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Kapag Umuulan sa Kabundukan: An Integrated Action Plan on Multiple Hazard Experiences in the City of Antipolo

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Abstract:

This action plan focuses on the multi-hazard experiences of the City of Antipolo. Due to its topography and geographical location, the city is prone to typhoons/tropical cyclones and its accompanying hazards. The risk is compounded by the rise in urbanization and population experienced by the city. Guided by the results of the situational analysis, the aim of this action plan is to reduce the risk and increase resilience in Antipolo. Foremost is through evidence-based plans and strategies. Through the development of an integrated information management system, mainstreaming DRRM and strengthening monitoring and evaluation programs. Focus was also given to enhancing the city's disaster communication plan taking advantage of the opportunity that the LGU is the primary source of its citizens for DRRM-related information. Central to the action plan is community involvement and a multistakeholder approach. Through the establishment of a community-based Early Warning System. At the same time, increasing capacities of institutions and responders and coordination with other local offices and agencies.

Keywords — **Antipolo, Multi-hazard, Landslide, Flooding, Typhoons, Community-based DRRM,**

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I. INTRODUCTION

The City of Antipolo, or more commonly known as Antipolo, is a hilly and mountainous city sitting on a plateau averaging 100 meters. Due to its topography and geographical location, the city is prone to typhoons/tropical cyclones and its accompanying hazards, namely, flooding and landslides. In addition, the city has seen a rise in urbanization and population growth, which increases the potential and impact of these hazards.

This study identified and assessed the hazards that the city and its population is exposed to. Guided by its results, this action plan presents an organized and integrated disaster risk reduction and management (DRRM) program focused on information process, communication plans, local capacities and mechanism, and institutional functions and resources that is fully adapted to the context of Antipolo.

II. SCOPE AND LIMITATION

This action plan aims to reduce the risk and increase the resilience and its associated hazards in Antipolo. It is anchored on the multi-hazard experiences during typhoons, heavy rains, flooding, and landslides. Though other areas might have similar hazards or context, it is not meant to be generalized and is specifically fitted to Antipolo.

The action plan was developed using available research and did not expound on areas that lack data. It is also limited to disaster impact. Structural and institutional drivers of risks such as social and economic issues and poverty are beyond its scope. Moreover, the action plan will not extend beyond the political boundaries of Antipolo and is confined to the legal structure that guides Antipolo City Disaster Risk Reduction Management Council (ACDRRMC).

III. SITUATIONAL ANALYSIS

Floods are often caused by heavy rainfall or a tropical cyclone. It is the most frequent type of disaster and can cause widespread devastation, resulting in the loss of life and damage to personal property and critical public infrastructure. Between 1998-2017, floods affected more than two (2) billion people worldwide. Landslides are

another hazard associated with typhoons and heavy rains. Between 1998-2017, landslides affected an estimated 4.8 million people and caused more than 18,000 deaths (WHO, n.d.)

Typhoons occur on average about 20 times per year in the Philippines. It is the most common natural hazard that Filipinos face. Typhoons and its accompanying hazard have caused the largest losses of life and property among all of the disasters that affect the country (UNDRR, 2019). Flooding and landslides hazard occurs more commonly in mountainous terrains, such as those that dominate Antipolo's landscape. Despite its higher elevation, flooding is still experienced in various parts of the city, especially those located near bodies of water such as rivers and creeks. The presence of steep slopes, amount and intensity of rainfall are considered as the main factors in the city's vulnerability to landslides.

In September 2024, Antipolo again experienced one of its worst disasters - Typhoon Enteng. Enhanced by the Southwest Monsoon, it brought moderate to heavy rain over some portions of Luzon. For the city alone, it has resulted in 16 casualties and an estimated ₱ 1.39 million damaged in agriculture, livestock and poultry. Out of the 21 reported fatalities nationwide, nine (9) cases were from Antipolo.

IV. METHODOLOGIES OF THE PLAN

The study used both quantitative and qualitative research methods. Qualitative data was collected through interview and analysis of key documents while a questionnaire was used for quantitative data. The questionnaire was administered to 30 participants from Brgy. Cupang, Mayamot and San Jose. These barangays were chosen because they have the most incidents of typhoon-related flooding and landslides in the city in recent years. The data was then analyzed using content analysis and descriptive statistics. The results were summarized and presented into tables and charts to draw conclusions on DRRM practices, strengths, and gaps in Antipolo.

V. SURVEY RESULTS

Respondents of the survey were composed of 16 males, 13 females and one respondent who preferred not to indicate their gender. The mean age of participants is 33, the youngest was 17 years old and the oldest 55 years old. More than half of participants are from the 20 to 39 age bracket.

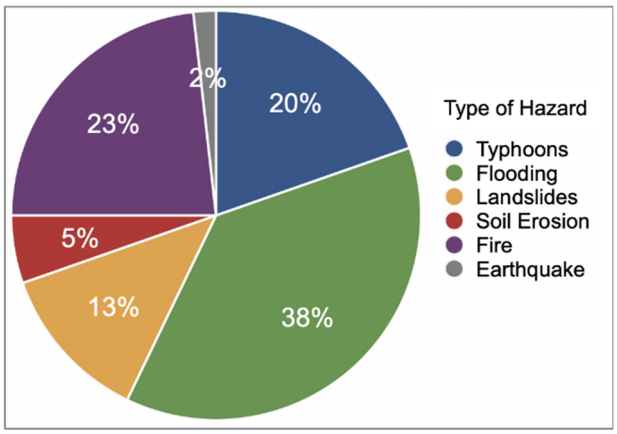

Figure 1 Percentage of the Hazards Experienced by the Respondents

As seen in Figure 1, most of the participants have experienced flooding (38%). This is followed by fire (23%), typhoons (20%), landslides (13%), and soil erosion (5%). Only one respondent answered earthquake.

The average tenure of respondents in their respective barangays is 25 years. Thus, most of the participants have lived for a significant time and have firsthand experience of the hazards faced by their respective community. So, they are in a good position to provide observations and feedback in disasters affecting them and how it is managed.

TABLE 1
INFORMATION AND PREPAREDNESS

Questions	Mean Score	VI
Q1: Sapat ang impormasyon na naibibigay sa akin tungkol sa mga banta ng kalamidad sa aming komunidad	3.13	Agree
Q2: Maayos at maaasahan ang early warning system para sa mga kalamidad sa aming komunidad	3.17	Agree
Q3: Regular na may assessment/ pagsusuri sa mga lugar, gamit o gusali na delikado at maaaring maging banta kapag may kalamidad	3.07	Agree
Q4: Epektibo ang mga ginagawang paghahanda ng aming LGU para maiwasan ang pagbaha	3.27	Strongly Agree
Q5: Epektibo ang mga ginagawang paghahanda ng aming LGU para maiwasan ang landslide/pagguho	3.37	Strongly Agree

Table 1 shows that preparedness activities in Antipolo are generally satisfactory. The highest-scored activity

was on early warning (M=3.17), followed by disaster information (M=3.13) and risk assessments (M=3.07). The lower score for assessments, does not necessarily mean that it is less effective but could also indicate that citizens are less aware of them.

Then, Q4 and Q5 were to determine if effectiveness of preparedness activities depends on the type of hazard. The results showed that the mean score for flooding and landslides were very close with only a 0.1 difference, indicating confidence that their local DRRMO is prepared for different types of hazards.

TABLE 2
DISASTER RESPONSE

Questions	Mean Score	VI
Q7: Alam ko kung paano kontakin o humingi ng tulong sa aming LGU kapag mayroong kalamidad	3.37	Strongly Agree
Q8: Mabilis ang pagtugon ng aming LGU kapag may pagbaha o landslide/pagguho sa aming lugar	3.33	Strongly Agree
Q9: Handa ako at alam ko ang gagawin kapag nagkaroon ng malalang pagbaha sa aming lugar	3.40	Strongly Agree
Q10: Handa ako at alam ko ang gagawin kapag nagkaroon ng pagguho/landslide sa aming lugar	3.35	Strongly Agree
Q11: Nakasama na ako sa mga aktibidad para tumugon o tumulong kapag may kalamidad	3.30	Strongly Agree
Q12: May sapat na kagamitan at tauhan ang aming LGU para sa pagtugon kapag may kalamidad	3.07	Agree
Q13: Nabibigyan ng atensyon ang mga pangangailangan ng mga bulnerable na mamamayan kapag may kalamidad (mga bata, matatanda, may kapansanan, atbp.)	3.33	Strongly Agree

For disaster response activities (Table 2), it was also perceived as highly effective in terms of response time (M=3.33) and attention to the needs of the vulnerable population (M=3.33). The adequacy of available resources was scored lower (M=3.07), implying that even though response activities were already rated as highly effective there is still room for improvement but it needs to come with more resources. At the same time, provision of additional resources will come with the expectation that disaster response will be better and faster.

At the individual level, there was awareness on how to contact authorities and ask for help in emergencies (M=3.37) and they also have actual experience in responding to emergencies and helping their community (M=3.30). Then, preparedness for flooding (M=3.40) was slightly higher than for landslides (M=3.35). This can be because the respondents more frequently experience flooding than landslides.

TABLE 3
RECOVERY AND REHABILITATION

Questions	Mean Score	VI
Q14: Alam ko ang mga proyekto o tulong ng aming LGU para sa mga naapektuhan ng kalamidad	3.07	Agree
Q15: Mabilis na nakakarating ang mga proyekto o tulong ng aming LGU para sa mga naapektuhan ng kalamidad	3.13	Agree
Q16: Epektibo ang mga proyekto o tulong ng aming LGU para makabawi ang mga naapektuhan ng kalamidad	3.33	Strongly Agree

For recovery and rehabilitation (Table 3), overall, the initiatives of the city were found to be highly effective (M=3.33). This is despite a lower rating on the speed of the delivery of assistance (M=3.13) and awareness of recovery projects (M=3.07). This points out the need to improve on the timeliness of assistance and increased visibility on recovery projects might be also needed. To help in their recovery from disasters, respondents identified assistance for food, finances, and shelter as their top needs.

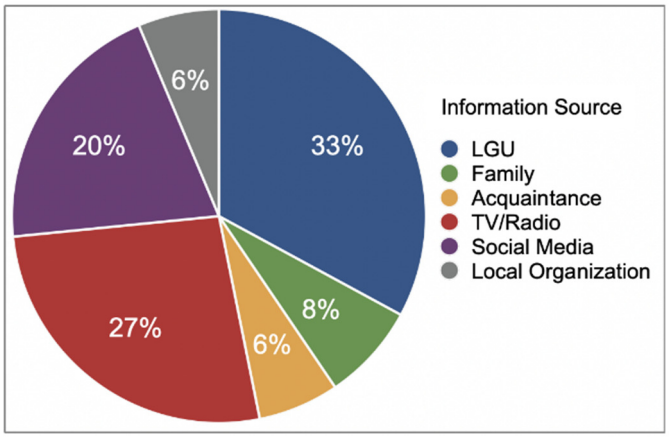

Figure 2. Percentage of Source of Information on Disaster/Hazards

Figure 2 shows that the main source of DRRM related information is the LGU (33%). This confirms the critical role of the city in providing information and sharing

knowledge to its constituents. Surprisingly, traditional media such as TV/radio (27%) outranked social media as a source of information (20%). However, both can still be used as channels in information dissemination and awareness campaigns. Other sources of information include family (8%), acquaintances (6%) and local organizations (6%).

When asked on how disaster management can be improved, the majority of the respondents identified increasing knowledge particularly through training/seminars. Specific topics mentioned were preparedness, basic precautions, first aid and basic life support. This was followed by additional rescue equipment. Other answers were clearing waterways, fixing the drainage system, proper waste disposal, preparation for evacuation, and faster response. One respondent mentioned proper utilization of the DRRM fund and to professionalize personnel under RA 10121.

VI. SWOC ANALYSIS

Strengths

DRRM is well-established in Antipolo. There is strong support and leadership from the city government and they have established DRRM-related committees and response clusters. Partnership with mining operators, private groups, CSOs and volunteer groups are formalized thru Memorandum of Agreements (MOAs).

Antipolo has the first Central Command and Communication Center in the Rizal province. This provides centralized communication for emergency response operations. The city also has equipment, machineries and supplies readily available for response operations. These are complemented by available and capable human resources at the city and barangay DRRM offices.

Weaknesses

Key planning documents of the city including Comprehensive Land Use Plan (CLUP), City Development Plan (CDP), and Drainage Masterplan needs to be updated. In the city contingency plan, there was an identified resource gap for equipment and supplies for a citywide response. There is also a lack of temporary/satellite offices so as not to disrupt operations during calamities.

There are trained personnel on Damage and Needs Assessment and risk assessments but the number of personnel trained are insufficient to meet the needs of the city.

Opportunities

The current communication plan of Antipolo can be strengthened and developed. Available DRRM information and data of the city can be digitized and be made available on the cloud for real-time updating and monitoring. Partnerships can also be expanded to private companies and organizations that provide disaster financing and livelihood programs for affected populations.

The construction of the Emergency Operation Center (EOC) is an added facility to the current Command Center to further improve public safety and security, providing 24/7 coordination and quick response to residents.

Challenges

Relocation for residents living in high-risk areas is a constant challenge due to lack of relocation sites and refusal of residents to relocate. In times of disaster, there is also resistance from affected families to forcibly evacuate.

Then, there is lukewarm community involvement and interest in DRRM. Despite the information-education programs, citizen can be non-cooperative especially on proper waste disposal. Emergency exercises and simulation exercises and training are also regularly conducted but there is minimal participation.

Antipolo has seen a rise in urbanization and population growth, this entails additional resources to keep up with the needs of the continuously increasing population.

VII. PESTEL ANALYSIS

Political

Antipolo is the official capital of the province of Rizal. The city is politically subdivided into 16 barangays that are grouped into two (2) legislative districts. The City Hall Main Office is located in Brgy. San Roque and there are four City Hall Annexes located in Brgy, Mayamot (1), Brgy. San Jose (2), and Brgy. Dela Paz (1).

Since 2013, the local leaders of the city belong to a single family. This has allowed for continuity of local programs and policies. Thus, they were able to reach their maturity and solve the problems that they were designed to fix. In addition, the local leaders of Antipolo are also members of the family that have held the leadership position in the Rizal province for the past three decades. Aside from possible easier coordination and support, this

help ensures alignment of the city's plan and direction to that of the provincial government.

Economic

Antipolo is classified as a first-class city. Its proximity to Metro Manila has continuously spurred the growth of the real estate industry and currently there are 720 residential subdivisions in the city. It is also known for its tourism industry. There are the natural landforms in the highlands and the flourishing resort businesses in the lowlands. There are 61 resorts and conference centers registered in the city, ranking it first in the Regional Tourism Master Plan for Southern Tagalog.

Although smaller, the city has an active agriculture sector for rice, fruit and vegetable production, and a poultry and livestock industry. It is also an attractive site for mining with its rich mineral resource and there are six (6) mining companies operating in it.

Social

The city's population as of the 2020 census is 887,399 with an average household size of 4.2. This is the largest population among the cities/municipalities not only in the Rizal province but also in Region IV-A (CALABARZON). The male to female ratio is close with there being slightly more male (448,336) than females (439,063).

The city provides free health services through its 41 Barangay Health Stations (BHS) and five (5) Rural Health Units (RHUs). The city's public education system is provided by 202 daycare centers, 12 pre-schools, 46 elementary schools and 23 secondary schools. There are 18 colleges and universities, 16 of which are privately owned.

The police and barangays forces maintain the peace and order in the city. The main police station is at Circumferential Road, Brgy. San Jose and there are seven (7) police stations/outposts across the city. The lack of police force is augmented by Barangay Tanods in every barangay. The city is serviced by three (3) fire stations/substations providing the central fire station also located in Brgy. San Jose.

Technological

In partnership with DOST and the Korea International Cooperation Agency (KOICA), the city installed solar-powered rain gauges. These devices are being used by PAGASA in monitoring rainfall and can be accessed on their website. There is also a weather station and an earthquake alarm system in Sitio PLDT Brgy. Inarawan.

The city has also developed and maintained its VHF/UHF radio early warning communication system. The Antipolo City Government is linked to 16 Barangay Operations Center, accredited community volunteers (ACDVs), PNP, four (4) city government annexes and government personnel with handheld radio. These equipment are complemented and have been institutionalized in the Standard Operating System for Early Warning System of Antipolo City.

Environmental

Antipolo is located on the slopes of the Sierra Madre Mountain range. It is a hilly and mountainous city. With the hilly portions lying in the west and the mountainous areas concentrated in the east as part of Sierra Madre. In the middle of the city are well-watered valleys. Much of its land area (62%) is on a 0-18% slope gradient suited for urban use. The city is sitting on a plateau averaging 100 meters (600 ft) due to this the city enjoys a slightly cooler weather than Metro Manila. However, it can be as hot during the dry season and El Niño.

The city's ecological system consists of forest ecosystem, agricultural ecosystem, freshwater ecosystem, mineral resource ecosystem and urban ecosystem. Still, majority of Antipolo's land area is allotted for forestland

Legal

The City Council of Antipolo has passed several city ordinances related to DRRM and environment protection that enables their ACDRRMC to be well prepared and prompt in addressing whatever disaster scenario may occur. The city government also ensured compliance with the national government's policy, which includes the Climate Change Act of 2009, Philippine DRRM Act of 2010, National DRRM Plan 2020-2030 and Presidential Decree 1097 of the National Building Code of the Philippines. In addition, it took into consideration international guidelines such as the Sendai Framework for Disaster Risk Reduction, the 2030 Agenda for Sustainable Development, and the Paris Agreement for Climate Change.

VIII. ACTION PLAN

Disaster Prevention and Mitigation

TABLE 4
ACTION PLAN FOR GOAL 1 OBJECTIVE 1.1

Goal 1	Address the current risks by implementing evidence-based multi-hazard DRRM plans at the city and barangay level by 2026 to

	reduce the impact of typhoons, landslides, and flooding.
Objective 1.1	In 2026, to develop an integrated DRRM-CCA information management system to guide strategies for planning and operations.
Outcome	Accessible and updated DRRM-CCA data and information located in a central location.
Programs, Projects, and Activities (PPAs)	1.1.1 Update baseline data, inventory and database of existing resources and services 1.1.2 Develop an IMS to integrate DRRM-CCA data into a unified database 1.1.3 Equip the Emergency Operations Center with IMS and database

Under prevention and mitigation, the first objective is to develop an integrated DRRM-CCA information management system (IMS) or database to guide strategies for planning and operations. The IMS/database will incorporate the existing databases of the city as well as be ready for integration into DOST's GeoRiskPH, the central warehouse for digital resources of NDRRMC. In addition, the data and information need to be constantly reviewed and updated. Since the EOC is the central location for public safety and security services, this is the most appropriate location to have a DRRM-CCA IMS/database.

For this, there is an opportunity to expand and include other data on Antipolo such as health, education, tourism, economy, etc. The most effective strategies are the ones that are able to look at the whole picture and take into consideration the various sectors.

TABLE 5
ACTION PLAN FOR GOAL 1 OBJECTIVE 1.2

Goal 1	Address the current risks by implementing evidence-based multi-hazard DRRM plans at the city and barangay level by 2026 to reduce the impact of typhoons, landslides, and flooding.
Objective 1.2	In 2026, to mainstream DRRM and CCA into development planning, investment programming, project development and evaluation.
Outcome	Mainstreamed DRRM and CCA in the local development policies, plans and budget.
Programs, Projects, and Activities (PPAs)	1.2.1 Conduct a study for a long-term urban flooding resilience plan 1.2.2 Capacity building to effectively mainstream DRRM and CCA into policies, plans, and project 1.2.3 Review and update Monitoring and Evaluation (M&E) program

The second objective is to mainstream DRRM and CCA into Antipolo's development planning, investment programming, project development, and evaluation.

This includes commissioning a study on a long-term urban flooding resilience plan for the barangays that experience the most flooding. There are regular flood control and mitigation projects implemented yet flooding remains a perennial problem in the city. In urban areas like Antipolo, surfaces such as concrete and paving are not permeable, water flows over them to collect in and flood lower elevation areas. Many cities also have hidden their natural waterways and drainage underground to create more urban space and to funnel away water as fast as possible, but these drainage systems are often unable to cope with high water volumes leading to flooding when they are overwhelmed (C40 Knowledge Hub, 2021). The study should provide a deeper understanding of the flooding problem and will provide valuable input in the updating of the Drainage Masterplan of Antipolo.

Having available data is just the initial step and it is equally important to understand what it means and how to use it. Capacity building to mainstream DRRM and CCA data and information in the city's plans and programs will target CDRRMC and BDRRMC members as they are in positions to understand and influence them. This would be scheduled from January to March to align with the local planning and budget calendar.

At the same time, enhancing the monitoring and evaluation (M&E) program overall and at each DRRM thematic area. This will be through a planning workshop that will serve as a refresher and review of the current M&E program and revising tools and processes as needed. Taking into consideration not only relevance but also efficiency of the process since time is the most limited resource.

Disaster Preparedness

TABLE 6
ACTION PLAN FOR GOAL 2 OBJECTIVE 2.1

Goal 2	Enhance community resilience by 2027 through increased community awareness and participation and building the capacity of its members and institutions to respond to and effectively cope with various hazards.	
Objective 2.1	To strengthen and implement a medium-term disaster communication plan for disaster information, community participation and behavior change.	
Outcome	Enhanced risk awareness and risk-informed decisions and actions of communities.	
Programs, Projects, and Activities (PPAs)	1.1	Conduct community consultations
	1.2	Conduct risk communication training
	1.3	Conduct awareness campaigns in collaboration/ partnership with NGOs, private sector and local media

For disaster preparedness, the goal is to enhance community resilience through increased awareness and capacity of the city's citizens and institutions. In the conducted survey, the LGU is the main source of DRRM-related information for the residents. This is a favorable opportunity to further communication from awareness raising and disaster information to influencing the community to adopt protective behaviors.

The city's disaster risk communication plan will play an important role in achieving this. Though the communication plan should be able to address various stakeholders, the main audience is the local communities. That is why it is important to get inputs from different members of the community and especially ensure the participation of vulnerable and marginalized groups such as youth, elderly, PWDs, LGBTQIA+, and indigenous peoples.

It is equally important to ensure that personnel are trained in risk communication. Aside from providing information and education, the communication plan is aimed at encouraging behavior change and protective action, which needs a longer engagement with the community.

For the plan to be more effective and reach more people, it will include partnerships with other stakeholders on the planning and rollout of activities. This is a multi-stakeholder initiative where different partner organizations and members of public safety and security offices are involved as resource speakers and organizers. Each organization most likely has its events but, in this collaboration, it makes it possible to reach a wider audience.

TABLE 7
ACTION PLAN FOR GOAL 2 OBJECTIVE 2.2

Goal 2	Enhance community resilience by 2027 through increased community awareness and participation and building the capacity of its members and institutions to respond to and effectively cope with various hazards.	
Objective 2.2	To build the capacity of communities to cope with different type of risks and respond effectively	
Outcome	Enhanced risk awareness and risk-informed decisions and actions of communities.	
Programs, Projects, and Activities (PPAs)	2.1	Preparation and planning for a community-based early warning system (EWS)
	2.2	Establish a community-based early warning system (EWS) for various hazards
	2.3	Develop standard programs of instruction and training modules for schools, households, industries, tourism, vulnerable groups and decision-makers

In the establishment of a community-based EWS, it provides communities with tools and knowledge to monitor, communicate, and respond to potential hazards. Leveraging local knowledge and resources to establish community-led plans and response protocols. However, to ensure its relevance and usefulness, there should be careful planning and assessment of the community's hazards, vulnerabilities, and capabilities, among others. In this way, community-based EWS is often sustainable because they are based on local knowledge and resources, ensuring long-term resilience (IFRC, 2020).

In the community survey conducted, when respondents were asked on how disaster management can be improved, the most common answer is increasing their knowledge. To support the DRRM-CCA trainings conducted by the CDRRMO, training materials/modules will be developed for different members and/or settings. Initially this will include students and teachers at schools, households, industries, tourism, elderly and PWDs, and decision makers. It is most likely that some of these

modules are already available and if necessary, just adapt it to Antipolo's context. These can be used in year-round community trainings and outreach activities.

TABLE 8
ACTION PLAN FOR GOAL 2 OBJECTIVE 2.3

Goal 2		Enhance community resilience by 2027 through increased community awareness and participation and building the capacity of its members and institutions to respond to and effectively cope with various hazards.
Objective 2.3		To increase institutional capacities of responders on preparedness and anticipatory response.
Outcome		Strengthened capacity and capability of local line agencies and barangay councils to cope with the impacts and effects of disasters.
Programs, Projects, and Activities (PPAs)	3.1	Establish area response quadrants
	3.2	Capacity building on RDANA
	3.3	Conduct joint training with all responders and simulate city-wide preparedness and response plans
	3.4	Strengthen preparedness monitoring and evaluation

Time is the most crucial aspect in disaster response. Establishing response quadrants instead of having all equipment and personnel in a central location is aimed at significantly reducing response time. This is also in line with the city government's strategy of decentralizing services by building and establishing City Hall Annexes. However, PPA 2.3.1 will require planning with BDRRMOs, resource sharing agreements and identifying feasible locations for the response quadrants.

In Antipolo's DRRM Plan, it enumerates a comprehensive list of trainings mainly on search, rescue and retrieval (SSR) operations. This action plan will focus on capacity building in RDANA. It is important to have more trained personnel since information from the assessment forms the basis and guide succeeding plans for response and rehabilitation and recovery.

A city-wide simulation will test contingency and response plans and at the same time serve as joint training for responders of the city and barangays. In addition to ensuring plans and coordination mechanisms are in sync, it is also a good opportunity to test how much resources will be stretched and other challenges that can be encountered.

Disaster Response

TABLE 9
ACTION PLAN FOR GOAL 3 OBJECTIVE 3.1

Goal 3		In 2026, streamline disaster response operations based on acceptable standards, addressing the immediate needs of the affected communities up to restoration of basic services and early recovery programs.
Objective 3.1		To implement risk-based and timely response actions prioritizing basic, life-preservation.
Outcome		Timely and systematic disaster response guided by accurate and risk-based information.
Programs, Projects, and Activities (PPAs)	1.1	Mobilize and deploy RDANA teams and accurate collection, reporting and dissemination of DANA information
	1.2	Information dissemination on the status of SRR and relief operations

The Rapid Damage Assessment and Needs Analysis (RDANA) should be done as early as possible. The RDANA provides a quick assessment of the damages and determines the immediate needs of the affected population. This information guides planning and coordinating rescue and relief efforts, ensuring that resources are directed toward the most vulnerable and critical areas. Moreover, the need will be disseminated to the right agency/office that would be able to provide the most appropriate solution/assistance.

At the same time that information is very useful to responders, this is also needed by the affected population. Information about response status and available assistance can help ensure public safety, protect property, facilitate response efforts, elicit cooperation, instill public confidence, and help families reunite (FEMA, 2014). The information should be clear, specific, and accessible to the whole community.

TABLE 10
ACTION PLAN FOR GOAL 3 OBJECTIVE 3.2

Goal 3		In 2026, streamline disaster response operations based on acceptable standards, addressing the immediate needs of the affected communities up to restoration of basic services and early recovery programs.
Objective 3.2		To provide immediate, adequate and accessible assistance and basic social

		services to affected individuals/ families especially to vulnerable groups.
Outcome		Affected individuals and families have access to immediate and adequate social services especially for vulnerable groups.
Programs, Projects, and Activities (PPAs)	2.1	Mobilize personnel and volunteers (for social services) to affected areas
	2.2	Enhance coordination with DepEd to provide support to affected student
	2.3	Strengthen monitoring and evaluation for response

The action plan focused on social services and early recovery because relief programs including camp coordination and camp management are covered comprehensively in Antipolo's DRRM plan.

While relief focuses on life-saving activities, early recovery focuses on life-sustaining activities. In NDRRMC Memorandum No. 090, s.2022, early recovery is defined as an approach that addresses early recovery needs that arise during the humanitarian phase of an emergency. It enables people to use the benefits of humanitarian action to seize development opportunities, build resilience, and establish a sustainable process of recovery from the disaster or emergency situation.

Social services would complement the relief goods provided to affected populations. It encompasses different types of assistance such as counseling, financial, housing, and employment. They are also instrumental in establishing and strengthening protection mechanisms in evacuation centers. This does not mean that the social services team provides these services but they should be knowledgeable with the referral mechanism to address the specific needs of the affected individual/family.

Therefore, the disruptive effect of disasters on education can be minimized with enhanced coordination with the Department of Education (DepEd), which has Education in Emergencies programs.

Disaster Rehabilitation and Recovery

TABLE 11
ACTION PLAN FOR GOAL 4 OBJECTIVE 4.1

Goal 4		Restore the normal functioning of the people after a disaster guided by rehabilitation and recovery plans and partnerships to ensure sustainability and alignment with development plans.
Objective 4.1		To restore settlement, livelihood and continuity of economic activities and businesses.
Outcome		Restored, and if possible improve, the settlement and means of livelihood of affected individuals and families.
Programs, Projects, and Activities (PPAs)	4.1.1	Capacity building on PDANA
	4.1.2	Provide financial, materials or transitional shelter for affected families
	4.1.3	Identify and establish partnerships for alternative livelihood, skills training and/or self-employment assistance
	4.1.4	Facilitate access of affected communities and businesses to applicable disaster financing and insurance

There are a number of organizations that provide financial and livelihood assistance. By working with them, it lessens the strain on the city's resources. At the same time, making it more sustainable since these organizations already have linkages to job opportunities and/or markets for products. Having more organizations provide livelihood assistance and skills training also gives beneficiaries more choices that would better fit their needs and interests.

Further, there is financial support offered by government agencies, private groups, and NGOs. However, they are not being utilized because of a lack of awareness or a complicated process and documentary requirements. This can be addressed by distributing information on available service providers, a document checklist and if possible, a focal point to guide in the process. Documents can be damaged and lost in disaster events and further assistance may be needed in the replacement of critical documents as well.

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