Support
- Incident Command System
- Crisis Management Seminar Workshop
- Basic and Advance Disaster Management
- Disaster Assistance and Rescue Training (DART)
- Basic Life Line Rescue/ Ropemanship
- Rappelling/ High Rise Rescue
- Water Safety Search and Rescue Training
- Swift water and Flood Rescue Technician Training
- Scuba Diving
- Basic and Advance Fire Fighting and Extrication
- Chemical and Hazardous Wastes Emergency Management Training
- Advance Cardiac Life Support (ACLS)
- Ambulance Management and Supervision

Among the participants that received such trainings conducted by Olongapo City Disaster Risk Reduction and Management Office are as follows:

- City of San Fernando, Pampanga
- City of Santiago, Isabale
- City of Palayan, Nueva Ecija
- Province of Bataan
- Provine of Pampanga
- Province ofBulacan
- Cabanatuan City, Nueva Ecija
- Nicera Philippines, SBFZ
- Tollways Management Corporation (SCTEX & NLEX)
- Lyceum Subic Bay
- Philippine National Police Olongapo
- Province of Tarlac
- Province of Nueva Ecija
- Responders from NCR
- Army Reserve Command
- 525th Engineering Brigade
- Keppel Subic
- Angat Hydroelectric Plant
- PTT Philippines
- Tactical Operations Groups PAF
- AMA Computer Learning Center
- Columban College

High level of commitment, strong determination, response capability and cohesive effort are just some of the words that describe the Olongapo Fire - Urban Search and Rescue . Regarded as one of the finest in the country, the Olongapo Fire - Urban Search and Rescue continues to be what it is known for and strives to leap greater heights in terms of disaster management and public service.

Figure34 Olongapo City Fire-Urban Search and Rescue Fire Training on Vehicle Extrication from US Coast Guard Pacific Partnership

Figure35 Olongapo City Fire-Urban Search and Rescue Fire Training on Hazardous Materials First Responder Level from the Geneva, Switzerland Fire Fighters

Figure36 Olongapo City Fire-Urban Search and Rescue Fire Training on Incident Command System

Figure37 Olongapo City Fire-Urban Search and Rescue Fire Training on Firefighting

Figure38 Olongapo City Fire-Urban Search and Rescue Fire Training on Urban Search and Rescue

Figure39 Olongapo City Fire-Urban Search and Rescue Fire Training on Flood Swiftwater Rescue

Figure40 Olongapo City Fire-Urban Search and Rescue Fire Training on Basic Life Support and First Aid

Figure41 Olongapo City Fire-Urban Search and Rescue Fire Training on Water Search and Rescue

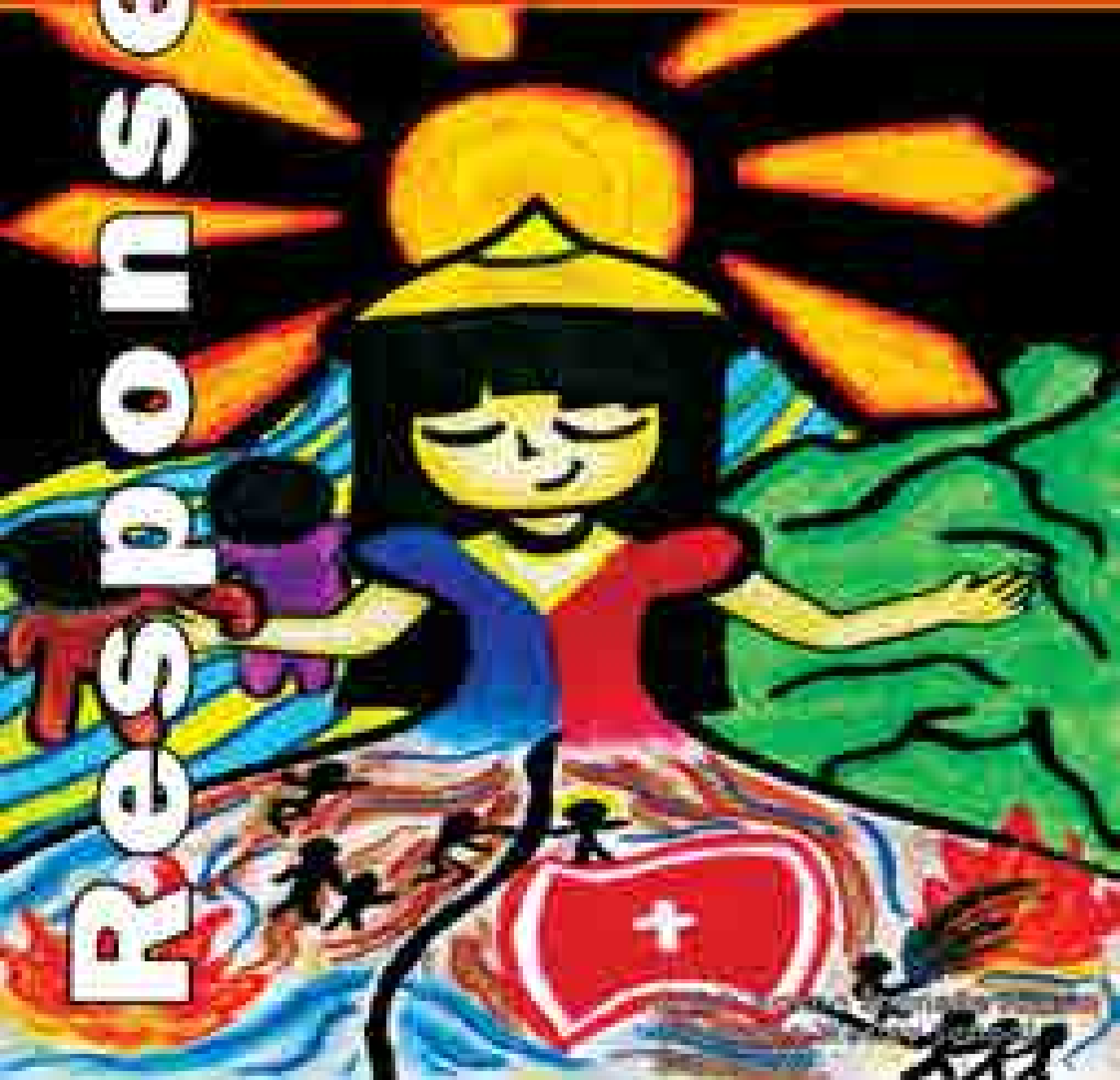
Figure42 Olongapo City Fire-Urban Search and Rescue Fire Training on Vehicle Extrication

Figure43 Olongapo City Fire-Urban Search and Rescue Fire Training on INSARAG and ARDEX

City of Olongapo

DISASTER RISK REDUCTION & MANAGEMENT COUNCIL

Reports



DISASTER RESPONSE

The city's active engagement in disaster rescue operations within and outside its area of responsibility, and its commitment to continuously train its personnel have been seen as a factor in recognizing the Olongapo Fire - Urban Search and Rescue as one of the few rescue teams in the Philippines to be recognized by then National Disaster Coordinating Council (NDCC) with the capability of an Urban Search and Rescue Team. Thus the Team was part of multi-faceted International trainings on DRRM such as Asean Regional Disaster Exercise (ARDEX) in 2007 (Singapore), and 2008 (Thailand); International Search and Rescue Advisory Group (INSARAG) in 2008 (Philippines) and 2012 (Indonesia). Further, they continue to selflessly share innovative and time tested strategies as well as essential trainings to rescuers and first responders of other Local Disaster Risk Reduction and Management Councils across the entire Region 3 and other regions throughout the country.

A high level of commitment, determination, response capability and cohesive vision of a dynamic and effectual Disaster Response and Management agenda are just some of the best compliments to describe the Olongapo Fire - Urban Search and Rescue. It continues to preserve and sustain its reputation as the one of the finest in the country in terms of disaster management and public service, and responsive to the needs, challenges and opportunities ahead.

Olongapo's Fire - Urban Search and Rescue is taking the art of protecting life and property to new levels. Where emergencies and disasters can shake us out of our senses, the demands of keeping up with new skills and technologies are being met. The rescuers responding to emergencies have always brought along with them their superior knowledge, skills, and abilities that are a hallmark of the Olongapo DRRMO.

Gawad KALASAG Hall of Fame

The Olongapo Fire - Urban Search and Rescue was the **NATIONAL GAWAD KALASAG AWARD** recipient for Best Government Emergency Responders (GOERS) for three consecutive years - 2004, 2006 and 2007. With this, the Olongapo Fire - Urban Search and Rescue became one of the member of the Gawad Kalasag Hall of Fame for Best Government Emergency Responder.

In the Regional level, Olongapo Fire - Urban Search and Rescue was declared as the sole Regional Gawad Kalasag Awardee for Best Government Emergency Responder since 2002.

These and the countless commendations paved the way for the Olongapo Fire - Urban Search and Rescue it to gain a level of prestige almost comparable to that of Emergency 911 of the United States of America, after which the concept for its creation was patterned.

Search and Rescue: Minimizing Impact Through Rapid Effective Response

Cabanatuan Flooding

On December 2015, the Olongapo Fire - Urban Search and Rescue was requested by OCD Region 3 to respond to Cabanatuan City, Nueva Ecija after the onslaught and devastation brought by Typhoon Lando. This deployment was a ground-based deployment. The Olongapo Fire - Urban Search and Rescue conducted search and rescue operation and provided humanitarian support for community members.

Calumpit Flooding

On 30 September 2011, Calumpit, Bulacan was heavily flooded due to Typhoon Pedring and Quiel. In response, an Olongapo Fire - Urban Search and Rescue contingent was immediately deployed to provide search and rescue and humanitarian assistance for displaced families and aided victims hemmed in and marooned by the floods.

Pangasinan Flooding

On 09 October 2009, an Olongapo Fire - Urban Search and Rescue contingent was immediately deployed to provide search and rescue and humanitarian assistance for displaced families and aided victims hemmed in and marooned by the floods caused by Typhoon Pepeng.

Typhoon Ondoy

On 26 September 2009, an Olongapo Fire - Urban Search and Rescue contingent was immediately deployed in Metro Manila and Rizal Province to provide search and rescue and humanitarian assistance for displaced families and aided victims hemmed in and marooned by the floods caused by Typhoon Ondoy.

Botolan Flooding

On 06 August 2009, an Olongapo Fire - Urban Search and Rescue contingent reached out to victims of massive flooding in Botolan, Zambales after a 45-meter portion of the Bucao Dike was breached by Typhoon Kiko. The team, together with PNRC Olongapo was among the first rescue groups who arrived in the flood stricken-areas.

Itogon Mines Trapped Victims

On September 28, 2008, a composite team of the Olongapo Fire - Urban Search and Rescue was dispatched to Barangay Antamok, Itogon, Benguet to help in the search and rescue operations for 14 trapped gold miners at the height of Typhoon Nina

Typhoon Winnie Flooding

On November 30, 2004, an Olongapo Fire - Urban Search and Rescue contingent conducted search and rescue operations to help the victims of flashfloods brought about by Typhoon Winnie in the municipality of the San Leonardo, Bongabon and the City of Cabanatuan, Province of Nueva Ecija.

Paniqui Flashflood

On August 27, 2004, an Olongapo Fire - Urban Search and Rescue contingent was immediately deployed to provide search and rescue and humanitarian assistance to fifteen (15) barangays of Paniqui, Tarlac to help and assist the families affected by flash floods from Tropical Depression "Maru".

Payatas Trashslide

On July 11, 2000, an Olongapo Fire - Urban Search and Rescue contingent was immediately deployed to help the victims of the Payatas Tragedy at Lupang Pangako, Payatas Quezon City by conducting relief, search and recovery operation. The city donated assorted relief goods, mats and water jugs amounting to P 66,900.00 and P 100,000.00 cash as a financial assistance to the victims of the said tragedy. The team also conducted manual and mechanical excavations with the assistance of the Philippine Army. Four (4) bodies were recovered which included a pregnant mother, who were later identified by Virginia Limpan, Purok Leader of Area 17, as Jocelyn Muyco and her Children Jeffrey Muyco and Baby Muyco. The team secured the remains and brought these to the designated area for disinfection.

Figure44 Operations and Warning Section Chief Jeffrey Lapid leads the search and rescue operation of flooded victims at Calumpit, Bulacan followed by the heavy flooding caused by Typhoon Pedring and Quiel in 2011. Almost 1200 victims were rescued and transported to the evacuation centers.

Mayon Volcano Eruption

On March 3, 2000, then City Mayor Katherine H. Gordon and PNRC Governor Richard J. Gordon organized a team composed of Olongapo volunteers and the Olongapo Fire - Urban Search and Rescue to help the people of Albay who were affected by the eruption of Mayon Volcano. The disaster rescue and relief operation went on for two (2) weeks, supplying potable drinking water to the different evacuation centers. The team conducted a medical mission and donated assorted medicines, plastic garbage bags, water containers, tents, best tanks and mineral water for their use.

Figure45 Olongapo Fire - Urban Search and Rescue retrieves the dead body of a 17 month old baby following the tragic trashslide in the New Cabalan dumpsite. The search and retrieval operation was more difficult and hazardous to the members of the responding crew as methane and other toxic chemicals emitted by the garbage heap can cause various respiratory illnesses.

3.1 Olongapo Emergency Operation Center: Partnership is Pathway to Resilience and Survival

The Olongapo Emergency Operation Center (EOC) is the City's coordination center for emergency services during any major emergency affecting the City.

Day-to-day operations of the EOC are manned by the Olongapo Fire-Urban Search and Rescue. When a major emergency or disaster strikes, centralized emergency management is needed. This facilitates a coordinated response by the Olongapo Fire - Urban Search and Rescue under the Olongapo Disaster Risk Reduction and Management Office who are assigned specific emergency management responsibilities.

Figure46 Olongapo Emergency Operation Center currently located at Dela Cruz Drive, East Tapinac. The Olongapo Fire-Urban Search and Rescue currently man the day-to-day operations of the EOC.

Figure47 Olongapo City Hotlines signgaes are strategically located within the city to inform the public of emergency numbers in case the needs to arise

Currently, updated hotlines are extensively posted along strategic locations in the city including public utility vehicles (PUVs) such as jeepneys and tricycles. Also, people accessing our social media account (facebook) can view the said hotline number.

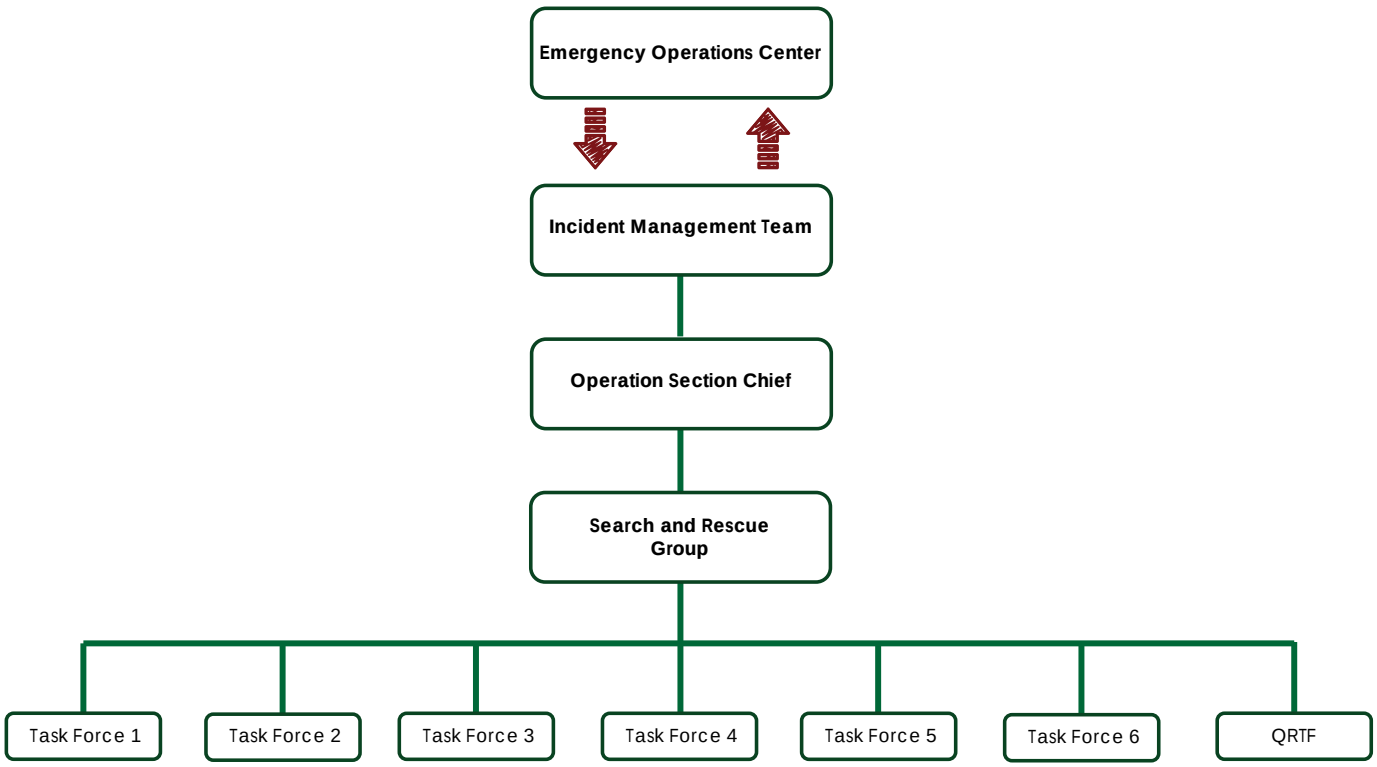
As part of the Sister City partnership with Virginia Beach City, it will develop its own 911 emergency operation center similar to Davao Central 911.

The CDRRMC Executive Officer in consultation with the Chief of the initial responding agency will notify the City Disaster Rsk Reduction and Management Council (CDRRMC) Chairman of the necessity to assemble the Emergency Operations Center. The CDRRMC Chairman will advise the Disaster Risk Reduction and Management Office and the CDRRM Council whether or not to declare a state of calamity.

The Emergency Operations Center will be formed simultaneous with the activation of the Emergency Alerting System and it must be set-up at the Disaster Risk Reduction and Management Office, primarily or at the Olongapo City Hall, secondarily.

The Emergency Operations Center will be assembled at the designated post and, if a state of calamity is declared, will be responsible for the over-all general coordination of resources required to mitigate the effects of the event. The actions of the Emergency Operations Center will be directed by the CDRRMC Chairman.

In the event that a state of calamity is declared, it is the responsibility of the Disaster Risk Reduction and Management Office to notify the Regional Disaster Risk Reduction and Management Council (RDRRMC) and National Disaster Risk Reduction and Management Council (NDRRMC) respectively of the situation.



Responding Agencies: Olongapo Fire Search and Rescue, Barangay Rescue Teams, Philippine Red Cross, SBMA Fire Department and Law Enforcement Division, Olongapo City Police Office, Bureau of Fire Protection Olongapo, Volunteer Groups and Cooperating Agencies

Figure48 Search, Rescue and Retrieval Flow of Operation

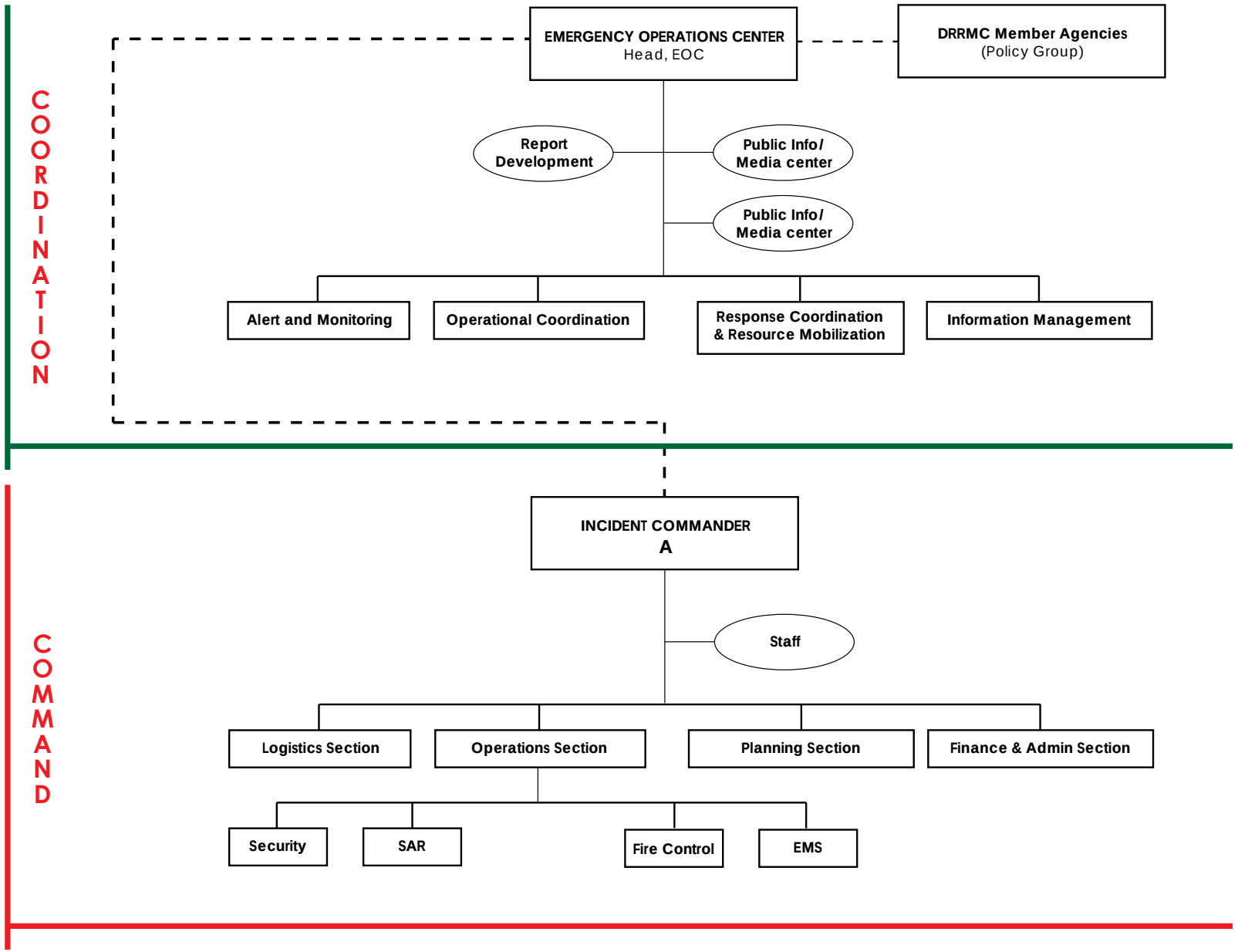


Figure49 Emergency Operation Center Flow of Operation

3.2 Timeliness of Response: Olongapo Fire-Urban Search and Rescue Emergency Dispatch Guidelines

Figure50 Olongapo City Fire-Urban Search and Rescue Dispatch Room

If an emergency service is to be dispatched fast, it is important to record quickly and precisely WHAT has happened to WHO and WHERE. This is why the the Olongapo Fire-Urban Search and Rescue follow protocols in probing or asking questions for each emergency call. The first question our employees ask the caller is always: "Where exactly is the place of incident?" The aim is to locate the emergency as quickly as possible so that the responsible emergency personnel can be assigned to it. Then questions about the number to call you back on and your name follow, along with a request to describe the situation. Next, depending on the situation described, further more detailed questions are asked (in the medical area about symptoms, in the fire service area e.g. about possible sources of danger). Using the answers, we create an alert level, on the basis of which the alert takes place. The alerting and dispatching of the emergency personnel by our dispatch already begins during your phone call. If necessary, the call taker looks after the person seeking assistance until the arrival of the rescue personnel, and provides information about such as how to monitor the breathing of an unconscious patient.

The following diagram shows the parallel sequence of the taking of emergency calls and the alerting and dispatching of emergency personnel.

The protocols have proven their worth over decades. The protocols are constantly reviewed and further developed on the basis of the latest findings from research and practice, in order to ensure that the emergency call questioning is always of the highest possible quality.

Figure51 Olongapo City Fire-Urban Search and Rescue Emergency Dispatch Guidelines

3.3 Independent Resources Utilized

Being tagged as Urban Search and Rescue (USAR) requires specialized rescue skills used with capabilities that include, search, medical and structural assessment capacity. The effective operation of the team is predicated upon properly trained personnel, coupled with appropriate tools, equipment and support components. The list is periodically reviewed and updated to reflect changes in US&R mission parameters, operational concepts, and technology advances that enhance operational effectiveness. There are seven (7) categories of equipment associated with the Olongapo Fire-Urban Search and Rescue: Communication, Emergency Transport, Medical, Fire Suppression, Urban Search and Rescue / Collapsed Structure Search and Rescue, Swiftwater/Water Search and Rescue and Hazardous Material Response.

Figure52 Olongapo City Fire-Urban Search and Rescue Emergency Response Equippage

Olongapo Fire-Urban Search and Rescue Organizational Structure

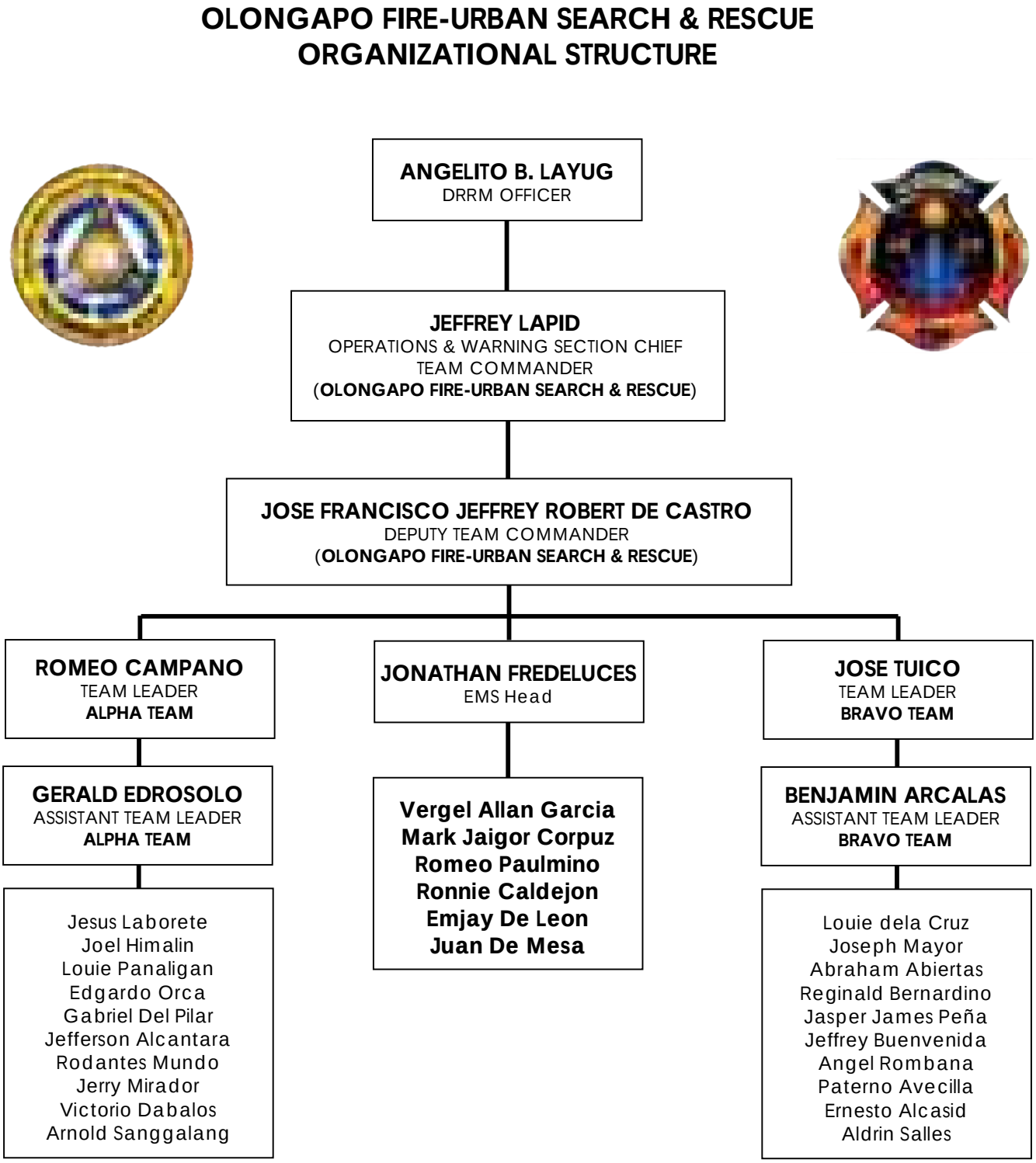


Figure53 Olongapo City Fire-Urban Search and Rescue Organizational Structure

3.4 Olongapo Fire-Urban Search and Rescue Standard Operating Procedures

Olongapo Fire - Urban Search and Rescue's response framework is patterned to the standards set by the International Search and Rescue Advisory Group (INSARAG) wherein search and rescue efforts are chronological and continuous, starting immediately after the occurrence of any emergency or disaster. (See electronic copy of INSARAG Guidelines and Methodology)

The Olongapo Fire - Urban Search and Rescue's response framework represents all levels of response, starting with spontaneous community actions immediately following the disaster, supplemented initially by the local emergency services and then by regional or national rescue teams if needed.

Figure55 Olongapo City Fire-Urban Search and Rescue' Field Operations Guide on INSARAG

Figure54 Olongapo City Fire-Urban Search and Rescue' Response Framework (INSARAG USAR Patterned)

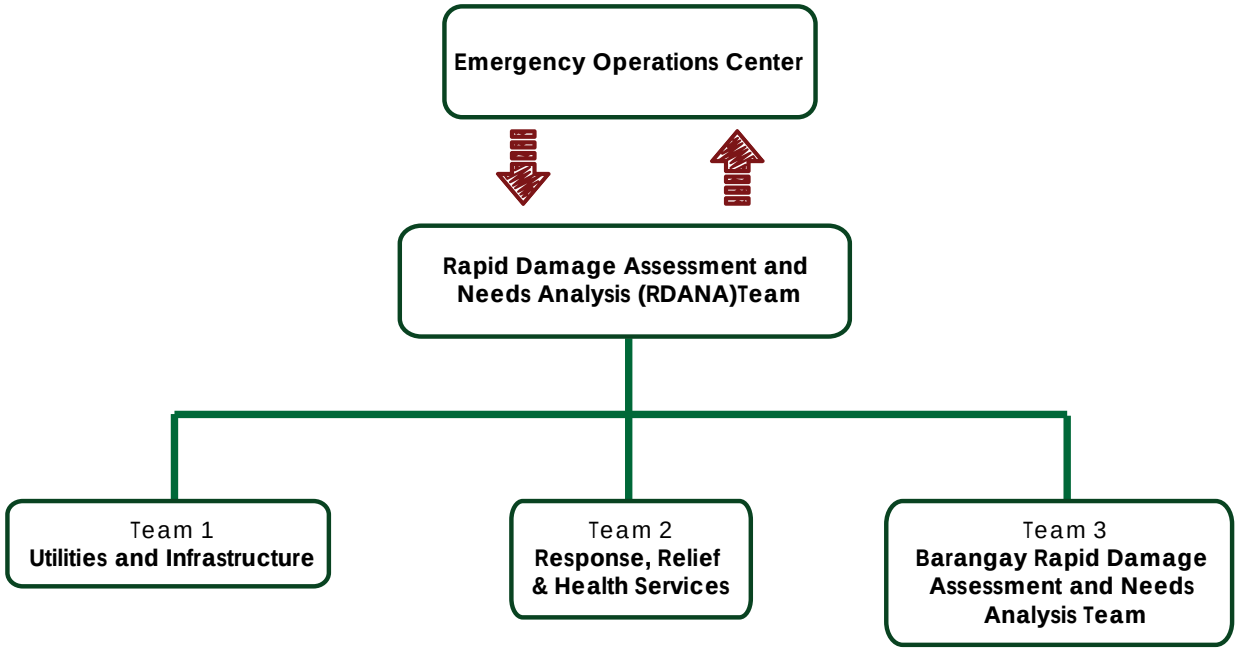
Figure56 Olongapo City Fire-Urban Search and Rescue Emergency Response

Each new level of response increases the rescue capability and overall capacity but has to integrate with, and support, the response already working at the disaster. In order to ensure interoperability between the different levels of the response, it is vital that working practices, technical language and information are common and shared through all levels of the response framework.

However, it is important to note that among the USAR teams in the Philippines, no is classified under INSARAG for their USAR response capacity. **Nonetheless, the USAR capacity of the Olongapo Fire - Urban Search and Rescue is higher than the usual First Responders and on the border of Light USAR team in the country.**

Light USAR teams have basic or minimal operational capabilities in terms of rescue equipment, knowledge and competencies, and do not necessarily all of the five key USAR components. However, Light USAR teams are usually able to assist with the surface search and rescue of victims in the immediate aftermath of a sudden-onset structural collapse disaster.

3.6 Olongapo City's Rapid Damage Assessment and Needs Analysis Team



Team 1 (Utilities and Infrastructure) - City Engineering Office (Chairman), DPWH, OEDC, Subic Water, CPDO, DRRMO, TELCOs, City Agriculture, DepEd
Team 2 (Response, Relief and Health Services) - CSWD (Chairman), CHO, PRC, DRRMO, JLGMH, City Veterinarian, City Nutritionist, OCPO, BFP, ARESCOM
Team 3 (Barangay RDANA Team) - ABC President (Chairman), 17 Barangay BDRRMCs

Figure57 Olongapo City's Rapid Damage and Needs Analysis Team

WHO WE ARE?

5.1 Awards and Recognition

Figure58 Olongapo City Fire-Urban Search and Rescue Awards and Recognition: National Gawad Kalasag

Figure59 Olongapo City Fire-Urban Search and Rescue Awards and Recognition: 2013 Presidential Lingkod Bayan Award

Figure60 Olongapo City Fire-Urban Search and Rescue Awards and Recognition: National Gawad Kalasag 2016

Figure61 Olongapo City Fire-Urban Search and Rescue Awards and Recognition: Regional First Aid Olympics 2016

2011

PILOT CITY

INSTITUTIONALIZATION OF INCIDENT COMMAND SYSTEM IN THE PHILIPPINES

2009

NATIONAL GAWAD HALL OF FAME KALASAG AWARD

BEST CITY DISASTER COORDINATING COUNCIL - HIGHLY URBANIZED CITY CATEGORY

2008

NATIONAL GAWAD KALASAG AWARD

BEST CITY DISASTER COORDINATING COUNCIL - HIGHLY URBANIZED CITY CATEGORY

NATIONAL GAWAD KALASAG HALL OF FAME AWARD

OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

REGIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL

REGIONAL GAWAD KALASAG HALL OF FAME AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

PHILIPPINE REPRESENTATIVE/OBSERVER
ANGELITO B. LAYUG- CDCC EXECUTIVE OFFICER
FOURTH ASEAN REGIONAL DISASTER SIMULATION EXERCISE (ARDEX 08)

2007

NATIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL - HIGHLY URBANIZED CITY CATEGORY

NATIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

REGIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL

REGIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

OVER-ALL CHAMPION
4TH REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

BEST IN SITUATIONAL ANALYSIS – FOCUS ON IMMOBILIZATION
4TH REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

PHILIPPINE REPRESENTATIVE
OLONGAPO FIRE-RESCUE TEAM
THIRD ASEAN REGIONAL DISASTER SIMULATION EXERCISE (ARDEX 07)

2006

NATIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

REGIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL

REGIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

1ST RUNNER-UP
3RD REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

BEST IN SITUATIONAL ANALYSIS – FOCUS ON IMMOBILIZATION
3RD REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

2005
REGIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL

REGIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

2ND RUNNER-UP
2ND REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

BEST IN SITUATIONAL ANALYSIS – FOCUS ON SPINE BOARD MANAGEMENT
2ND REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

2004
NATIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

REGIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL

REGIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

OVER-ALL CHAMPION
1ST REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

BEST IN SITUATIONAL ANALYSIS – FOCUS ON IMMOBILIZATION
1ST REGIONAL FIRST AID AND BASIC LIFE SUPPORT OLYMPICS

2003

NATIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL - HIGHLY URBANIZED CITY CATEGORY

REGIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL

REGIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDER

2002

NATIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL - HIGHLY URBANIZED CITY CATEGORY

REGIONAL GAWAD KALASAG AWARD
BEST CITY DISASTER COORDINATING COUNCIL

REGIONAL GAWAD KALASAG AWARD
OLONGAPO FIRE-RESCUE TEAM - BEST GOVERNMENT EMERGENCY RESPONDERS